GUHRING

AUSTRALIAN STOCK RANGE

9TH EDITION 2024 - 2026

GUHRING

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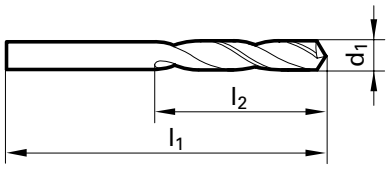
DRILLING

Guhring no.	223	5524	5520	1228	659	5516	730	2463
Standard	DIN 1897					DIN 6539		
Tool material	HSS	HSCO				Solid carbide		
Surface	>Ø 2,36		S	S	S			F
Type	N	GU500DZ	GU500DZ	GT80	GV120	N	N	N
Cutting direction	right-hand							
Tolerance	h8	h8	h8	h8	h8	h7	h7	h7
Point angle	118°	118°	118°	130°	130°	118°	118°	118°



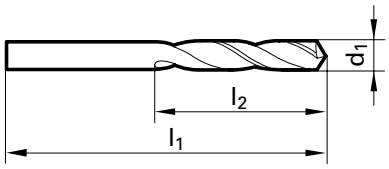
d1 mm	d1 Inch	l1 mm	l2 mm	223	5524	5520	1228	659	5516	730	2463
1.000		26.00	6.00	•	•	•		•			•
1.100		28.00	7.00		○	•					•
1.200		30.00	8.00		○	•		•			•
1.300		30.00	8.00		○	•					•
1.400		32.00	9.00		○	•				•	•
1.500		32.00	9.00	•	•	•		•			•
1.600		34.00	10.00		○	•		•			•
1.700		34.00	10.00		○	•		•		•	•
1.800		36.00	11.00		○	•					•
1.900		36.00	11.00		○	•					•
2.000		38.00	12.00	•	•	•		•	•		•
2.100		38.00	12.00		○	•		•	•		•
2.200		40.00	13.00		○	•		•	•		•
2.300		40.00	13.00		○	•			•		•
2.380	3/32	43.00	14.00	•	○	•		•	•		•
2.400		43.00	14.00		○	•			•		•
2.500		43.00	14.00	•	•	•		•	•		•
2.600		43.00	14.00		○	•			•		•
2.700		46.00	16.00		○	•		•	•		•
2.780	7/64	46.00	16.00	•	○	•		•	•		○
2.800		46.00	16.00		○	•		•	•		•
2.900		46.00	16.00		○	•			•		•
2.950		46.00	16.00		○			•			•
3.000		46.00	16.00	•	•	•		•	•		
3.100		49.00	18.00		○	•		•	•		
3.170	1/8	49.00	18.00	•	○	•		•	•		
3.200		49.00	18.00		○	•		•	•		
3.250		49.00	18.00		○			•			
3.300		49.00	18.00	•	○	•		•	•		
3.400		52.00	20.00		○	•		•	•		
3.500		52.00	20.00	•	•	•		•	•		
3.570	9/64	52.00	20.00	•	○	•		•	•		
3.600		52.00	20.00	•	○	•			•		
3.700		52.00	20.00		○	•		•	•		
3.800		55.00	22.00		○	•			•		
3.900		55.00	22.00	•	○	•			•		
3.970	5/32	55.00	22.00	•	○	•		•	•		
4.000		55.00	22.00	•	•	•		•	•		
4.100		55.00	22.00		○	•		•	•		

AVAILABILITY

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	223	5524	5520	1228	659	5516	730	2463
Standard	DIN 1897					DIN 6539		
Tool material	HSS	HSCO				Solid carbide		
Surface	>Ø 2,36		S	S	S			F
Type	N	GU500DZ	GU500DZ	GT80	GV120	N	N	N
Cutting direction	right-hand							
Tolerance	h8	h8	h8	h8	h8	h7	h7	h7
Point angle	118°	118°	118°	130°	130°	118°	118°	118°

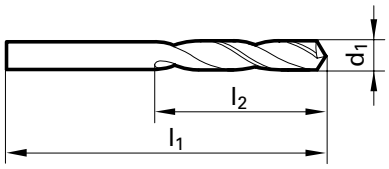


d1 mm	d1 Inch	l1 mm	l2 mm	223	5524	5520	1228	659	5516	730	2463
4.200		55.00	22.00	•	○	•		•	•		
4.300		58.00	24.00		○	•		•	•		
4.370	11/64	58.00	24.00	•	○	•		•	•		
4.400		58.00	24.00		○	•			•		
4.500		58.00	24.00	•	•	•		•	•		
4.570		58.00	24.00		○						•
4.600		58.00	24.00	•	○	•			•		
4.700		58.00	24.00		○	•			•		
4.760	3/16	62.00	26.00	•	○	•		•	•		
4.800		62.00	26.00		○	•			•		
4.900		62.00	26.00		○	•			•		
5.000		62.00	26.00	•	•	•		•	•		
5.100		62.00	26.00		○	•		•	•		
5.160	13/64	62.00	26.00	•	○	•		•			
5.200		62.00	26.00		○	•		•	•		
5.300		62.00	26.00		○	•				•	
5.400		66.00	28.00		○	•				•	
5.500		66.00	28.00	•	•	•		•	•		
5.560	7/32	66.00	28.00	•	○	•		•		•	
5.600		66.00	28.00	•	○	•				•	
5.700		66.00	28.00		○	•				•	
5.800		66.00	28.00	•	○	•		•	•		
5.900		66.00	28.00		○	•				•	
5.950	15/64	66.00	28.00	•	○	•				•	
6.000		66.00	28.00	•	•	•		•	•		
6.100		70.00	31.00		○	•		•		•	
6.200		70.00	31.00		○	•				•	
6.300		70.00	31.00		○	•				•	
6.350	1/4	70.00	31.00	•	○	•		•	•		
6.400		70.00	31.00		○	•			•		
6.500		70.00	31.00	•	•	•		•	•		
6.600		70.00	31.00		○	•		•		•	
6.700		70.00	31.00		○	•				•	
6.800		74.00	34.00	•	○	•		•	•		
6.900		74.00	34.00		○	•			•		
7.000		74.00	34.00	•	•	•		•	•		
7.100		74.00	34.00		○	•				•	
7.140	9/32	74.00	34.00	•	○	•		•	•		
7.200		74.00	34.00		○	•				•	

AVAILABILITY

• *Australian stock item* ○ *German stock item*

Guhring no.	223	5524	5520	1228	659	5516	730	2463
Standard	DIN 1897					DIN 6539		
Tool material	HSS	HSCO				Solid carbide		
Surface	>Ø 2,36		S	S	S			F
Type	N	GU500DZ	GU500DZ	GT80	GV120	N	N	N
Cutting direction	right-hand							
Tolerance	h8	h8	h8	h8	h8	h7	h7	h7
Point angle	118°	118°	118°	130°	130°	118°	118°	118°



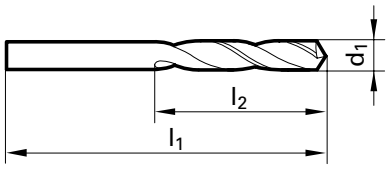
d1 mm	d1 Inch	l1 mm	l2 mm	223	5524	5520	1228	659	5516	730	2463
7.300		74.00	34.00		○	•					
7.400		74.00	34.00		○	•				•	
7.500		74.00	34.00	•	•	•		•	•		
7.600		79.00	37.00		○	•				•	
7.700		79.00	37.00		○	•		•		•	
7.800		79.00	37.00		○	•				•	
7.900		79.00	37.00		○	•				•	
7.940	5/16	79.00	37.00	•	○	•		•	•		
8.000		79.00	37.00	•	•	•		•	•		
8.100		79.00	37.00		○	•		•		•	
8.200		79.00	37.00		○	•				•	
8.300		79.00	37.00		○	•				•	
8.400		79.00	37.00		○	•				•	
8.500		79.00	37.00	•	•	•		•	•		
8.600		84.00	40.00		○	•		•	•		
8.700		84.00	40.00		○	•				•	
8.730	11/32	84.00	40.00	•	○	•		•	•		
8.800		84.00	40.00		○	•		•	•		
8.900		84.00	40.00		○					•	
9.000		84.00	40.00	•	•	•		•	•		
9.100		84.00	40.00		○					•	
9.200		84.00	40.00		○	•					
9.300		84.00	40.00		○	•				•	
9.400		84.00	40.00		○	•					
9.500		84.00	40.00	•	•	•		•	•		
9.600		89.00	43.00		○					•	
9.700		89.00	43.00		○	•		•		•	
9.800		89.00	43.00		○	•				•	
9.900		89.00	43.00		○	•				•	
10.000		89.00	43.00	•	•	•		•	•		
10.200		89.00	43.00	•	○	•			•		
10.300		89.00	43.00		○	•					
10.500		89.00	43.00	•	•	•		•	•		
10.720	27/64	95.00	47.00	•	○					•	
10.800		95.00	47.00		○						
11.000		95.00	47.00	•	•	•		•	•		
11.110	7/16	95.00	47.00		○	•		•	•		
11.500		95.00	47.00		•	•		•	•		
11.800		95.00	47.00		○		•				

AVAILABILITY

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	223	5524	5520	1228	659	5516	730	2463
Standard	DIN 1897					DIN 6539		
Tool material	HSS	HSCO				Solid carbide		
Surface	>Ø 2,36		S	S	S			F
Type	N	GU500DZ	GU500DZ	GT80	GV120	N	N	N
Cutting direction	right-hand							
Tolerance	h8	h8	h8	h8	h8	h7	h7	h7
Point angle	118°	118°	118°	130°	130°	118°	118°	118°



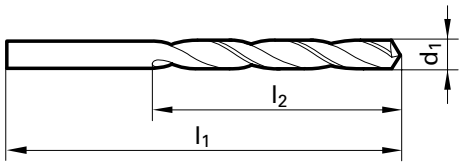
d1 mm	d1 Inch	l1 mm	l2 mm	223	5524	5520	1228	659	5516	730	2463
11.910	15/32	102.00	51.00		○	•					
12.000		102.00	51.00	•	•	•		•	•		
12.300	31/64	102.00	51.00		○						
12.500		102.00	51.00		•	•		•			
12.700		102.00	51.00	•	○						
12.800		102.00	51.00		○						
13.000		102.00	51.00	•	•	•		•			
13.100	33/64	102.00	51.00		○						
13.500		107.00	54.00		•	•		•			
14.000		107.00	54.00	•	•	•		•			
14.500		111.00	56.00	•			•	•			
15.000		111.00	56.00	•			•	•			
15.500		115.00	58.00					•			
15.870	5/8	115.00	58.00								
16.000		115.00	58.00	•			•				
16.500		119.00	60.00				•				
17.000		119.00	60.00	•			•				
17.500		123.00	62.00				•				
18.000		123.00	62.00	•			•				
18.500		127.00	64.00				•				
19.000		127.00	64.00	•			•				
19.500		131.00	66.00				•				
20.000		131.00	66.00	•			•				

AVAILABILITY

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	205	9500	9651	5523	5522	658	732	5517	2464
Standard	DIN 338						Guhring std.		
Tool material	HSS	HSS	HSS	HSCO	HSS-E-PM	HSCO	Solid carbide		
Surface	>Ø 2,36	○	S	○	S	S	○	○	F
Type	N	N	N	GU500DZ	GU500DZ	GT 100	N	N	N
Cutting direction	right-hand								
Tolerance	h8	h8	h8	h8	h8	h8	h7	h7	h7
Point angle	118°	Step	118°	118°	130°	130°	118°	118°	118°



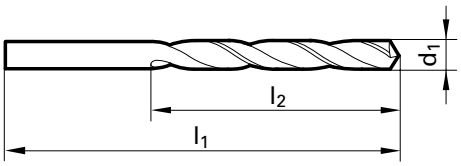
d1 mm	d1 Inch	l1 mm	l2 mm	205	9500	9651	5523	5522	658	732	5517	2464
0.400	1/64	20.00	5.00	•								
0.500		22.00	6.00	•								
0.600		24.00	7.00	•								
0.700		28.00	9.00	•								
0.800		30.00	10.00	•								
0.900		32.00	11.00	•								
1.000		34.00	12.00	•	•	•	•	•	•			•
1.100		36.00	14.00	•		•	•	•				•
1.200		38.00	16.00	•		•	•	•	•			•
1.300		38.00	16.00	•		•	•	•	•			•
1.400		40.00	18.00	•		•	•	•	•			•
1.500		40.00	18.00	•	•	•	•	•	•			•
1.590	1/16	43.00	20.00	•		•						
1.600		43.00	20.00	•		•		•	•			•
1.700		43.00	20.00	•		•	•	•	•			•
1.800		46.00	22.00	•		•	•	•	•			•
1.900		46.00	22.00	•		•	•	•	•			•
1.980	5/64	49.00	24.00	•		•						
2.000		49.00	24.00	•	•	•	•	•	•		•	•
2.100		49.00	24.00	•		•	•	•	•		•	•
2.200		53.00	27.00	•		•	•	•	•		•	•
2.300		53.00	27.00	•		•	•	•	•		•	•
2.380	3/32	57.00	30.00	•		•	•	•			•	
2.400		57.00	30.00	•		•		•	•		•	•
2.500		57.00	30.00	•	•	•	•	•	•		•	•
2.600		57.00	30.00	•		•	•	•	•		•	•
2.700		61.00	33.00	•		•	•	•	•		•	•
2.780	7/64	61.00	33.00	•		•						
2.800		61.00	33.00	•		•	•	•	•		•	•
2.900		61.00	33.00	•		•	•	•	•		•	•
3.000		61.00	33.00	•	•	•	•	•	•		•	
3.100		65.00	36.00	•		•		•	•		•	
3.170	1/8	65.00	36.00	•		•	•	•			•	
3.200		65.00	36.00	•	○	•	•	•	•		•	
3.300		65.00	36.00	•	○	•	•	•	•		•	
3.400		70.00	39.00	•		•	•	•	•		•	
3.500		70.00	39.00	•	•	•	•	•	•		•	
3.570	9/64	70.00	39.00	•		•		•			•	
3.600		70.00	39.00	•		•	•	•	•		•	

AVAILABILITY

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	205	9500	9651	5523	5522	658	732	5517	2464
Standard	DIN 338						Guhring std.		
Tool material	HSS	HSS	HSS	HSCO	HSS-E-PM	HSCO	Solid carbide		
Surface	>Ø 2,36	○	S	○	S	S	○	○	F
Type	N	N	N	GU500DZ	GU500DZ	GT 100	N	N	N
Cutting direction	right-hand								
Tolerance	h8	h8	h8	h8	h8	h8	h7	h7	h7
Point angle	118°	Step	118°	118°	130°	130°	118°	118°	118°

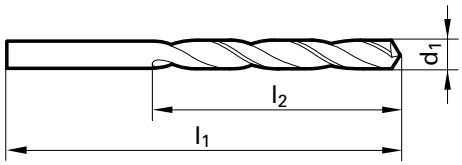


d1 mm	d1 Inch	l1 mm	l2 mm	AVAILABILITY								
3.700		70.00	39.00	•		•	•	•	•		•	
3.800		75.00	43.00	•		•	•	•	•		•	
3.900		75.00	43.00	•		•		•	•		•	
3,970	5/32	75.00	43.00	•		•						
4.000		75.00	43.00	•	•	•	•	•	•		•	
4.100		75.00	43.00	•	○	•	•	•	•		•	
4.200		75.00	43.00	•	•	•	•	•	•		•	
4.300		80.00	47.00	•		•	•	•	•		•	
4.370	11/64	80.00	47.00	•		•	•	•			•	
4.400		80.00	47.00	•		•		•			•	
4.500		80.00	47.00	•	•	•	•	•	•		•	
4.600		80.00	47.00	•		•	•	•	•		•	
4.700		80.00	47.00	•		•		•	•		•	
4.760	3/16	86.00	52.00	•		•		•			•	
4.800		86.00	52.00	•		•		•			•	
4.900		86.00	52.00	•	○	•		•	•		•	
5.000		86.00	52.00	•	•	•	•	•	•		•	
5.100		86.00	52.00	•	○	•	•	•	•	•		
5.160	13/64	86.00	52.00	•		•		•			•	
5.200		86.00	52.00	•	•	•	•	•	•	•		
5.300		86.00	52.00	•		•	•	•	•	•		
5.400		93.00	57.00	•		•		•	•	•		
5.500		93.00	57.00	•	•	•	•	•	•		•	
5.560	7/32	93.00	57.00	•		•	•	•			•	
5.600		93.00	57.00	•		•		•	•			
5.700		93.00	57.00	•		•		•	•	•		
5.800		93.00	57.00	•		•		•	•	•		
5.900		93.00	57.00	•		•	•	•	•	•		
5.950	15/64	93.00	57.00	•		•	•				•	
6.000		93.00	57.00	•	•	•	•	•	•		•	
6.100		101.00	63.00	•		•	•	•	•	•		
6.200		101.00	63.00	•		•	•	•	•			
6.300		101.00	63.00	•		•	•	•		•		
6.350	1/4	101.00	63.00	•		•	•	•			•	
6.400		101.00	63.00	•		•		•	•	•		
6.500		101.00	63.00	•	•	•	•	•	•		•	
6.600		101.00	63.00	•		•		•	•	•		
6.700		101.00	63.00	•		•	•	•	•	•		
6.750	17/64	109.00	69.00	•		•	•					

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	205	9500	9651	5523	5522	658	732	5517	2464
Standard	DIN 338						Guhring std.		
Tool material	HSS	HSS	HSS	HSCO	HSS-E-PM	HSCO	Solid carbide		
Surface	>Ø 2,36	○	S	○	S	S	○	○	F
Type	N	N	N	GU500DZ	GU500DZ	GT 100	N	N	N
Cutting direction	right-hand								
Tolerance	h8	h8	h8	h8	h8	h8	h7	h7	h7
Point angle	118°	Step	118°	118°	130°	130°	118°	118°	118°

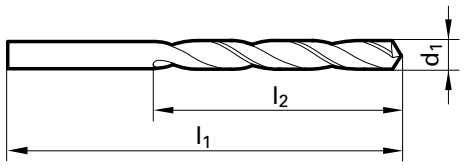


d1 mm	d1 Inch	l1 mm	l2 mm	AVAILABILITY							
6.800		109.00	69.00	•	•	•	•	•	•		•
6.900		109.00	69.00	•		•		•	•		
7.000		109.00	69.00	•	•	•	•	•	•		•
7.100		109.00	69.00	•		•		•		•	
7.140	9/32	109.00	69.00	•			•	•			•
7.200		109.00	69.00	•		•		•	•	•	
7.300		109.00	69.00	•		•	•	•		•	
7.400		109.00	69.00	•		•	•	•		•	
7.500		109.00	69.00	•	•	•	•	•			•
7.540	19/64	117.00	75.00	•		•					
7.600		117.00	75.00	•		•		•		•	
7.700		117.00	75.00	•		•		•			
7.800		117.00	75.00	•		•		•		•	
7.900		117.00	75.00	•		•	•	•		•	
7.940	5/16	117.00	75.00	•		•	•	•			•
8.000		117.00	75.00	•	•	•	•	•	•		•
8.100		117.00	75.00	•		•		•	•	•	
8.200		117.00	75.00	•		•		•	•	•	
8.300		117.00	75.00	•		•	•	•	•	•	
8.330	21/64	117.00	75.00	•		•	•	•			
8.400		117.00	75.00	•		•		•	•	•	
8.500		117.00	75.00	•	•	•	•	•			•
8.600		125.00	81.00	•		•	•		•	•	
8.700		125.00	81.00	•		•	•		•	•	
8.730	11/32	125.00	81.00	•		•	•				•
8.800		125.00	81.00	•		•	•	•	•	•	
8.900		125.00	81.00	•		•	•		•	•	
9.000		125.00	81.00	•	•	•	•	•	•		•
9.100		125.00	81.00	•		•	•		•	•	
9.130	23/64	125.00	81.00	•		•			•		
9.200		125.00	81.00	•		•	•		•	•	
9.300		125.00	81.00	•		•	•	•	•	•	
9.400		125.00	81.00	•		•	•		•	•	
9.500		125.00	81.00	•	•	•	•	•			•
9.520	3/8	133.00	87.00	•		•	•			•	
9.600		133.00	87.00	•		•			•	•	
9.700		133.00	87.00	•		•			•	•	
9.800		133.00	87.00	•		•		•	•	•	
9.900		133.00	87.00	•		•			•	•	

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	205	9500	9651	5523	5522	658	732	5517	2464
Standard	DIN 338						Guhring std.		
Tool material	HSS	HSS	HSS	HSCO	HSS-E-PM	HSCO	Solid carbide		
Surface	>Ø 2,36	○	S	○	S	S	○	○	F
Type	N	N	N	GU500DZ	GU500DZ	GT 100	N	N	N
Cutting direction	right-hand								
Tolerance	h8	h8	h8	h8	h8	h8	h7	h7	h7
Point angle	118°	Step	118°	118°	130°	130°	118°	118°	118°



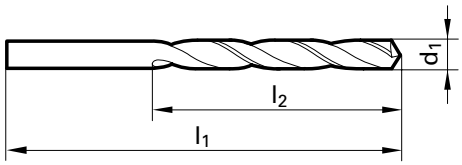
d1 mm	d1 Inch	l1 mm	l2 mm	205	9500	9651	5523	5522	658	732	5517	2464
9.920	25/64	133.00	87.00	•		•	•					
10.000		133.00	87.00	•	•	•	•	•	•		•	
10.100		133.00	87.00	•		•			•			
10.200		133.00	87.00	•	•	•	•	•	•		•	
10.300		133.00	87.00	•		•			•			
10.320	13/32	133.00	87.00	•		•						
10.400		133.00	87.00	•		•			•			
10.500		133.00	87.00	•	•	•	•	•	•		•	
10.600		133.00	87.00	•								
10.700		142.00	94.00	•					•			
10.720	27/64	142.00	94.00	•		•						
10.800		142.00	94.00	•		•			•			
10.900		142.00	94.00	•								
11.000		142.00	94.00	•	•	•	•	•	•		•	
11.100		142.00	94.00	•								
11.110	7/16	142.00	94.00	•		•		•			•	
11.200		142.00	94.00	•					•			
11.300		142.00	94.00	•								
11.400		142.00	94.00	•								
11.500		142.00	94.00	•	•	•	•	•			•	
11.510	29/64	142.00	94.00	•		•						
11.600		142.00	94.00	•								
11.700		142.00	94.00	•					•			
11.800		142.00	94.00	•		•			•			
11.900		151.00	101.00	•								
11.910	15/32	151.00	101.00	•		•						
12.000		151.00	101.00	•	•	•	•	•	•		•	
12.100		151.00	101.00	•								
12.200		151.00	101.00	•								
12.300	31/64	151.00	101.00	•		•						
12.400		151.00	101.00	•		•						
12.500		151.00	101.00	•	•	•	•	•				
12.600		151.00	101.00	•								
12.700	1/2	151.00	101.00	•		•						
12.800		151.00	101.00	•		•						
12.900		151.00	101.00	•								
13.000		151.00	101.00	•	•	•	•	•	•			
13.500		160.00	108.00	•		•	•	•				
14.000		160.00	108.00	•		•	•		•			

AVAILABILITY

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	205	9500	9651	5523	5522	658	732	5517	2464
Standard	DIN 338						Guhring std.		
Tool material	HSS	HSS	HSS	HSCO	HSS-E-PM	HSCO	Solid carbide		
Surface	>Ø 2,36	○	S	○	S	S	○	○	F
Type	N	N	N	GU500DZ	GU500DZ	GT 100	N	N	N
Cutting direction	right-hand								
Tolerance	h8	h8	h8	h8	h8	h8	h7	h7	h7
Point angle	118°	Step	118°	118°	130°	130°	118°	118°	118°



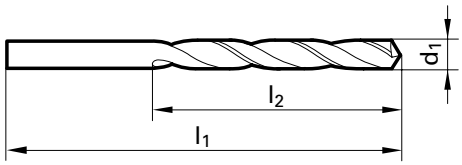
d1 mm	d1 Inch	l1 mm	l2 mm	205	9500	9651	5523	5522	658	732	5517	2464
14.290	9/16	169.00	114.00	•								
14.500		169.00	114.00	•		•			•			
15.000		169.00	114.00	•		•						
15.200		178.00	120.00	•								
15.500		178.00	120.00	•		•						
16.000		178.00	120.00	•		•						

AVAILABILITY

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

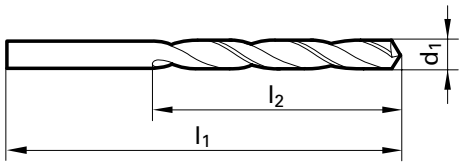
Guhring no.	217	336	5537
Standard	DIN 340		
Tool material	HSS	HSCO	
Surface	>Ø 2,36	>Ø 2,36	S
Type	N	GT 100	GU 500 DZ
Cutting direction	right-hand		
Point angle	118°	130°	118°



d1 mm	d1 Inch	l1 mm	l2 mm	AVAILABILITY		
1.000		56.00	33.00	•	•	○
1.500		70.00	45.00	•	•	○
2.000		85.00	56.00	•	•	○
2.500		95.00	62.00	•	•	○
2.700		100.00	66.00	•	•	○
2.800		100.00	66.00	•	•	○
3.000		100.00	66.00	•	•	○
3.170	1/8	106.00	69.00	•	•	
3.300		106.00	69.00	•	•	○
3.400		112.00	73.00	•	•	○
3.500		112.00	73.00	•	•	○
3.570	9/64	112.00	73.00	•	•	
3.800		119.00	78.00	○	○	○
3.900		119.00	78.00	○	○	○
3.970	5/32	119.00	78.00	•	•	
4.000		119.00	78.00	•	•	○
4.200		119.00	78.00	•	•	○
4.300		126.00	82.00	○	○	○
4.370	11/64	126.00	82.00	•	•	
4.500		126.00	82.00	•	•	○
4.700		126.00	82.00	○	○	○
4.760	3/16	132.00	87.00	○	○	
4.800		132.00	87.00	○	○	○
4.900		132.00	87.00	○	○	○
5.000		132.00	87.00	•	•	○
5.100		132.00	87.00	○	○	○
5.160	13/64	132.00	87.00	○	○	
5.200		132.00	87.00	○	○	○
5.300		132.00	87.00	○	○	○
5.400		139.00	91.00	○	○	○
5.500		139.00	91.00	•	•	○
5.560	7/32	139.00	91.00	•	•	
5.700		139.00	91.00	○	○	○
5.800		139.00	91.00	•	•	○
5.950	15/64	139.00	91.00	•	•	
6.000		139.00	91.00	•	•	○
6.300		148.00	97.00	○	○	○
6.350	1/4	148.00	97.00	•	•	
6.500		148.00	97.00	•	•	○

• *Australian stock item* ○ *German stock item*

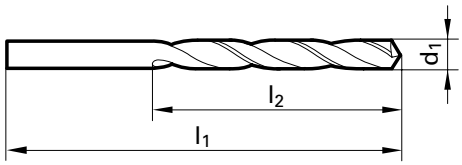
Guhring no.	217	336	5537
Standard	DIN 340		
Tool material	HSS	HSCO	
Surface	>Ø 2,36	>Ø 2,36	S
Type	N	GT 100	GU 500 DZ
Cutting direction	right-hand		
Point angle	118°	130°	118°



d1 mm	d1 Inch	l1 mm	l2 mm	AVAILABILITY		
6.700		148.00	97.00	○	•	○
6.750	17/64	156.00	102.00	•	•	
6.800		156.00	102.00	•	•	○
6.900		156.00	102.00	○	•	○
7.000		156.00	102.00	•	•	○
7.200		156.00	102.00	○	•	○
7.500		156.00	102.00	•	•	○
7.540	19/64	165.00	109.00	○	•	
7.940	5/16	165.00	109.00	•	•	
8.000		165.00	109.00	•	•	○
8.100		165.00	109.00	○	•	○
8.500		165.00	109.00	•	•	○
8.700		175.00	115.00	○	•	○
8.730	11/32	175.00	115.00	○	•	
9.000		175.00	115.00	•	•	○
9.500		175.00	115.00	•	•	○
9.520	3/8	184.00	121.00	○	•	
9.700		184.00	121.00	○	•	○
9.800		184.00	121.00	○	•	○
9.900		184.00	121.00	○	•	○
10.000		184.00	121.00	•	•	○
10.200		184.00	121.00	•	•	○
10.300		184.00	121.00	•		○
10.500		184.00	121.00	•	•	○
11.000		195.00	128.00	•	•	○
11.500		195.00	128.00	•	•	○
12.000		205.00	134.00	•	•	○
12.500		205.00	134.00	•	•	○
12.700	1/2	205.00	134.00	•		
13.000		205.00	134.00	•	•	○
13.500		214.00	140.00	•	•	○
14.000		214.00	140.00	•	○	○

• *Australian stock item* ○ *German stock item*

Guhring no.	502	618
Standard	DIN 1869	
Tool material	HSS	HSCO
Surface	>Ø 2,36	●
Type	GT 100	GT 100
Cutting direction	right-hand	right-hand
Point angle	130°	130°

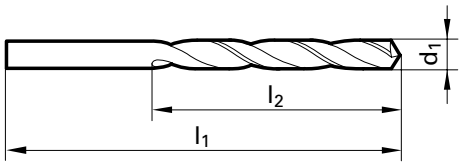


d1 mm	d1 Inch	l1 mm	l2 mm	AVAILABILITY 502	AVAILABILITY 618
3.000		150.00	100.00	•	○
3.170	1/8	155.00	105.00	○	○
3.500		165.00	115.00	•	○
3.570	9/64	165.00	115.00	○	○
3.970	5/32	175.00	120.00	○	○
4.000		175.00	120.00	•	○
4.200		175.00	120.00	•	○
4.370	11/64	185.00	125.00	○	○
4.500		185.00	125.00	•	○
4.760	3/16	195.00	135.00	○	○
5.000		195.00	135.00	•	○
5.160	13/64	195.00	135.00	○	○
5.500		205.00	140.00	•	○
5.560	7/32	205.00	140.00	○	○
5.950	15/64	205.00	140.00	○	
6.000		205.00	140.00	•	○
6.350	1/4	215.00	150.00	○	○
6.500		215.00	150.00	•	○
6.750	17/64	225.00	155.00	○	○
6.800		225.00	155.00	•	○
7.000		225.00	155.00	•	○
7.500		225.00	155.00	•	○
7.540	19/64	240.00	165.00	○	○
7.940	5/16	240.00	165.00	○	○
8.000		240.00	165.00	•	○
8.500		240.00	165.00	•	○
8.730	11/32	250.00	175.00	○	○
9.000		250.00	175.00	•	○
9.500		250.00	175.00	•	○
9.520	3/8	265.00	185.00	○	○
10.000		265.00	185.00	•	○
10.500		265.00	185.00	•	
11.000		280.00	195.00	•	
11.500		280.00	195.00	•	
12.000		295.00	205.00	•	
12.500		295.00	205.00	•	
12.700	1/2	295.00	205.00	○	
13.000		295.00	205.00	•	

• *Australian stock item* ○ *German stock item*

EXTRA LENGTH TWIST DRILLS, SERIES 2

Guhring no.	503	619
Standard	DIN 1869	
Tool material	HSS	HSCO
Surface	>Ø 2,36	●
Type	GT 100	GT 100
Cutting direction	right-hand	right-hand
Point angle	130°	130°

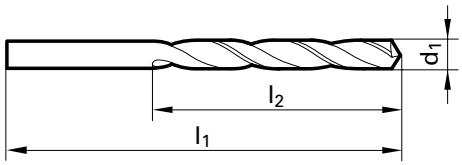


d1 mm	d1 Inch	l1 mm	l2 mm	AVAILABILITY	
2.000		160.00	110.00	•	
3.000		190.00	130.00	•	○
3.170	1/8	200.00	135.00	○	○
3.500		210.00	145.00	•	○
3.570	9/64	210.00	145.00	○	○
3.970	5/32	220.00	150.00	○	○
4.000		220.00	150.00	•	○
4.370	11/64	235.00	160.00	○	○
4.760	3/16	245.00	170.00	○	○
5.000		245.00	170.00	•	○
5.160	13/64	245.00	170.00	○	
5.500		260.00	180.00	•	○
6.000		260.00	180.00	•	○
6.350	1/4	275.00	190.00	○	○
6.500		275.00	190.00	•	○
7.000		290.00	200.00	•	○
7.140	9/32	290.00	200.00	○	○
7.500		290.00	200.00	•	○
7.940	5/16	305.00	210.00	○	○
8.000		305.00	210.00	•	○
8.330	21/64	305.00	210.00	○	
8.730	11/32	320.00	220.00	○	○
9.000		320.00	220.00	•	○
9.520	3/8	340.00	235.00	○	○
10.000		340.00	235.00	•	○
10.720	27/64	365.00	250.00	○	
11.000		365.00	250.00	•	
11.110	7/16	365.00	250.00	○	
12.000		375.00	260.00	•	
12.700	1/2	375.00	260.00	○	
13.000		375.00	260.00	•	

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

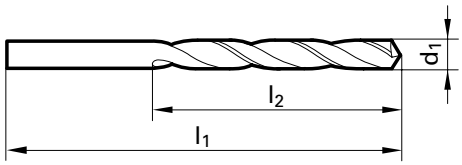
Guhring no.	504
Standard	DIN 1869
Tool material	HSS
Surface	●
Type	GT 100
Cutting direction	right-hand
Point angle	130°



d1 mm	d1 Inch	l1 mm	l2 mm	AVAILABILITY
3.000		240.00	160.00	•
3.170	1/8	250.00	170.00	○
3.500		265.00	180.00	•
3.970	5/32	280.00	190.00	○
4.000		280.00	190.00	•
4.370	11/64	295.00	200.00	○
4.760	3/16	315.00	210.00	○
5.000		315.00	210.00	•
5.500		330.00	225.00	•
6.000		330.00	225.00	•
6.350	1/4	350.00	235.00	○
6.500		350.00	235.00	•
6.750	17/64	370.00	250.00	○
7.000		370.00	250.00	•
7.140	9/32	370.00	250.00	○
7.500		370.00	250.00	•
7.940	5/16	390.00	265.00	○
8.000		390.00	265.00	•
8.330	21/64	390.00	265.00	○
8.730	11/32	410.00	280.00	○
9.000		410.00	280.00	•
9.520	3/8	430.00	295.00	○
10.000		430.00	295.00	•
10.320	13/32	430.00	295.00	○
10.500		430.00	295.00	•
11.000		455.00	310.00	•
11.110	7/16	455.00	310.00	○
12.000		480.00	330.00	•
13.000		480.00	330.00	•

• *Australian stock item* ○ *German stock item*

Guhring no.	242	243	244
Standard	Guhring std.		
Tool material	HSS		
Surface	◓	○	○
Type	GT 100	GT 100	GT 100
Cutting direction	right-hand	right-hand	right-hand
Point angle	130°	130°	130°

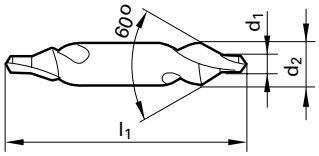


d1 mm	l1 mm	l2 mm	AVAILABILITY		
6.000	500.00	400.00	•		
8.000	500.00	400.00	•		
10.000	600.00	500.00	•		
11.000	600.00	500.00	•		
12.000	600.00	500.00	•		
8.000	750.00	650.00		•	
10.000	750.00	650.00		•	
11.000	750.00	650.00		•	
12.000	750.00	650.00		•	
10.000	1000.00	850.00			•
11.000	1000.00	850.00			•
12.000	1000.00	850.00			•

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

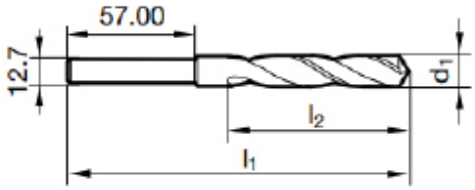
Guhring no.	581	736	280
Standard	DIN 333	Guhring std.	Guhring std.
Tool material	HSS	Solid Carbide	HSS
Surface	○	○	○
Form	A	A	A
Cutting direction	right-hand	right-hand	right-hand
Point angle	118°	118°	118°



size	d1	d2	l1	AVAILABILITY	
	mm	mm	mm		
	0.50	3.15	25.00	•	○
	0.80	3.15	25.00	•	○
	1.00	3.15	31.50	•	○
1	1.25	3.15	31.50	•	•
2	1.60	4.00	35.50	•	•
	2.00	5.00	40.00	•	○
3	2.50	6.30	45.00	•	•
4	3.15	8.00	50.00	•	•
5	4.00	10.00	56.00	•	○
	5.00	12.50	63.00	•	○
6	6.30	16.00	71.00	•	
8	8.00	20.00	80.00	•	
	10.00	25.00	100.00	•	
	12.50	31.50	125.00	•	
	1.00	4.00	120.00		○
	1.60	5.00	120.00		○
	2.00	6.00	120.00		○
	2.50	8.00	120.00		○
	3.15	10.00	120.00		○

• *Australian stock item* ○ *German stock item*

Guhring no.	8908
Standard	Guhring std.
Tool material	HSS
Surface	
Form	A
Cutting direction	right-hand
Point angle	118°

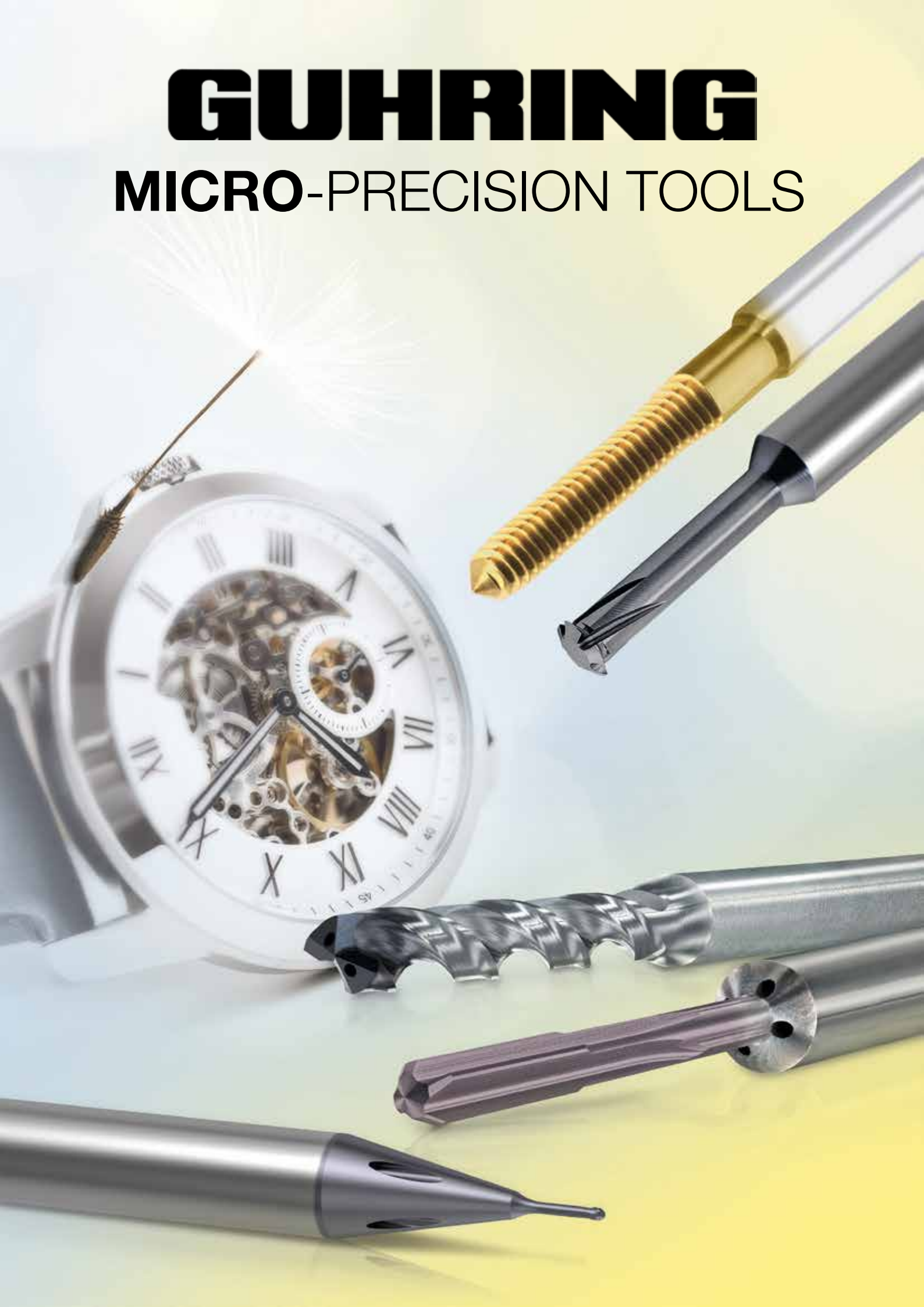


d1		l1	l2	AVAILABILITY
mm	inch	mm	mm	
13.000		156.000	82.000	•
13.500		156.000	82.000	•
14.000		156.000	82.000	•
14.500		157.000	83.000	•
15.000		157.000	83.000	•
15.500		157.000	83.000	•
16.000		157.000	83.000	•
16.500		158.000	84.000	•
17.000		158.000	84.000	•
17.500		158.000	84.000	•
18.000		158.000	84.000	•
19.000		158.000	84.000	•
20.000		159.000	85.000	•
21.000		159.000	85.000	•
22.000		159.000	85.000	•
23.000		159.000	85.000	•
24.000		160.000	86.000	•
25.000	63/64	160.000	86.000	•

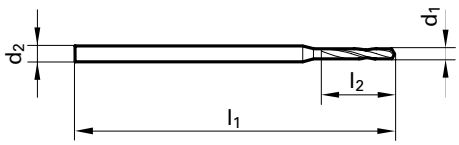
• *Australian stock item* ○ *German stock item*

GUHRING

MICRO-PRECISION TOOLS



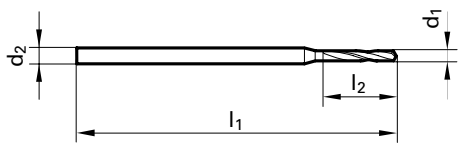
Guhring no.	**301**
Standard	**DIN 1899**
Tool material	**HSS-E-PM**
Surface	○
Type	**N**
Cutting direction	**right-hand**
Tolerance	**0/-0,004**
Point angle	**118º**



d1	d2	l1	l2	AVAILABILITY
mm	mm	mm	mm	
0.100	1.00	25.00	0.50	•
0.180	1.00	25.00	1.10	•
0.200	1.00	25.00	1.50	•
0.300	1.00	25.00	1.90	•
0.400	1.00	25.00	3.00	•
0.500	1.00	25.00	3.40	•
0.600	1.00	25.00	3.90	•
0.700	1.00	25.00	4.20	•
0.800	1.50	25.00	5.30	•
0.900	1.50	25.00	6.00	•
1.000	1.50	25.00	6.80	•
1.100	1.50	25.00	7.60	•
1.200	1.50	25.00	8.50	•
1.300	1.50	25.00	8.50	•
1.400	1.50	25.00	9.50	•
1.500	2.00	30.00	9.50	•
1.600	2.00	30.00	10.60	•
1.700	2.00	30.00	10.60	•
1.800	2.00	30.00	11.80	•
1.900	2.00	30.00	11.80	•

• *Australian stock item* ○ *German stock item*

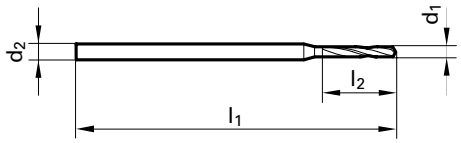
Guhring no.	**5652**
Standard	**WN**
Tool material	**Solid Carbide**
Surface	A
Type	**N**
Cutting direction	
Tolerance	
Point angle	**140º**



d1	d2	l1	l2	AVAILABILITY
mm	mm	mm	mm	
0.100	3.00	38.00	1.20	•
0.200	3.00	38.00	2.50	•
0.300	3.00	38.00	5.00	•
0.400	3.00	38.00	7.00	•
0.500	3.00	38.00	7.00	•
0.600	3.00	38.00	7.00	•
0.700	3.00	38.00	8.00	•
0.800	3.00	38.00	10.00	•
0.900	3.00	38.00	10.00	•
1.000	3.00	38.00	10.00	•
1.100	3.00	38.00	10.00	•
1.200	3.00	38.00	10.00	•
1.300	3.00	38.00	10.00	•
1.400	3.00	38.00	10.00	•
1.500	3.00	38.00	10.00	•
1.600	3.00	38.00	12.00	•
1.700	3.00	38.00	12.00	•
1.800	3.00	38.00	12.00	•
1.900	3.00	38.00	12.00	•
2.000	3.00	38.00	12.00	•
2.100	3.00	38.00	12.00	•
2.200	3.00	38.00	12.00	•
2.400	3.00	38.00	12.00	•
2.500	3.00	38.00	12.00	•
2.600	3.00	38.00	12.00	•
2.800	3.00	38.00	12.00	
3.000	3.00	38.00	12.00	

• *Australian stock item* ○ *German stock item*

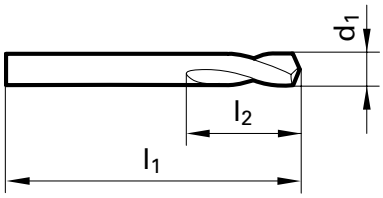
Guhring no.	6408
Standard	Guhring std.
Tool material	Solid Carbide
Surface	A
Type	N
Drilling depth	8xD
Cutting direction	right-hand
Tolerance	h7
Point anlge	135°



d1	d2	l1	l2	AVAILABILITY
mm	mm	mm	mm	
1.400	4.00	52.00	15.00	•
1.500	4.00	52.00	17.00	•
1.600	4.00	52.00	18.00	•
1.700	4.00	56.00	19.00	•
1.800	4.00	56.00	20.00	•
1.900	4.00	56.00	21.00	•
2.000	4.00	56.00	22.00	•
2.100	4.00	62.00	23.00	•
2.200	4.00	62.00	24.00	•
2.300	4.00	62.00	25.00	•
2.400	4.00	62.00	26.00	•
2.500	4.00	62.00	28.00	•
2.600	4.00	66.00	29.00	•
2.700	4.00	66.00	30.00	•
2.800	4.00	66.00	31.00	•
2.900	4.00	66.00	32.00	•
3.000	4.00	66.00	33.00	•

• *Australian stock item* ○ *German stock item*

Guhring no.	557	568	567	557F	5678	723	6027	5649
Standard	Guhring std.							
Tool material	HSS				HSCO	Solid Carbide		
Surface	○	S	S	F	F	○	F	○
Type	N	N	N	N	N	N	N	N
Cutting direction	right-hand							
Tolerance	h6	h6	h5	h6	h6	h6	h6	h6
Point angle	90°	90°	120°	90°	90°	90°	90°	142°

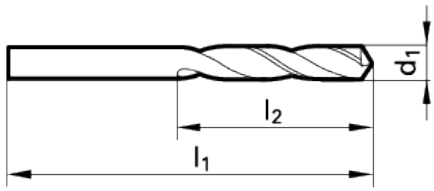


d1 mm	d1 Inch	l1 mm	l2 mm	557	568	567	557F	5678	723	6027	5649
3.000		46.00	12.00	•	❍			❍			
4.000		55.00	12.00	•	❍		•377003383	❍	•		❍
5.000		62.00	14.00	•	❍			❍	•		
6.000		66.00	16.00	•	•	•	•377003384	•	•	•	•
6.350	1/4	70.00	17.00	•	❍				❍		
8.000		79.00	21.00	•	•	•	•377003385	•	•	•	❍
9.520	3/8	89.00	25.00	•	❍				•		
10.000		89.00	25.00	•	•	•	•377003380	•	•	•	•
12.000		102.00	30.00	•	•	•	•377003381	•	•	•	•
12.700	1/2	102.00	30.00	•	•				•		
15.870	5/8	115.00	37.50	•					•		
16.000		115.00	37.50	•	•		•377003382	•	•	•	❍
19.050	3/4	131.00	45.00	•					•		
20.000		131.00	45.00	•	•			❍	•		❍
25.000	63/64	151.00	53.00	•	❍						
25.400	1	156.00	53.00	•							

AVAILABILITY

• *Australian stock item* ❍ *German stock item*

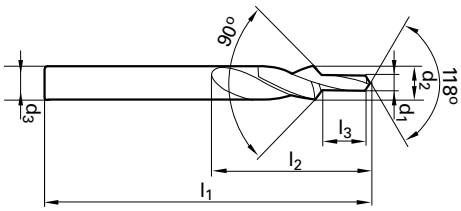
Guhring no.	8926	8926F
Standard	In-house std.	In-house std.
Tool material	HSCO	HSCO
Surface	○	F
Type		
Cutting direction	right-hand	right-hand
Tolerance	h8	h8



d1	l1	l2	AVAILABILITY	
mm	mm	mm		
6.000	66.000	28.000	•	• 377016775
8.000	79.000	37.000	•	• 377016776

• *Australian stock item* ○ *German stock item*

Guhring no.	380	5003
Standard	Guhring std.	
Tool material	HSS	Solid Carbide
Surface	○	F
Type	N	N
Form	for tapping size holes	for tapping size holes
Cutting direction	right-hand	right-hand
Point angle	118°	118°

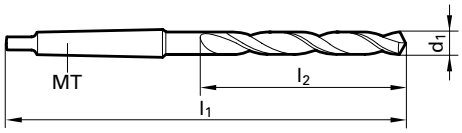


d2 Code (mm)	d1 mm	d3 mm	l1 mm	l2 mm	l3 mm	for thread	AVAILABILITY	
3.400	2.500	3.400	52.00	20.00	8.80	M 3	•	
4.500	3.300	4.500	58.00	24.00	11.40	M 4	•	
5.500	4.200	5.500	66.00	28.00	13.60	M 5	•	
6.600	5.000	6.600	70.00	31.00	16.50	M 6	•	
9.000	6.800	9.000	84.00	40.00	21.00	M 8	•	
11.000	8.500	11.000	95.00	47.00	25.50	M10	•	
13.500	10.200	13.500	107.00	54.00	30.00	M12	•	
3.400	2.50	4.00	52.00	20.00	8.80	M 3		• 302428537
4.500	3.30	4.50	63.00	27.00	11.40	M 4		• 302428539
5.500	4.20	6.00	63.00	27.00	13.60	M 5		• 302428540
6.600	5.00	8.00	80.00	31.00	16.50	M 6		• 302428542
9.000	6.80	10.00	80.00	40.00	21.00	M 8		• 302428543
11.000	8.50	12.00	100.00	47.00	25.50	M10		• 302428545
13.500	10.20	14.00	100.00	53.00	30.00	M12		• 302428546
14.000	12.00	14.00	108.00	60.00	34.50	M14		• 302586822
16.000	14.00	16.10	108.00	65.00	38.50	M16		• 302586823

Other sizes available on request

• *Australian stock item* ○ *German stock item*

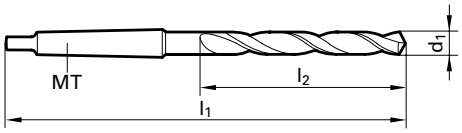
Guhring no.	245
Standard	DIN 345
Tool material	HSS
Surface	●
Type	N
Cutting direction	right-hand
Tolerance	h8
Point angle	118°



d1 mm	d1 inch	MT	l1 mm	l2 mm	AVAILABILITY
13.000		1	182.00	101.00	•
13.500		1	189.00	108.00	•
14.000		1	189.00	108.00	•
14.250		2	212.00	114.00	•
14.290	9/16	2	212.00	114.00	•
14.500		2	212.00	114.00	•
15.000		2	212.00	114.00	•
15.080	19/32	2	218.00	120.00	•
15.500		2	218.00	120.00	•
15.750		2	218.00	120.00	•
15.800		2	218.00	120.00	•
15.870	5/8	2	218.00	120.00	•
16.000		2	218.00	120.00	•
16.270	41/64	2	223.00	125.00	•
16.500		2	223.00	125.00	•
16.750		2	223.00	125.00	•
17.000		2	223.00	125.00	•
17.460		2	228.00	130.00	•
17.500		2	228.00	130.00	•
17.860	45/64	2	228.00	130.00	○
18.000		2	228.00	130.00	•
18.250		2	233.00	135.00	•
18.500		2	233.00	135.00	•
18.650	47/64	2	233.00	135.00	•
19.000		2	233.00	135.00	•
19.050	3/4	2	238.00	140.00	•
19.500		2	238.00	140.00	•
19.840	25/32	2	238.00	140.00	○
20.000		2	238.00	140.00	•
20.500		2	243.00	145.00	•
20.640	13/16	2	243.00	145.00	○
21.000		2	243.00	145.00	•
21.430	27/32	2	248.00	150.00	○
21.500		2	248.00	150.00	•
22.000		2	248.00	150.00	•
22.220	7/8	2	248.00	150.00	•
22.250		2	248.00	150.00	•
22.500		2	253.00	155.00	•
23.000		2	253.00	155.00	•

• *Australian stock item* ○ *German stock item*

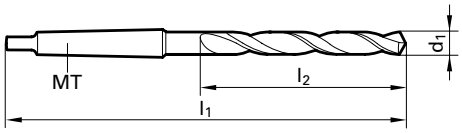
Guhring no.	**245**
Standard	**DIN 345**
Tool material	**HSS**
Surface	●
Type	**N**
Cutting direction	**right-hand**
Tolerance	**h8**
Point angle	**118°**



d1 mm	d1 inch	MT	l1 mm	l2 mm	AVAILABILITY
23.500		3	276.00	155.00	•
23.810	**15/16**	3	281.00	160.00	○
24.000		3	281.00	160.00	•
24.500		3	281.00	160.00	•
25.000	**63/64**	3	281.00	160.00	•
25.400	**1**	3	286.00	165.00	•
25.500		3	286.00	165.00	•
26.000		3	286.00	165.00	•
26.190	**1 1/32**	3	286.00	165.00	○
26.500		3	286.00	165.00	•
27.000		3	291.00	170.00	•
27.500		3	291.00	170.00	•
28.000		3	291.00	170.00	•
28.500		3	296.00	175.00	•
28.570	**1 1/8**	3	296.00	175.00	○
29.000		3	296.00	175.00	•
29.500		3	296.00	175.00	•
30.000		3	296.00	175.00	•
30.160	**1 3/16**	3	301.00	180.00	○
30.500		3	301.00	180.00	•
31.000		3	301.00	180.00	•
31.500		3	301.00	180.00	•
31.750	**1 1/4**	3	306.00	185.00	•
32.000		4	334.00	185.00	•
33.000		4	334.00	185.00	•
34.000		4	339.00	190.00	•
35.000		4	339.00	190.00	•
36.000		4	344.00	195.00	•
37.310	**1 15/32**	4	344.00	195.00	○
38.000		4	349.00	200.00	•
38.100	**1 1/2**	4	349.00	200.00	○
40.000		4	349.00	200.00	•
41.000		4	354.00	205.00	○
42.000		4	354.00	205.00	•
43.000		4	359.00	210.00	•
44.000		4	359.00	210.00	•
45.000		4	359.00	210.00	•
48.000		4	369.00	220.00	•
50.000		4	369.00	220.00	•

• *Australian stock item* ○ *German stock item*

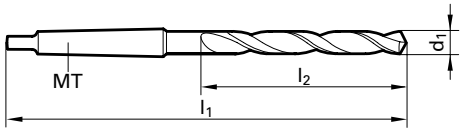
Guhring no.	**257**
Standard	**DIN 341**
Tool material	**HSS**
Surface	
Type	**N**
Cutting direction	**right-hand**
Tolerance	**h8**
Point angle	**118°**



d1	MT	l1	l2	AVAILABILITY
mm		mm	mm	
13.00	1	215.00	134.00	•
13.50	1	223.00	142.00	○
14.00	1	223.00	142.00	•
14.50	2	245.00	147.00	○
15.00	2	245.00	147.00	•
15.50	2	251.00	153.00	○
16.00	2	251.00	153.00	•
16.50	2	257.00	159.00	○
17.00	2	257.00	159.00	•
17.50	2	263.00	165.00	○
18.00	2	263.00	165.00	•
18.50	2	269.00	171.00	○
19.00	2	269.00	171.00	•
19.50	2	275.00	177.00	○
20.00	2	275.00	177.00	•
21.00	2	282.00	184.00	○
22.00	2	289.00	191.00	○
22.22	2	289.00	191.00	○
23.00	2	296.00	198.00	○
24.00	3	327.00	206.00	○
25.00	3	327.00	206.00	○
26.00	3	335.00	214.00	○
27.00	3	343.00	222.00	○
28.00	3	343.00	222.00	○
29.00	3	351.00	230.00	○
30.00	3	351.00	230.00	○
35.00	4	406.00	257.00	○
36.00	4	416.00	267.00	○
38.00	4	426.00	277.00	○
40.00	4	426.00	277.00	○

• *Australian stock item* ○ *German stock item*

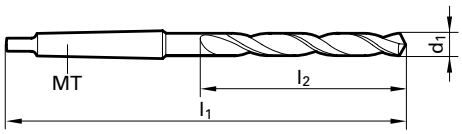
Guhring no.	526	527	565
Standard	DIN 1870		
Tool material	HSS		
Surface	>Ø 16,0	>Ø 16,0	>Ø 16,0
Type	GT 100	GT 100	GT 100
Cutting direction	right-hand	right-hand	right-hand
Tolerance	h8	h8	h8
Point angle	130°	130°	130°



d1 mm	MT	l1 mm	l2 mm	AVAILABILITY		
12.000	1	310.00	205.00	•		
13.000	1	310.00	205.00	•		
14.000	1	325.00	220.00	•		
15.000	2	340.00	220.00	•		
16.000	2	355.00	230.00	•		
17.000	2	355.00	230.00	•		
18.000	2	370.00	245.00	•		
19.000	2	370.00	245.00	•		
20.000	2	385.00	260.00	•		
12.000	1	395.00	260.00		•	
13.000	1	395.00	260.00		•	
14.000	1	410.00	275.00		•	
15.000	2	425.00	275.00		•	
16.000	2	445.00	295.00		•	
17.000	2	445.00	295.00		•	
18.000	2	465.00	310.00		•	
19.000	2	465.00	310.00		•	
20.000	2	490.00	325.00		•	
10.000	1	425.00	345.00			•
11.000	1	425.00	345.00			•
12.000	1	425.00	345.00			•
13.000	1	425.00	345.00			•
14.000	1	425.00	345.00			•
15.000	2	425.00	325.00			•
16.000	2	425.00	325.00			•
17.000	2	425.00	325.00			•

• *Australian stock item* ○ *German stock item*

Guhring no.	293	298	299
Standard	Guhring std.		
Tool material	HSS		
Surface	>Ø 16,0		
Type	GT 100	GT 100	GT 100
Cutting direction	right-hand	right-hand	right-hand
Tolerance	h8	h8	h8
Point angle	130°	130°	130°

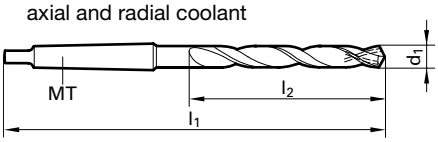


d1 mm	MT	l1 mm	l2 mm	AVAILABILITY		
14.000	1	600.00	500.00	•		
15.000	2	600.00	500.00	•		
16.000	2	600.00	500.00	•		
17.000	2	600.00	500.00	•		
18.000	2	600.00	500.00	•		
19.000	2	600.00	500.00	•		
20.000	2	600.00	500.00	•		
21.000	2	600.00	500.00	•		
22.000	2	600.00	500.00	•		
23.000	2	600.00	500.00	•		
24.000	3	600.00	475.00	•		
25.000	3	600.00	475.00	•		
14.000	1	750.00	650.00		•	
15.000	2	750.00	650.00		•	
16.000	2	750.00	650.00		•	
18.000	2	750.00	650.00		•	
14.000	1	1000.00	850.00			•
15.000	2	1000.00	850.00			•
16.000	2	1000.00	850.00			•
18.000	2	1000.00	850.00			•

• *Australian stock item* ○ *German stock item*

Guhring no.	**255**
Standard	**WN**
Tool material	**HSS**
Surface	●
Type	**N**
Cutting direction	**right-hand**
Tolerance	**h8**
Point angle	**170º**

axial and radial coolant



d1	S	l1	l2	AVAILABILITY
mm		mm	mm	
8.000	2	268.00	116.00	○
9.000	2	268.00	116.00	○
10.000	3	268.00	116.00	○
10.500	3	268.00	116.00	○
11.000	3	278.00	125.00	○
12.000	3	287.00	134.00	•
13.000	3	287.00	134.00	○
13.500	3	285.00	142.00	○
14.000	3	285.00	142.00	•
15.000	3	300.00	147.00	○
16.000	3	306.00	153.00	•
17.000	3	311.00	159.00	○
17.500	3	318.00	165.00	○
18.000	3	318.00	165.00	•
19.000	3	324.00	171.00	○
20.000	3	330.00	177.00	•
21.000	3	343.00	184.00	○
22.000	3	350.00	191.00	•
23.000	3	357.00	198.00	○
24.000	3	365.00	206.00	•
25.000	3	365.00	206.00	○
26.000	3	373.00	214.00	•
27.000	4	375.00	193.00	○
28.000	4	375.00	193.00	•
29.000	4	375.00	193.00	○
30.000	4	375.00	193.00	•
31.000	4	375.00	193.00	○
32.000	4	375.00	193.00	•
33.000	4	375.00	193.00	○
34.000	4	375.00	193.00	•
35.000	4	375.00	193.00	○
36.000	4	375.00	193.00	○
37.000	4	375.00	193.00	○
38.000	4	375.00	193.00	○
39.000	4	375.00	193.00	○
40.000	4	375.00	193.00	○
41.000	4	375.00	193.00	○
42.000	4	375.00	193.00	○

• *Australian stock item* ○ *German stock item*

GÜHRING

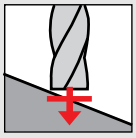
NEW!

RT 100 FB
Flat Bottom Drill

ADVANTAGES

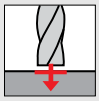
- Reduced process costs as spot-facing is omitted
- Drilling of oblique or curved surfaces up to 45° without deflection
- Exit of the hole is virtually burr-free, thus ideal for cross-drilled holes
- High process reliability due to precise alignment and roundness resulting in excellent surface quality

Usage tips for spot drilling



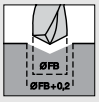
Spot drilling on inclined surfaces/when exiting from inclined surfaces:

- angle up to 15° = reduce feed rate f in mm/rev by 25 %
- angle up to 30° = reduce feed rate f in mm/rev by 50 %
- angle up to max. 45° = reduce feed rate f in mm/rev by 75 %
- when the flat drill is fully wrapped, the feed rate can be raised to 100 %

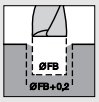


Spot drilling on flat surfaces:

PLEASE NOTE: When drilling on flat surfaces, pre-drilling is always required.

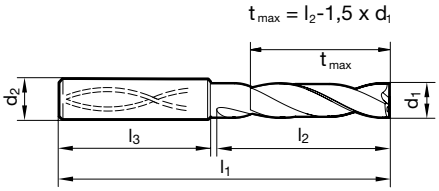


1. Spot drill with a conventional solid carbide drill, e.g. art. 2477 on Ø FB of the following RT 100 FB or on Ø FB + 0.20 mm of the following RT 100 FB to directly apply a chamfer.



2. Insert the RT 100 FB at full feed rate.

Guhring no.	**6596**
Standard	**Guhring std.**
Tool material	**Solid carbide**
Carbide grade	**K/P**
Surface	F
Type	**FB**
Shank	**HA**
Cutting direction	**right-hand**



Scan for speeds and feeds

NEW

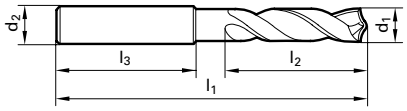
d1	d2	l1	l2	l3	AVAILABILITY
mm	mm	mm	mm	mm	
3.000	6.000	61.000	16.000	36.000	○
3.500	6.000	61.000	16.000	36.000	○
4.000	6.000	65.000	18.000	36.000	○
4.500	6.000	65.000	21.000	36.000	○
5.000	6.000	65.000	26.000	36.000	○
5.500	6.000	65.000	26.000	36.000	○
6.000	6.000	65.000	26.000	36.000	○
6.500	8.000	78.000	31.000	36.000	○
7.000	8.000	78.000	31.000	36.000	○
7.500	8.000	78.000	35.000	36.000	○
8.000	8.000	78.000	35.000	36.000	○
8.500	10.000	87.000	43.000	40.000	○
9.000	10.000	87.000	43.000	40.000	○
9.500	10.000	87.000	43.000	40.000	○
10.000	10.000	87.000	43.000	40.000	○
10.500	12.000	100.000	52.000	45.000	○
11.000	12.000	100.000	52.000	45.000	○
11.500	12.000	100.000	52.000	45.000	○
12.000	12.000	100.000	52.000	45.000	○
12.500	14.000	104.000	57.000	45.000	○
13.000	14.000	104.000	57.000	45.000	○
13.500	14.000	104.000	57.000	45.000	○
14.000	14.000	104.000	57.000	45.000	○
14.500	16.000	112.000	62.000	48.000	○
15.000	16.000	112.000	62.000	48.000	○
15.500	16.000	112.000	62.000	48.000	○
16.000	16.000	112.000	62.000	48.000	○
16.500	18.000	120.000	70.000	48.000	○
17.000	18.000	120.000	70.000	48.000	○
17.500	18.000	120.000	70.000	48.000	○
18.000	18.000	120.000	70.000	48.000	○
18.500	20.000	128.000	76.000	50.000	○
19.000	20.000	128.000	76.000	50.000	○
19.500	20.000	128.000	76.000	50.000	○
20.000	20.000	128.000	76.000	50.000	○

Available in 0.1 mm increments

• *Australian stock item* ○ *German stock item*

HIGH-PERFORMANCE RATIO DRILLS, 3 X D

Guhring no.	5514	5510	5526	6498
Standard	DIN 6537 K			
Tool material	Solid carbide			
Surface	F	F	F	F
Type	RT 100 U	RT 100 U	RT 100 VA	RT 100 XF
Cutting direction	right-hand	right-hand	right-hand	right-hand
Tolerance	m7	m7	m7	m7
Drilling depth	3 x D	3 x D	3 x D	3 x D
Point angle	140°	140°	140°	140°



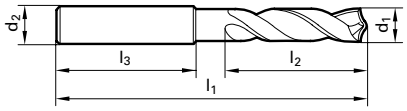
d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l3 mm	5514	5510	5526	6498
3.000		6.000	62.00	20.00	36.00	•	○	○	○
3.100		6.000	62.00	20.00	36.00	•	○	○	○
3.170	1/8	6.000	62.00	20.00	36.00	○	○	○	○
3.200		6.000	62.00	20.00	36.00	•	○	○	○
3.250		6.000	62.00	20.00	36.00	•	○	○	○
3.300		6.000	62.00	20.00	36.00	•	•	○	○
3.400		6.000	62.00	20.00	36.00	•	•	○	○
3.500		6.000	62.00	20.00	36.00	•	•	○	○
3.570	9/64	6.000	62.00	20.00	36.00	○	○	○	○
3.600		6.000	62.00	20.00	36.00	•	○	○	○
3.700		6.000	62.00	20.00	36.00	•	○	○	○
3.800		6.000	66.00	24.00	36.00	•	○	○	○
3.900		6.000	66.00	24.00	36.00	•	○	○	○
3.970	5/32	6.000	66.00	24.00	36.00	○	○	○	○
4.000		6.000	66.00	24.00	36.00	•	•	○	○
4.100		6.000	66.00	24.00	36.00	•	○	○	○
4.200		6.000	66.00	24.00	36.00	•	○	○	○
4.300		6.000	66.00	24.00	36.00	•	○	○	○
4.370	11/64	6.000	66.00	24.00	36.00	○	○	○	○
4.400		6.000	66.00	24.00	36.00	•	•	○	○
4.500		6.000	66.00	24.00	36.00	•	○	○	○
4.600		6.000	66.00	24.00	36.00	•	○	○	○
4.650		6.000	66.00	24.00	36.00	•	○	○	○
4.700		6.000	66.00	24.00	36.00	•	○	○	○
4.760	3/16	6.000	66.00	28.00	36.00	○	○	○	○
4.800		6.000	66.00	28.00	36.00	•	○	○	○
4.900		6.000	66.00	28.00	36.00	•	○	○	○
5.000		6.000	66.00	28.00	36.00	•	•	○	○
5.100		6.000	66.00	28.00	36.00	•	○	○	○
5.160	13/64	6.000	66.00	28.00	36.00	○	○	○	○
5.200		6.000	66.00	28.00	36.00	•	○	○	○
5.300		6.000	66.00	28.00	36.00	•	○	○	○
5.400		6.000	66.00	28.00	36.00	•	○	○	○
5.500		6.000	66.00	28.00	36.00	•	•	○	○
5.550		6.000	66.00	28.00	36.00	•	•	○	○
5.560	7/32	6.000	66.00	28.00	36.00	○	○	○	○
5.600		6.000	66.00	28.00	36.00	•	○	○	○
5.700		6.000	66.00	28.00	36.00	•	•	○	○
5.800		6.000	66.00	28.00	36.00	•	•	○	○

AVAILABILITY

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	5514	5510	5526	6498
Standard	DIN 6537 K			
Tool material	Solid carbide			
Surface	F	F	F	F
Type	RT 100 U	RT 100 U	RT 100 VA	RT 100 XF
Cutting direction	right-hand	right-hand	right-hand	right-hand
Tolerance	m7	m7	m7	m7
Drilling depth	3 x D	3 x D	3 x D	3 x D
Point angle	140°	140°	140°	140°

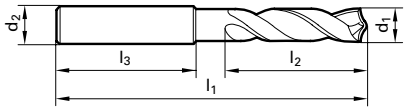


d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l3 mm	AVAILABILITY			
5.900		6.000	66.00	28.00	36.00	•	○	○	○
5.950	15/64	6.000	66.00	28.00	36.00	○	○	○	○
6.000		6.000	66.00	28.00	36.00	•	•	○	○
6.100		8.000	79.00	34.00	36.00	•	○	○	○
6.200		8.000	79.00	34.00	36.00	•	○	○	○
6.300		8.000	79.00	34.00	36.00	•	•	○	○
6.350	1/4	8.000	79.00	34.00	36.00	○	○	○	○
6.400		8.000	79.00	34.00	36.00	•	•	○	○
6.500		8.000	79.00	34.00	36.00	•	•	○	○
6.600		8.000	79.00	34.00	36.00	•	○	○	○
6.700		8.000	79.00	34.00	36.00	•	○	○	○
6.750	17/64	8.000	79.00	34.00	36.00	○	○	○	○
6.800		8.000	79.00	34.00	36.00	•	○	○	○
6.900		8.000	79.00	34.00	36.00	•	○	○	○
7.000		8.000	79.00	34.00	36.00	•	•	○	○
7.100		8.000	79.00	41.00	36.00	•	○	○	○
7.140	9/32	8.000	79.00	41.00	36.00	○	○	○	○
7.200		8.000	79.00	41.00	36.00	•	○	○	○
7.300		8.000	79.00	41.00	36.00	•	○	○	○
7.400		8.000	79.00	41.00	36.00	•	•	○	○
7.500		8.000	79.00	41.00	36.00	•	○	○	○
7.540	19/64	8.000	79.00	41.00	36.00	○	○	○	○
7.600		8.000	79.00	41.00	36.00	•	○	○	○
7.700		8.000	79.00	41.00	36.00	•	○	○	○
7.800		8.000	79.00	41.00	36.00	•	○	○	○
7.900		8.000	79.00	41.00	36.00	•	○	○	○
7.940	5/16	8.000	79.00	41.00	36.00	○	○	○	○
8.000		8.000	79.00	41.00	36.00	•	•	○	○
8.100		10.000	89.00	47.00	40.00	•	○	○	○
8.200		10.000	89.00	47.00	40.00	•	•	○	○
8.300		10.000	89.00	47.00	40.00	•	○	○	○
8.330	21/64	10.000	89.00	47.00	40.00	○	○	○	○
8.400		10.000	89.00	47.00	40.00	•	○	○	○
8.500		10.000	89.00	47.00	40.00	•	•	○	○
8.600		10.000	89.00	47.00	40.00	•	•	○	○
8.700		10.000	89.00	47.00	40.00	•	○	○	○
8.730	11/32	10.000	89.00	47.00	40.00	○	○	○	○
8.800		10.000	89.00	47.00	40.00	•	•	○	○
8.900		10.000	89.00	47.00	40.00	•	•	○	○

• *Australian stock item* ○ *German stock item*

HIGH-PERFORMANCE RATIO DRILLS, 3 X D

Guhring no.	5514	5510	5526	6498
Standard	DIN 6537 K			
Tool material	Solid carbide			
Surface	F	F	F	F
Type	RT 100 U	RT 100 U	RT 100 VA	RT 100 XF
Cutting direction	right-hand	right-hand	right-hand	right-hand
Tolerance	m7	m7	m7	m7
Drilling depth	3 x D	3 x D	3 x D	3 x D
Point angle	140°	140°	140°	140°



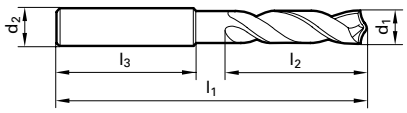
d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l3 mm	5514	5510	5526	6498
9.000		10.000	89.00	47.00	40.00	•	•	○	○
9.100		10.000	89.00	47.00	40.00	•	○	○	○
9.130	23/64	10.000	89.00	47.00	40.00	○	○	○	○
9.200		10.000	89.00	47.00	40.00	•	○	○	○
9.250		10.000	89.00	47.00	40.00	•	○	○	○
9.300		10.000	89.00	47.00	40.00	•	○	○	○
9.400		10.000	89.00	47.00	40.00	•	○	○	○
9.500		10.000	89.00	47.00	40.00	•	○	○	○
9.520	3/8	10.000	89.00	47.00	40.00	○	○	○	○
9.600		10.000	89.00	47.00	40.00	•	○	○	○
9.700		10.000	89.00	47.00	40.00	•	○	○	○
9.800		10.000	89.00	47.00	40.00	•	•	○	○
9.900		10.000	89.00	47.00	40.00	•	○	○	○
9.920	25/64	10.000	89.00	47.00	40.00	○	○	○	○
10.000		10.000	89.00	47.00	40.00	•	•	○	○
10.100		12.000	102.00	55.00	45.00	•	•	○	○
10.200		12.000	102.00	55.00	45.00	•	○	○	○
10.300		12.000	102.00	55.00	45.00	•	○	○	○
10.320	13/32	12.000	102.00	55.00	45.00	○	○	○	○
10.400		12.000	102.00	55.00	45.00	•	○	○	○
10.500		12.000	102.00	55.00	45.00	•	○	○	○
10.600		12.000	102.00	55.00	45.00	•	○	○	○
10.700		12.000	102.00	55.00	45.00	○	•	○	○
10.800		12.000	102.00	55.00	45.00	•	•	○	○
10.900		12.000	102.00	55.00	45.00	○	○	○	○
11.000		12.000	102.00	55.00	45.00	•	•	○	○
11.100		12.000	102.00	55.00	45.00	•	○	○	○
11.110	7/16	12.000	102.00	55.00	45.00	○	○	○	○
11.200		12.000	102.00	55.00	45.00	•	○	○	○
11.300		12.000	102.00	55.00	45.00	•	○	○	○
11.400		12.000	102.00	55.00	45.00	•	○	○	○
11.500		12.000	102.00	55.00	45.00	•	○	○	○
11.600		12.000	102.00	55.00	45.00	○	○	○	○
11.700		12.000	102.00	55.00	45.00	•	•	○	○
11.800		12.000	102.00	55.00	45.00	•	○	○	○
11.900		12.000	102.00	55.00	45.00	•	○	○	○
11.910	15/32	12.000	102.00	55.00	45.00	○	○	○	○
12.000		12.000	102.00	55.00	45.00	•	•	○	○
12.200		14.000	107.00	60.00	45.00	•	○	○	○

AVAILABILITY

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

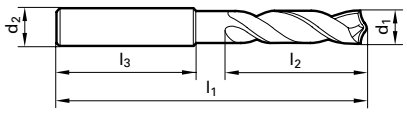
Guhring no.	5514	5510	5526	6498
Standard	DIN 6537 K			
Tool material	Solid carbide			
Surface	F	F	F	F
Type	RT 100 U	RT 100 U	RT 100 VA	RT 100 XF
Cutting direction	right-hand	right-hand	right-hand	right-hand
Tolerance	m7	m7	m7	m7
Drilling depth	3 x D	3 x D	3 x D	3 x D
Point angle	140°	140°	140°	140°



d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l3 mm	AVAILABILITY			
12.500		14.000	107.00	60.00	45.00	•	○	○	○
12.700	1/2	14.000	107.00	60.00	45.00	○	○	○	○
12.800		14.000	107.00	60.00	45.00	•	○	○	○
13.000		14.000	107.00	60.00	45.00	•	•	○	○
13.500		14.000	107.00	60.00	45.00	•	○	○	○
13.700		14.000	107.00	60.00	45.00	○	○	○	○
14.000		14.000	107.00	60.00	45.00	•	•	○	○
14.200		16.000	115.00	65.00	48.00	○	○	○	○
14.290	9/16	16.000	115.00	65.00	48.00	○	○	○	○
14.500		16.000	115.00	65.00	48.00	•	○	○	○
14.700		16.000	115.00	65.00	48.00	○	○	○	○
15.000		16.000	115.00	65.00	48.00	•	•	○	○
15.100		16.000	115.00	65.00	48.00	•	○	○	○
15.200		16.000	115.00	65.00	48.00	•	○	○	○
15.500		16.000	115.00	65.00	48.00	•	○	○	○
15.700		16.000	115.00	65.00	48.00	○	○	○	○
15.870		16.000	115.00	65.00	48.00	•	•	○	○
16.000		16.000	115.00	65.00	48.00	•	•	○	○
16.100		18.000	123.00	73.00	48.00	○	•	○	○
16.500		18.000	123.00	73.00	48.00	○	○	○	○
16.900		18.000	123.00	73.00	48.00	○	•	○	○
17.000		18.000	123.00	73.00	48.00	○	•	○	○
17.500		18.000	123.00	73.00	48.00	○	○	○	○
18.000		18.000	123.00	73.00	48.00	○	•	○	○
18.500		20.000	131.00	79.00	50.00	○	○	○	○
19.000		20.000	131.00	79.00	50.00	○	•	○	○
19.500		20.000	131.00	79.00	50.00	○	○	○	○
20.000		20.000	131.00	79.00	50.00	○	•	○	○

• *Australian stock item* ○ *German stock item*

Guhring no.	5515	5511	5580	5498	5768
Standard	DIN 6537 L				
Tool material	Solid carbide				
Surface	F	F	A	F	○
Type	RT 100 U	RT 100 U	RT 100 VA	RT 100 XF	RT 100 Al
Cutting direction	right-hand	right-hand	right-hand	right-hand	right-hand
Tolerance	m7	m7	m7	m7	m7
Drilling depth	5 x D	5 x D	5 x D	5 x D	5 x D
Point angle	140°	140°	140°	140°	140°

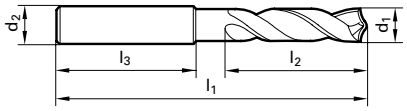


d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l3 mm	AVAILABILITY				
2.500		2.500	57.00	20.00	25.00	•	•			
2.800		2.800	57.00	22.00	27.00	•	•			
2.900		2.900	57.00	23.00	28.00	•	•			
3.000		6.000	66.00	28.00	36.00	•	•	•	•	○
3.100		6.000	66.00	28.00	36.00	•	•	○	○	○
3.170	1/8	6.000	66.00	28.00	36.00	○	○	○	•	○
3.200		6.000	66.00	28.00	36.00	•	•	•	○	○
3.250		6.000	66.00	28.00	36.00	○	○	○	○	○
3.300		6.000	66.00	28.00	36.00	•	•	○	○	○
3.400		6.000	66.00	28.00	36.00	•	•	○	○	○
3.500		6.000	66.00	28.00	36.00	•	•	•	•	○
3.570	9/64	6.000	66.00	28.00	36.00	○	○	○	○	○
3.600		6.000	66.00	28.00	36.00	○	•	○	○	○
3.700		6.000	66.00	28.00	36.00	•	•	○	○	○
3.800		6.000	74.00	36.000	36.00	•	•	•	○	○
3.900		6.000	74.00	36.000	36.00	•	•	○	○	○
3.970	5/32	6.000	74.00	36.000	36.00	○	○	○	○	○
4.000		6.000	74.00	36.000	36.00	•	•	•	•	○
4.100		6.000	74.00	36.000	36.00	○	•	○	○	○
4.200		6.000	74.00	36.000	36.00	•	•	•	•	○
4.300		6.000	74.00	36.000	36.00	•	•	○	○	○
4.370	11/64	6.000	74.00	36.000	36.00	○	○	○	○	○
4.400		6.000	74.00	36.000	36.00	○	•	○	○	○
4.500		6.000	74.00	36.000	36.00	•	•	•	•	○
4.600		6.000	74.00	36.000	36.00	•	•	○	○	○
4.650		6.000	74.00	36.000	36.00	○	•	○	○	○
4.700		6.000	74.00	36.000	36.00	•	•	•	○	○
4.760	3/16	6.000	82.00	44.00	36.00	○	○	○	•	○
4.800		6.000	82.00	44.00	36.00	•	•	○	○	○
4.900		6.000	82.00	44.00	36.00	○	•	○	○	○
5.000		6.000	82.00	44.00	36.00	•	•	•	•	○
5.100		6.000	82.00	44.00	36.00	•	•	•	○	○
5.160	13/64	6.000	82.00	44.00	36.00	○	○	•	•	○
5.200		6.000	82.00	44.00	36.00	•	•	○	○	○
5.300		6.000	82.00	44.00	36.00	•	•	○	○	○
5.400		6.000	82.00	44.00	36.00	○	•	○	○	○
5.500		6.000	82.00	44.00	36.00	•	•	•	•	○
5.550		6.000	82.00	44.00	36.00	○	•	○	○	○
5.560	7/32	6.000	82.00	44.00	36.00	○	○	○	○	○

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands S TiN A TiAlN C TiCN F FIRE/nanoFIRE a TiAlN SuperA

Guhring no.	5515	5511	5580	5498	5768
Standard	DIN 6537 L				
Tool material	Solid carbide				
Surface	F	F	A	F	○
Type	RT 100 U	RT 100 U	RT 100 VA	RT 100 XF	RT 100 Al
Cutting direction	right-hand	right-hand	right-hand	right-hand	right-hand
Tolerance	m7	m7	m7	m7	m7
Drilling depth	5 x D	5 x D	5 x D	5 x D	5 x D
Point angle	140°	140°	140°	140°	140°

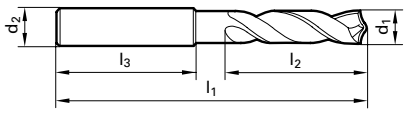


d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l3 mm	5515	5511	5580	5498	5768
5.600		6.000	82.00	44.00	36.00	○	•	○	○	○
5.700		6.000	82.00	44.00	36.00	○	•	○	○	○
5.800		6.000	82.00	44.00	36.00	•	•	○	○	○
5.900		6.000	82.00	44.00	36.00	○	•	○	○	○
5.950	15/64	6.000	82.00	44.00	36.00	○	○	○	○	○
6.000		6.000	82.00	44.00	36.00	•	•	•	•	○
6.100		8.000	91.00	53.00	36.00	○	•	○	○	○
6.200		8.000	91.00	53.00	36.00	•	•	○	○	○
6.300		8.000	91.00	53.00	36.00	○	•	○	○	○
6.350	1/4	8.000	91.00	53.00	36.00	○	○	○	•	○
6.400		8.000	91.00	53.00	36.00	○	•	○	○	○
6.500		8.000	91.00	53.00	36.00	•	•	•	•	○
6.600		8.000	91.00	53.00	36.00	•	•	•	○	○
6.700		8.000	91.00	53.00	36.00	○	•	○	○	○
6.750	17/64	8.000	91.00	53.00	36.00	○	○	○	○	○
6.800		8.000	91.00	53.00	36.00	•	•	•	•	○
6.900		8.000	91.00	53.00	36.00	○	•	○	○	○
7.000		8.000	91.00	53.00	36.00	•	•	•	•	○
7.100		8.000	91.00	53.00	36.00	○	•	○	○	○
7.140	9/32	8.000	91.00	53.00	36.00	○	○	○	•	○
7.200		8.000	91.00	53.00	36.00	•	•	○	○	○
7.300		8.000	91.00	53.00	36.00	•	•	○	○	○
7.400		8.000	91.00	53.00	36.00	•	•	○	○	○
7.500		8.000	91.00	53.00	36.00	•	•	•	•	○
7.540	19/64	8.000	91.00	53.00	36.00	○	○	○	○	○
7.600		8.000	91.00	53.00	36.00	○	•	○	○	○
7.700		8.000	91.00	53.00	36.00	○	•	•	○	○
7.800		8.000	91.00	53.00	36.00	•	•	○	○	○
7.900		8.000	91.00	53.00	36.00	○	•	○	○	○
7.940	5/16	8.000	91.00	53.00	36.00	○	○	○	•	○
8.000		8.000	91.00	53.00	36.00	•	•	•	•	○
8.100		10.000	103.00	61.00	40.00	○	•	○	○	○
8.200		10.000	103.00	61.00	40.00	○	•	○	○	○
8.300		10.000	103.00	61.00	40.00	○	•	○	○	○
8.330	21/64	10.000	103.00	61.00	40.00	○	○	○	•	○
8.400		10.000	103.00	61.00	40.00	○	•	○	○	○
8.500		10.000	103.00	61.00	40.00	•	•	•	•	○
8.600		10.000	103.00	61.00	40.00	•	•	○	○	○
8.700		10.000	103.00	61.00	40.00					

AVAILABILITY

• *Australian stock item* ○ *German stock item*

Guhring no.	5515	5511	5580	5498	5768
Standard	DIN 6537 L				
Tool material	Solid carbide				
Surface	F	F	A	F	○
Type	RT 100 U	RT 100 U	RT 100 VA	RT 100 XF	RT 100 Al
Cutting direction	right-hand	right-hand	right-hand	right-hand	right-hand
Tolerance	m7	m7	m7	m7	m7
Drilling depth	5 x D	5 x D	5 x D	5 x D	5 x D
Point angle	140°	140°	140°	140°	140°

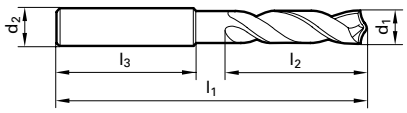


d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l3 mm	AVAILABILITY				
8.730	11/32	10.000	103.00	61.00	40.00	○	○	○	•	○
8.800		10.000	103.00	61.00	40.00	•	•	○	○	○
8.900		10.000	103.00	61.00	40.00	○	•	•	○	○
9.000		10.000	103.00	61.00	40.00	•	•	•	•	○
9.100		10.000	103.00	61.00	40.00	○	•	○	○	○
9.130	23/64	10.000	103.00	61.00	40.00	○	○	○	○	○
9.200		10.000	103.00	61.00	40.00	○	•	○	○	○
9.250		10.000	103.00	61.00	40.00	○	•	○	○	○
9.300		10.000	103.00	61.00	40.00	•	•	○	○	○
9.400		10.000	103.00	61.00	40.00	○	•	○	○	○
9.500		10.000	103.00	61.00	40.00	•	•	•	•	○
9.520	3/8	10.000	103.00	61.00	40.00	○	○	○	•	○
9.600		10.000	103.00	61.00	40.00	•	•	○	○	○
9.700		10.000	103.00	61.00	40.00	○	•	○	○	○
9.800		10.000	103.00	61.00	40.00	•	•	○	○	○
9.900		10.000	103.00	61.00	40.00	○	•	○	○	○
9.920	25/64	10.000	103.00	61.00	40.00	○	○	○	○	○
10.000		10.000	103.00	61.00	40.00	•	•	•	•	○
10.100		12.000	118.00	71.00	45.00	○	•	○	○	○
10.200		12.000	118.00	71.00	45.00	•	•	○	•	○
10.300		12.000	118.00	71.00	45.00	○	•	•	○	○
10.320	13/32	12.000	118.00	71.00	45.00	○	○	○	○	○
10.400		12.000	118.00	71.00	45.00	○	•	○	○	○
10.500		12.000	118.00	71.00	45.00	•	•	•	•	○
10.600		12.000	118.00	71.00	45.00	○	•	○	○	○
10.700		12.000	118.00	71.00	45.00	○	•	○	○	○
10.800		12.000	118.00	71.00	45.00	•	•	○	○	○
10.900		12.000	118.00	71.00	45.00	○	•	○	○	○
11.000		12.000	118.00	71.00	45.00	•	•	○	•	○
11.100		12.000	118.00	71.00	45.00	○	•	○	○	○
11.110	7/16	12.000	118.00	71.00	45.00	○	○	○	•	○
11.200		12.000	118.00	71.00	45.00	•	•	○	○	○
11.300		12.000	118.00	71.00	45.00	○	•	○	○	○
11.400		12.000	118.00	71.00	45.00	○	•	○	○	○
11.500		12.000	118.00	71.00	45.00	•	•	○	•	○
11.600		12.000	118.00	71.00	45.00	○	•	○	○	○
11.700		12.000	118.00	71.00	45.00	○	•	○	○	○
11.800		12.000	118.00	71.00	45.00	•	•	•	○	○
11.900		12.000	118.00	71.00	45.00	○	•	○	○	○

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands S TiN A TiAlN C TiCN F FIRE/nanoFIRE a TiAlN SuperA

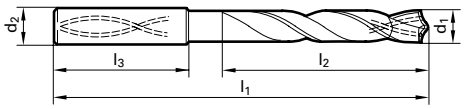
Guhring no.	5515	5511	5580	5498	5768
Standard	DIN 6537 L				
Tool material	Solid carbide				
Surface	F	F	A	F	○
Type	RT 100 U	RT 100 U	RT 100 VA	RT 100 XF	RT 100 Al
Cutting direction	right-hand	right-hand	right-hand	right-hand	right-hand
Tolerance	m7	m7	m7	m7	m7
Drilling depth	5 x D	5 x D	5 x D	5 x D	5 x D
Point angle	140°	140°	140°	140°	140°



d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l3 mm	AVAILABILITY				
11.910	15/32	12.000	118.00	71.00	45.00	○	○	○	○	○
12.000		12.000	118.00	71.00	45.00	•	•	•	•	○
12.100		14.000	124.00	77.00	45.00	•	○	•	○	○
12.200		14.000	124.00	77.00	45.00	○	•	○	○	○
12.500		14.000	124.00	77.00	45.00	•	•	○	•	○
12.700	1/2	14.000	124.00	77.00	45.00	○	○	○	•	○
13.000		14.000	124.00	77.00	45.00	•	•	○	•	○
13.500		14.000	124.00	77.00	45.00	•	•	○	○	○
13.700		14.000	124.00	77.00	45.00	○	•	○	○	○
14.000		14.000	124.00	77.00	45.00	•	•	○	•	○
14.200		16.000	133.00	83.00	48.00	○	•	○	○	○
14.290	9/16	16.000	133.00	83.00	48.00	○	○	○	○	○
14.500		16.000	133.00	83.00	48.00	•	•	○	•	○
14.700		16.000	133.00	83.00	48.00	○	•	○	○	○
14.800		16.000	133.00	83.00	48.00		•		○	○
15.000		16.000	133.00	83.00	48.00	•	○	○	○	○
15.200		16.000	133.00	83.00	48.00	○	○	○	○	○
15.500		16.000	133.00	83.00	48.00	○	○	○	○	○
15.700		16.000	133.00	83.00	48.00	○	•	○	○	○
16.000		16.000	133.00	83.00	48.00	•	•	○	•	○
16.500		18.000	143.00	93.00	48.00	○	○	○	○	○
17.000		18.000	143.00	93.00	48.00	○	•	○	○	○
17.500		18.000	143.00	93.00	48.00	○	•	○	○	○
18.000		18.000	143.00	93.00	48.00	○	•	○	○	○
18.500		20.000	153.00	101.00	50.00	○	○	○	○	○
19.000		20.000	153.00	101.00	50.00	○	○	○	○	○
19.500		20.000	153.00	101.00	50.00	○	○	○	○	○
20.000		20.000	153.00	101.00	50.00	○	•	○	○	○

• *Australian stock item* ○ *German stock item*

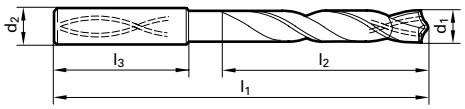
Guhring no.	5512	5499
Standard	Guhring std.	Guhring std.
Tool Material	Solid carbide	Solid carbide
Surface	F	F
Type	RT 100 U	RT 100 XF
Cutting Direction	right-hand	right-hand
Tolerance	m7	m7
Drilling depth	7 x D	7 x D
Point angle	140°	140°



d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l3 mm	AVAILABILITY	
3.000		6.000	70.00	30.00	36.00	•	○
3.300		6.000	70.00	30.00	36.00	•	○
4.000		6.000	75.00	37.50	36.00	•	○
4.600		6.000	85.00	45.00	36.00	•	○
5.000		6.000	90.00	50.00	36.00	•	○
5.200		6.000	90.00	50.00	36.00	•	○
5.500		6.000	97.00	57.00	36.00	•	○
5.560		6.000	97.00	57.00	36.00	•	○
5.800		6.000	97.00	57.00	36.00	•	○
5.950		6.000	97.00	57.00	36.00	•	○
6.000		6.000	97.00	57.00	36.00	•	○
6.350	1/4	8.000	106.00	66.00	36.00	•	○
6.500		8.000	106.00	66.00	36.00	•	○
6.750		8.000	106.00	66.00	36.00	•	○
6.800		8.000	106.00	66.00	36.00	•	○
7.000		8.000	116.00	76.00	36.00	•	○
7.140		8.000	116.00	76.00	36.00	•	○
7.500		8.000	116.00	76.00	36.00	•	○
7.540		8.000	116.00	76.00	36.00	•	○
7.800		8.000	116.00	76.00	36.00	•	○
7.940		8.000	116.00	76.00	36.00	•	○
8.000		8.000	116.00	76.00	36.00	•	○
8.330		10.000	131.00	87.00	40.00	•	○
8.500		10.000	131.00	87.00	40.00	•	○
8.730		10.000	131.00	87.00	40.00	•	○
9.000		10.000	131.00	87.00	40.00	•	○
9.130		10.000	131.00	87.00	40.00	•	○
9.500		10.000	139.00	95.00	40.00	•	○
9.520	3/8	10.000	139.00	95.00	40.00	•	○
9.800		10.000	139.00	95.00	40.00	•	○
10.000		10.000	139.00	95.00	40.00	•	○
10.200		12.000	155.00	106.00	45.00	•	○
10.320		12.000	155.00	106.00	45.00	•	○
10.500		12.000	155.00	106.00	45.00	•	○
11.000		12.000	155.00	106.00	45.00	•	○
11.110		12.000	163.00	114.00	45.00	•	○
11.500		12.000	163.00	114.00	45.00	•	○
11.910		12.000	163.00	114.00	45.00	•	○
12.000		12.000	163.00	114.00	45.00	•	○

• *Australian stock item* ○ *German stock item*

Guhring no.	5512	5499
Standard	Guhring std.	Guhring std.
Tool material	Solid carbide	Solid carbide
Surface	F	F
Type	RT 100 U	RT 100 XF
Cutting direction	right-hand	right-hand
Tolerance	m7	m7
Drilling depth	7 x D	7 x D
Point angle	140°	140°

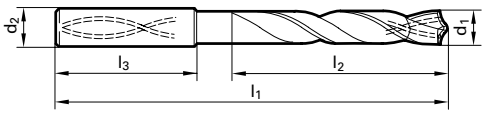


d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l3 mm	AVAILABILITY	
12.500		14.000	182.00	133.00	45.00	•	○
12.700	1/2	14.000	182.00	133.00	45.00	•	○
13.000		14.000	182.00	133.00	45.00	•	○
13.500		14.000	182.00	133.00	45.00	○	○
14.000		14.000	182.00	133.00	45.00	•	○
14.200		16.000	204.00	152.00	48.00	○	○
14.500		16.000	204.00	152.00	48.00	○	○
15.000		16.000	204.00	152.00	48.00	•	○
15.500		16.000	204.00	152.00	48.00	○	○
16.000		16.000	204.00	152.00	48.00	○	○
16.500		18.000	223.00	171.00	48.00	○	○
17.000		18.000	223.00	171.00	48.00	○	○
17.500		18.000	223.00	171.00	48.00	○	○
18.000		18.000	223.00	171.00	48.00	○	○
18.500		20.000	244.00	190.00	50.00	○	○
19.000		20.000	244.00	190.00	50.00	○	○
19.050	3/4	20.000	244.00	190.00	50.00	○	○
19.500		20.000	244.00	190.00	50.00	○	○
20.000		20.000	244.00	190.00	50.00	○	○

• *Australian stock item* ○ *German stock item*

RATIO DRILLS WITH OIL FEED, 12 X D

Guhring no.	5525
Standard	Guhring std.
Tool material	Solid carbide
Carbide Grade	K/P
Surface	F
Type	RT 100
Shank	HA
Cutting direction	right-hand
Tolerance	h7
Drilling depth	12 x D
Point angle	140°



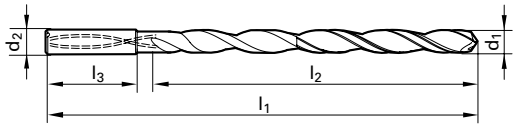
d1	d2	l1	l2	l3	AVAILABILITY
mm	mm	mm	mm	mm	
3.000	6.000	90.00	50.00	36.00	•
3.170	6.000	90.00	50.00	36.00	•
3.200	6.000	90.00	50.00	36.00	•
3.500	6.000	90.00	50.00	36.00	○
4.000	6.000	102.00	64.00	36.00	•
4.500	6.000	102.00	64.00	36.00	○
5.000	6.000	116.00	78.00	36.00	•
5.200	6.000	116.00	78.00	36.00	•
5.500	6.000	116.00	78.00	36.00	○
6.000	6.000	116.00	78.00	36.00	•
6.350	8.000	146.00	108.00	36.00	○
6.500	8.000	146.00	108.00	36.00	○
6.800	8.000	146.00	108.00	36.00	○
7.000	8.000	146.00	108.00	36.00	○
7.500	8.000	146.00	108.00	36.00	○
8.000	8.000	146.00	108.00	36.00	•
8.330	8.000	146.00	108.00	36.00	○
8.500	10.000	162.00	120.00	40.00	○
9.000	10.000	162.00	120.00	40.00	○
9.500	10.000	162.00	120.00	40.00	○
9.520	10.000	162.00	120.00	40.00	○
10.000	10.000	162.00	120.00	40.00	•
10.500	12.000	204.00	156.00	45.00	○
11.000	12.000	204.00	156.00	45.00	○
11.500	12.000	204.00	156.00	45.00	○
12.000	12.000	204.00	156.00	45.00	•
12.500	14.000	230.00	182.00	45.00	○
12.700	14.000	230.00	182.00	45.00	○
13.000	14.000	230.00	182.00	45.00	○
13.500	14.000	230.00	182.00	45.00	○
14.000	14.000	230.00	182.00	45.00	•
14.500	16.000	260.00	208.00	48.00	○
15.000	16.000	260.00	208.00	48.00	○
15.500	16.000	260.00	208.00	48.00	○
16.000	16.000	260.00	208.00	48.00	•

Other sizes available on request

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands S TiN A TiAlN C TiCN F FIRE/nanoFIRE a TiAlN SuperA

Guhring no.	6511
Standard	Guhring std.
Tool material	Solid carbide
Carbide Grade	K/P
Surface	A
Type	RT 100 T
Shank	HA
Cutting Direction	right-hand
Tolerance	h7
Drilling depth	20 x D
Point angle	135°

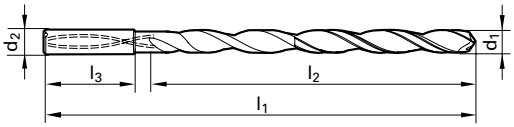


d1	d2	l1	l2	l3	AVAILABILITY
mm	mm	mm	mm	mm	
3.000	6.000	110.00	70.00	36.00	•
4.000	6.000	136.00	96.00	36.00	•
4.500	6.000	158.00	118.00	36.00	•
5.000	6.000	158.00	118.00	36.00	•
5.500	6.000	180.00	140.00	36.00	•
6.000	6.000	180.00	140.00	36.00	•
6.500	8.000	202.00	162.00	36.00	•
7.000	8.000	202.00	162.00	36.00	•
7.500	8.000	223.00	183.00	36.00	•
8.000	8.000	223.00	183.00	36.00	•
8.500	10.000	249.00	205.00	40.00	•
8.730	10.000	249.00	205.00	40.00	•
9.000	10.000	249.00	205.00	40.00	•
10.000	10.000	271.00	227.00	40.00	•
14.000	14.000	367.00	318.00	45.00	•

• *Australian stock item* ○ *German stock item*

RATIO DRILLS WITH OIL FEED, 30 X D

Guhring no.	6513
Standard	Guhring std.
Tool material	Solid carbide
Carbide Grade	K/P
Surface	A
Type	RT 100 T
Shank	HA
Cutting Direction	right-hand
Tolerance	h7
Drilling depth	30 x D
Point angle	135°

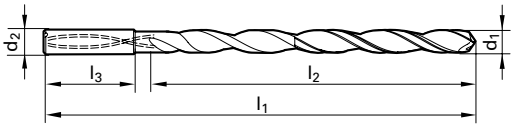


d1	d2	l1	l2	l3	AVAILABILITY
mm	mm	mm	mm	mm	
3.000	6.000	140.00	100.00	36.00	•
3.170	6.000	158.00	118.00	36.00	•
4.000	6.000	176.00	136.00	36.00	•
4.500	6.000	208.00	168.00	36.00	•
5.000	6.000	208.00	168.00	36.00	•
5.500	6.000	240.00	200.00	36.00	•
6.000	8.000	240.00	200.00	36.00	•
6.500	8.000	272.00	232.00	36.00	•
7.000	8.000	272.00	232.00	36.00	•
7.500	8.000	303.00	263.00	36.00	•
8.000	8.000	303.00	263.00	36.00	•
8.500	10.000	339.00	295.00	40.00	•
9.000	10.000	339.00	295.00	40.00	•
9.520	10.000	371.00	327.00	40.00	•
10.000	10.000	371.00	327.00	40.00	•

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

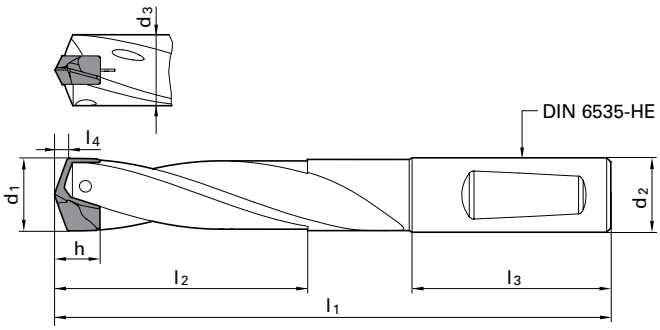
Guhring no.	6514
Standard	Guhring std.
Tool material	Solid carbide
Carbide Grade	K/P
Surface	A
Type	RT 100 T
Shank	HA
Cutting Direction	right-hand
Tolerance	h7
Drilling depth	40 x D
Point angle	135°



d1	d2	l1	l2	l3	AVAILABILITY
mm	mm	mm	mm	mm	
3.000	6.000	170.00	130.00	36.00	•
4.000	6.000	216.00	176.00	36.00	•
5.000	6.000	258.00	218.00	36.00	•
5.500	6.000	280.00	240.00	36.00	•
6.000	6.000	300.00	260.00	36.00	•
6.500	8.000	322.00	282.00	36.00	•
7.000	8.000	342.00	302.00	36.00	•
7.500	8.000	363.00	323.00	36.00	•
8.000	8.000	383.00	343.00	36.00	•

• *Australian stock item* ○ *German stock item*

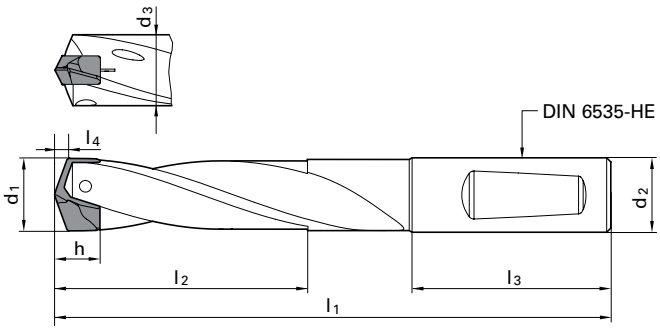
Guhring no. **4107**



Code no.	Holder Size	d1	d2	d3	incl. WP l1*	l2 max	l3	AVAILABILITY
		mm	mm	mm	mm	mm	mm	
11,000	110	11.00 - 11.49	12.00	10.70	101.00	36.60	45.00	•
11,005	110	11.00 - 11.49	12.70	10.70	101.00	36.60	45.00	○
11,500	115	11.50 - 11.99	12.00	11.20	103.00	38.10	45.00	•
11,505	115	11.50 - 11.99	12.70	11.20	103.00	38.10	45.00	○
12,000	120	12.00 - 12.49	12.00	11.70	106.00	39.70	45.00	•
12,005	120	12.00 - 12.49	12.70	11.70	106.00	39.70	45.00	○
12,500	125	12.50 - 12.99	14.00	12.20	108.00	41.30	45.00	•
12,505	125	12.50 - 12.99	15.875	12.20	108.00	41.30	45.00	○
13,000	130	13.00 - 13.49	14.00	12.70	110.00	42.90	45.00	•
13,005	130	13.00 - 13.49	15.875	12.70	110.00	42.90	45.00	○
13,500	135	13.50 - 13.99	14.00	13.20	113.00	44.60	45.00	•
13,505	135	13.50 - 13.99	15.875	13.20	113.00	44.60	45.00	○
14,000	140	14.00 - 14.49	14.00	13.70	115.00	46.20	45.00	•
14,005	140	14.00 - 14.49	15.875	13.70	115.00	46.20	48.00	○
14,500	145	14.50 - 14.99	16.00	14.20	120.00	47.80	48.00	•
14,505	145	14.50 - 14.99	15.875	14.20	120.00	47.80	48.00	○
15,000	150	15.00 - 15.49	16.00	14.70	123.00	49.30	48.00	•
15,005	150	15.00 - 15.49	15.875	14.70	123.00	49.30	48.00	○
15,500	155	15.50 - 15.99	16.00	15.20	125.00	50.90	48.00	•
15,505	155	15.50 - 15.99	15.875	15.20	125.00	59.90	48.00	○
16,000	160	16.00 - 16.49	16.00	15.70	127.00	52.90	48.00	•
16,005	160	16.00 - 16.49	15.875	15.70	127.00	52.90	48.00	○
16,500	165	16.50 - 16.99	18.00	16.20	130.00	54.10	48.00	•
16,505	165	16.50 - 16.99	19.05	16.20	130.00	54.10	48.00	○
17,000	170	17.00 - 17.49	18.00	16.70	132.00	55.80	48.00	•
17,005	170	17.00 - 17.49	19.05	16.70	132.00	55.80	48.00	○
17,500	175	17.50 - 17.99	18.00	17.20	134.00	57.40	48.00	•
17,505	175	17.50 - 17.99	19.05	17.20	134.00	57.40	48.00	○
18,000	180	18.00 - 18.49	18.00	17.70	137.00	58.90	48.00	•
18,005	180	18.00 - 18.49	19.05	17.70	137.00	58.90	48.00	○
18,500	185	18.50 - 18.99	20.00	18.20	141.00	60.50	50.00	•
18,505	185	18.50 - 18.99	19.05	18.20	141.00	60.50	50.00	○
19,000	190	19.00 - 19.49	20.00	18.70	143.00	62.10	50.00	•
19,005	190	19.00 - 19.49	19.05	18.70	143.00	62.10	50.00	○
19,500	195	19.50 - 19.99	20.00	19.20	146.00	63.70	50.00	•
19,505	195	19.50 - 19.99	19.05	19.20	146.00	63.70	50.00	○
20,000	200	20.00 - 20.49	20.00	19.70	148.00	65.30	50.00	•
20,005	200	20.00 - 20.49	19.05	19.70	148.00	65.30	50.00	○
20,500	205	20.50 - 20.99	25.00	20.20	159.00	67.00	56.00	•

• *Australian stock item* ○ *German stock item*

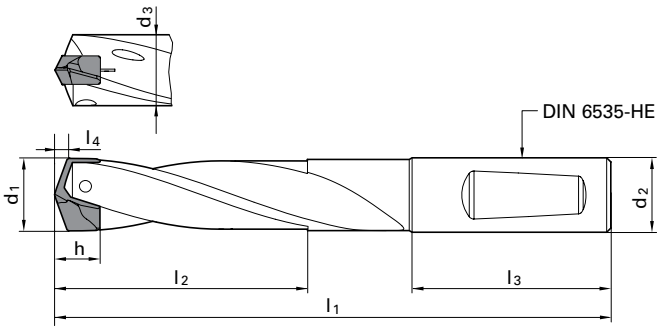
Guhring no. **4107**



Code no.	Holder Size	d1	d2	d3	incl. WP l1*	l2 max	l3	AVAILABILITY
		mm	mm	mm	mm	mm	mm	
20,505	205	20.50 - 20.99	25.40	20.20	159.00	67.00	56.00	○
21,000	210	21.00 - 21.49	25.00	20.70	161.00	68.60	56.00	•
21,005	210	21.00 - 21.49	25.40	20.70	161.00	68.60	56.00	○
21,500	215	21.50 - 21.99	25.00	21.20	163.00	70.10	56.00	•
21,505	215	21.50 - 21.99	25.40	21.20	163.00	70.10	56.00	○
22,000	220	22.00 - 22.49	25.00	21.70	165.00	71.70	56.00	•
22,005	220	22.00 - 22.49	25.40	21.70	165.00	71.70	56.00	○
22,500	225	22.50 - 22.99	25.00	22.20	168.00	73.30	56.00	•
22,505	225	22.50 - 22.99	25.40	22.20	168.00	73.30	56.00	○
23,000	230	23.00 - 23.49	25.00	22.70	170.00	74.9	56.00	•
23,005	230	23.00 - 23.49	25.40	22.70	170.00	74.90	56.00	○
23,500	235	23.50 - 23.99	25.00	23.20	173.00	76.50	56.00	•
23,505	235	23.50 - 23.99	25.40	23.20	173.00	76.50	56.00	○
24,000	240	24.00 - 24.49	25.00	23.70	175.00	78.10	56.00	•
24,005	240	24.00 - 24.49	25.40	23.70	175.00	78.10	56.00	○
24,500	245	24.50 - 24.99	25.00	24.20	177.00	79.70	56.00	•
24,505	245	24.50 - 24.99	25.40	24.20	177.00	79.70	56.00	○
25,000	250	25.00 - 25.49	25.00	24.70	180.00	81.30	56.00	•
25,005	250	25.00 - 25.49	25.40	24.70	180.00	81.30	56.00	○
25,500	255	25.50 - 25.99	32.00	25.20	187.00	82.9	60.00	○
25,505	255	25.50 - 25.99	31.75	25.20	187.00	82.90	60.00	○
26,000	260	26.00 - 26.49	32.00	25.70	191.00	84.00	60.00	•
26,005	260	26.00 - 26.49	31.75	25.70	191.00	84.00	60.00	○
26,500	265	26.50 - 26.99	32.00	26.20	193.00	86.10	60.00	○
26,505	265	26.50 - 26.99	31.75	26.20	193.00	86.10	60.00	○
27,000	270	27.00 - 27.49	32.00	26.70	196.00	87.20	60.00	•
27,005	270	27.00 - 27.49	31.75	26.70	196.00	87.20	60.00	○
27,500	275	27.50 - 27.99	32.00	27.20	198.00	88.90	60.00	○
27,505	275	27.50 - 27.99	31.75	27.20	198.00	88.90	60.00	○
28,000	280	28.00 - 28.49	32.00	27.70	200.00	90.40	60.00	•
28,005	280	28.00 - 28.49	31.75	27.70	200.00	90.40	60.00	○
28,500	285	28.50 - 28.99	32.00	28.20	202.00	92.50	60.00	○
28,505	285	28.50 - 28.99	31.75	28.20	202.00	92.50	60.00	○
29,000	290	29.00 - 29.49	32.00	28.70	205.00	94.60	60.00	•
29,005	290	29.00 - 29.49	31.75	28.70	205.00	94.60	60.00	○
29,500	295	29.50 - 29.99	32.00	29.20	207.00	95.10	60.00	○
29,505	295	29.50 - 29.99	31.75	29.20	207.00	95.10	60.00	○
30,000	300	30.00 - 30.49	32.00	29.70	210.00	96.70	60.00	•
30,005	300	30.00 - 30.49	31.75	29.70	210.00	96.70	60.00	○

• *Australian stock item* ○ *German stock item*

Guhring no. **4107**

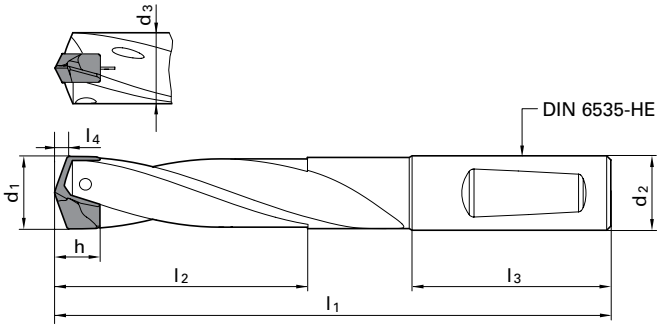


Code no.	Holder Size	d1	d2	d3	incl. WP l1*	l2 max	l3	AVAILABILITY
		mm	mm	mm	mm	mm	mm	
30,500	305	30.50 - 30.99	32.00	30.20	212.00	98.30	60.00	○
30,505	305	30.50 - 30.99	31.75	30.20	212.00	98.30	60.00	○
31,000	310	31.00 - 31.49	32.00	30.70	214.00	99.80	60.00	•
31,005	310	31.00 - 31.49	31.75	30.70	214.00	99.80	60.00	○
31,500	315	31.50 - 31.99	32.00	31.20	216.00	101.40	60.00	○
31,505	315	31.50 - 31.99	31.75	31.20	216.00	101.40	60.00	○
32,000	320	32.00 - 32.99	32.00	31.70	221.00	104.60	60.00	•
32,005	320	32.00 - 32.99	31.75	31.70	221.00	104.60	60.00	○
33,000	330	33.00 - 33.99	32.00	32.70	226.00	107.80	60.00	•
33,005	330	33.00 - 33.99	31.75	32.70	226.00	107.80	60.00	○
34,000	340	34.00 - 34.99	32.00	33.70	230.00	111.00	60.00	○
34,005	340	34.00 - 34.99	31.75	33.70	230.00	111.00	60.00	○
35,000	350	35.00 - 35.99	32.00	34.70	235.00	114.20	60.00	○
35,005	350	35.00 - 35.99	31.75	34.70	235.00	114.20	60.00	○
36,000	360	36.00 - 36.99	32.00	35.70	240.00	117.30	60.00	○
36,005	360	36.00 - 36.99	31.75	35.70	240.00	117.30	60.00	○
37,000	370	37.00 - 37.99	32.00	36.70	245.00	120.50	60.00	○
37,005	370	37.00 - 37.99	31.75	36.70	245.00	120.50	60.00	○
38,000	380	38.00 - 38.99	32.00	37.70	249.00	123.70	60.00	○
38,005	380	38.00 - 38.99	31.75	37.70	249.00	123.70	60.00	○
39,000	390	39.00 - 40.00	32.00	38.70	254.00	126.90	60.00	○
39,005	390	39.00 - 40.00	31.75	38.70	254.00	126.90	60.00	○

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

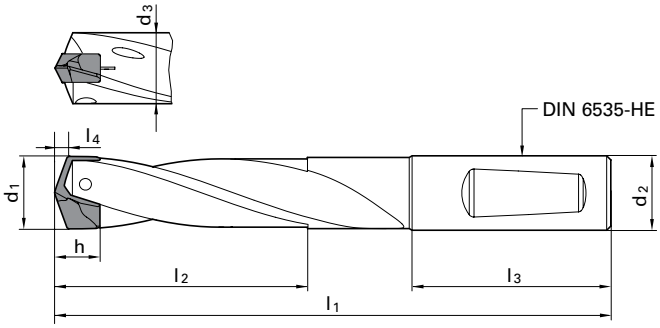
Guhring no. **4108**



Code no.	Holder Size	d1	d2	d3	incl. WP l1*	l2 max	l3	AVAILABILITY
		mm	mm	mm	mm	mm	mm	
11,000	110	11.00 - 11.49	12.00	10.70	124.00	59.60	45.00	•
11,005	110	11.00 - 11.49	12.70	10.70	124.00	59.60	45.00	○
11,500	115	11.50 - 11.99	12.00	11.20	127.00	62.10	45.00	•
11,505	115	11.50 - 11.99	12.70	110.20	127.00	62.10	45.00	○
12,000	120	12.00 - 12.49	12.00	11.70	131.00	64.70	45.00	•
12,005	120	12.00 - 12.49	12.70	11.70	131.00	64.70	45.00	○
12,500	125	12.50 - 12.99	14.00	12.20	134.00	67.30	45.00	•
12,505	125	12.50 - 12.99	15.875	12.20	134.00	67.30	45.00	○
13,000	130	13.00 - 13.49	14.00	12.70	137.00	69.90	45.00	•
13,005	130	13.00 - 13.49	15.875	12.70	137.00	69.90	45.00	○
13,500	135	13.50 - 13.99	14.00	13.20	141.00	72.60	45.00	•
13,505	135	13.50 - 13.99	15.875	13.20	141.00	72.60	45.00	○
14,000	140	14.00 - 14.49	14.00	13.70	144.00	75.20	45.00	•
14,005	140	14.00 - 14.49	15.875	13.70	144.00	75.20	45.00	○
14,500	145	14.50 - 14.99	16.00	14.20	150.00	77.80	48.00	•
14,505	145	14.50 - 14.99	15.875	14.20	150.00	77.80	48.00	○
15,000	150	15.00 - 15.49	16.00	14.70	154.00	80.30	48.00	•
15,005	**150**	15.00 - 15.49	15.875	14.70	154.00	80.30	48.00	○
15,500	155	15.50 - 15.99	16.00	15.20	157.00	82.90	48.00	•
15,505	155	15.50 - 15.99	15.875	15.20	157.00	82.90	48.00	○
16,000	160	16.00 - 16.49	16.00	15.70	160.00	85.90	48.00	•
16,005	160	16.00 - 16.49	15.875	15.70	160.00	85.90	48.00	○
16,500	165	16.50 - 16.99	18.00	16.20	164.00	88.10	48.00	•
16,505	165	16.50 - 16.99	19.05	16.20	164.00	88.10	48.00	○
17,000	170	17.00 -17.49	18.00	16.70	167.00	90.80	48.00	•
17,005	170	17.00 - 17.49	19.05	16.70	167.00	90.80	48.00	○
17,500	175	17.50 - 17.99	18.00	17.20	170.00	93.40	48.00	•
17,505	175	17.50 - 17.99	19.05	17.20	170.00	.93.40	48.00	○
18,000	180	18.00 - 18.49	18.00	17.70	174.00	95.90	48.00	•
18,005	180	18.00 - 18.49	19.05	17.70	174.00	95.90	48.00	○
18,500	185	18.50 - 18.99	20.00	18.20	179.00	98.50	50.00	•
18,505	185	18.50 - 18.99	19.05	18.20	179.00	98.50	50.00	○
19,000	190	19.00 - 19.49	20.00	18.70	182.00	101.10	50.00	•
19,005	190	19.00 - 19.49	19.05	18.70	182.00	101.10	50.00	○
19,500	195	19.50 - 19.99	20.00	19.20	186.00	103.70	50.00	•
19,505	195	19.50 - 19.99	19.05	19.20	186.00	103.70	50.00	○
20,000	200	20.00 - 20.49	20.00	19.70	189.00	106.30	50.00	•
20,005	200	20.00 - 20.49	19.05	19.70	189.00	106.30	50.00	○
20,500	205	20.50 - 20.99	25.00	20.20	201.00	109.00	56.00	•

• *Australian stock item* ○ *German stock item*

Guhring no. **4108**

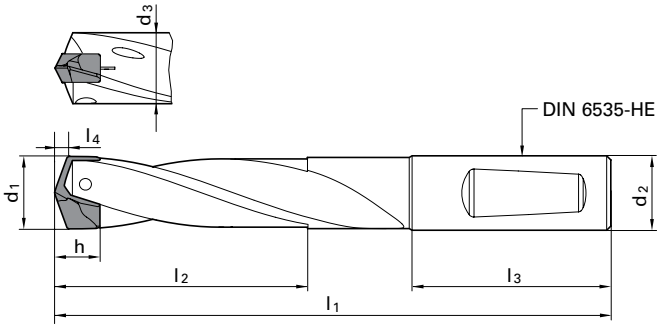


Code no.	Holder Size	d1	d2	d3	incl. WP l1*	l2 max	l3	AVAILABILITY
		mm	mm	mm	mm	mm	mm	
20,505	205	20.50 - 20.99	25.40	20.20	201.00	109.00	56.00	○
21,000	210	21.00 - 21.49	25.00	20.70	204.00	111.60	56.00	•
21,005	210	21.00 - 21.49	25.40	20.70	204.00	111.60	56.00	○
21,500	215	21.50 - 21.99	25.00	21.20	207.00	114.10	56.00	•
21,505	215	21.50 - 21.99	25.40	21.20	207.00	114.10	56.00	○
22,000	220	22.00 - 22.49	25.00	21.70	210.00	116.70	56.00	•
22,005	220	22.00 - 22.49	25.40	21.70	210.00	116.70	56.00	○
22,500	225	22.50 - 22.99	25.00	22.20	214.00	119.30	56.00	•
22,505	225	22.50 - 22.99	25.40	22.20	214.00	119.30	56.00	○
23,000	230	23.00 - 23.49	25.00	22.70	217.00	121.90	56.00	•
23,005	230	23.00 - 23.49	25.40	22.70	217.00	121.90	56.00	○
23,500	235	23.50 - 23.99	25.00	23.20	221.00	124.50	56.00	•
23,505	235	23.50 - 23.99	25.40	23.20	221.00	124.50	56.00	○
24,000	240	24.00 - 24.49	25.00	23.70	224.00	127.10	56.00	•
24,005	240	24.00 - 24.49	25.40	23.70	224.00	127.10	56.00	○
24,500	245	24.50 - 24.99	25.00	24.20	227.00	129.70	56.00	•
24,505	245	24.50 - 24.99	25.40	24.20	227.00	129.70	56.00	○
25,000	250	25.00 - 25.49	25.00	24.70	231.00	132.30	56.00	•
25,005	250	25.00- 25.49	25.40	24.70	231.00	132.30	56.00	○
25,500	255	25.50 - 25.99	32.00	25.20	239.00	134.90	60.00	○
25,505	255	25.50 - 25.99	31.75	25.20	239.00	134.90	60.00	○
26,000	260	26.00 - 26.49	32.00	25.70	244.00	137.00	60.00	•
26,500	265	26.50 - 26.99	32.00	26.20	247.00	140.00	60.00	○
27,000	270	27.00 - 27.49	32.00	26.70	251.00	142.20	60.00	•
27,500	275	27.50 - 27.99	32.00	27.20	254.00	144.80	60.00	○
28,000	280	28.00 - 28.49	32.00	27.70	257.00	147.40	60.00	•
28,500	285	28.50 - 28.99	32.00	28.20	260.00	150.40	60.00	○
29,000	290	29.00 - 29.49	32.00	28.70	264.00	153.50	60.00	•
29,500	295	29.50 - 29.99	32.00	29.20	267.00	155.10	60.00	○
30,000	300	30.00 - 30.49	32.00	29.70	271.00	157.60	60.00	•
30,500	305	30.50 - 30.99	32.00	30.20	274.00	160.20	60.00	○
31,000	310	31.00 - 31.49	32.00	30.70	277.00	162.80	60.00	•
31,500	315	31.50 - 31.99	32.00	31.20	280.00	165.40	60.00	○
32,000	320	32.00 - 32.99	32.00	31.70	287.00	170.60	60.00	•
33,000	330	33.00 - 33.99	32.00	32.70	294.00	175.80	60.00	○
34,000	340	34.00 - 34.99	32.00	33.70	300.00	181.00	60.00	○
35,000	350	35.00 - 35.99	32.00	34.70	307.00	186.20	60.00	○
36,000	360	36.00 - 36.99	32.00	35.70	314.00	191.30	60.00	○
37,000	370	37.00 - 37.99	32.00	36.70	321.00	196.50	60.00	○

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

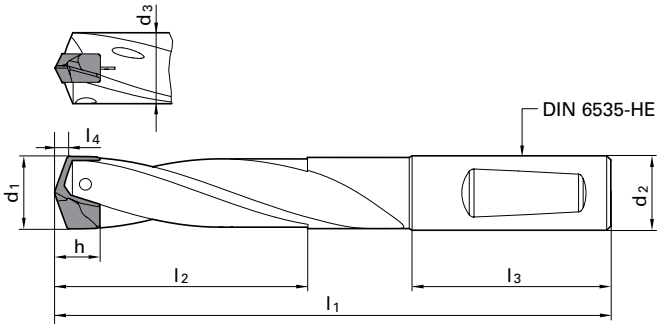
Guhring no. **4108**



Code no.	Holder Size	d1	d2	d3	incl. WP l1*	l2 max	l3	AVAILABILITY
		mm	mm	mm	mm	mm	mm	
38,000	380	38.00 - 38.99	32.00	37.70	327.00	201.70	60.00	○
39,000	390	39.00 - 40.00	32.00	38.70	334.00	206.90	60.00	○

• *Australian stock item* ○ *German stock item*

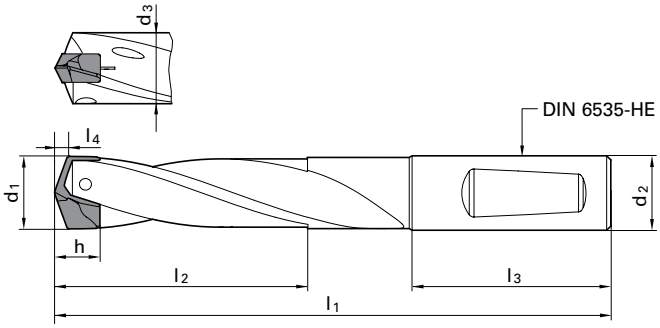
Guhring no. **4109**



Code no.	Holder Size	d1	d2	d3	incl. WP l1*	l2 max	l3	AVAILABILITY
		mm	mm	mm	mm	mm	mm	
11,000	110	11.00 - 11.49	12.00	10.70	147.00	82.60	45.00	•
11,005	110	11.00 - 11.49	12.70	10.70	147.00	82.60	45.00	○
11,500	115	11.50 - 11.99	12.00	11.20	151.00	86.10	45.00	•
11,505	115	11.50 - 11.99	12.70	11.20	151.00	86.10	45.00	○
12,000	120	12.00 - 12.49	12.00	11.70	156.00	89.70	45.00	•
12,005	120	12.00 - 12.49	12.70	11.70	156.00	89.70	45.00	○
12,500	125	12.50 - 12.99	14.00	12.20	160.00	93.30	45.00	•
12,505	125	12.50 - 12.99	15.875	12.20	160.00	93.30	45.00	○
13,000	130	13.00 - 13.49	14.00	12.70	164.00	96.90	45.00	•
13,005	130	13.00 - 13.49	15.875	12.70	164.00	96.90	45.00	○
13,500	135	13.50 - 13.99	14.00	1..20	169.00	100.60	45.00	•
13,505	135	13.50 - 13.99	15.875	13.20	169.00	100.60	45.00	○
14,000	140	14.00 - 14.49	14.00	13.70	173.00	104.20	45.00	•
14,005	140	14.00 - 14.49	15.875	13.70	173.00	104.20	45.00	○
14,500	145	14.50 - 14.99	16.00	14.20	180.00	107.80	48.00	•
14,505	145	14.50 - 1499	15.875	14.20	180.00	107.80	48.00	○
15,000	150	15.00 - 15.49	16.00	14.70	185.00	111.30	48.00	•
15,005	150	15.00 - 15.49	15.875	14.70	185.00	111.30	48.00	○
15,500	155	15.50 - 15.99	16.00	15.20	189.00	114.90	48.00	•
15,505	155	15.50 - 15.99	15.875	15.20	189.00	114.90	48.00	○
16,000	160	16.00 - 16.49	16.00	15.70	193.00	118.90	48.00	•
16,005	160	16.00 - 16.49	15.875	15.70	193.00	118.90	48.00	○
16,500	165	16.50 - 16.99	18.00	16.20	198.00	122.10	48.00	•
16,505	165	16.50 - 16.99	19.05	16.20	198.00	122.10	48.00	○
17,000	170	17.00 - 17.49	18.00	16.70	202.00	125.80	48.00	•
17,005	170	17.00 - 17.49	19.05	16.70	202.00	125.80	48.00	○
17,500	175	17.50 - 17.99	18.00	17.20	206.00	129.40	48.00	•
17,505	175	17.50 - 17.99	19.05	17.20	206.00	129.40	48.00	○
18,000	180	18.00 - 18.49	18.00	17.70	211.00	132.90	48.00	•
18,005	180	18.00 - 18.49	19.05	17.70	211.00	132.90	48.00	○
18,500	185	18.50 - 18.99	20.00	18.20	217.00	136.50	50.00	•
18,505	185	18.50 - 18.99	19.05	18.20	217.00	136.50	50.00	○
19,000	190	19.00 - 19.49	20.00	18.70	221.00	140.10	50.00	•
19,005	190	19.00 - 19.49	19.05	18.70	222.00	140.10	50.00	○
19,500	195	19.50 - 19.99	20.00	19.20	226.00	143.70	50.00	•
19,505	195	19.50 - 19.99	19.05	19.20	226.00	143.70	50.00	○
20,000	200	20.00 - 20.49	20.00	19.70	230.00	147.30	50.00	•
20,005	200	20.00 - 20.49	19.05	19.70	230.00	147.30	50.00	○
20,500	205	20.50 - 20.99	25.00	20.20	243.00	151.00	56.00	•

• *Australian stock item* ○ *German stock item*

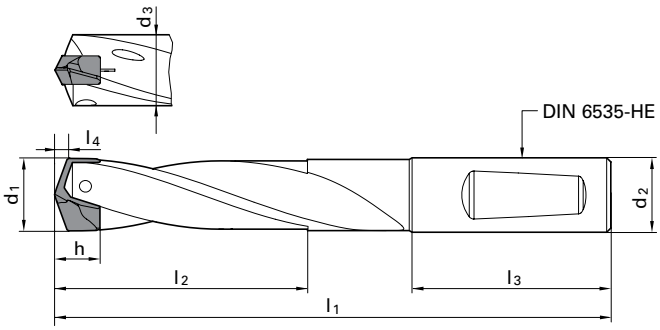
Guhring no. **4109**



Code no.	Holder Size	d1	d2	d3	incl. WP l1*	l2 max	l3	AVAILABILITY
		mm	mm	mm	mm	mm	mm	
20,505	205	20.50 - 20.99	25.40	20.20	243.00	151.00	56.00	○
21,000	210	21.00 - 21.49	25.00	20.70	247.00	154.60	56.00	•
21,005	210	21.00 - 21.49	25.40	20.70	247.00	154.60	56.00	○
21,500	215	21.50 - 21.99	25.00	21.20	251.00	158.10	56.00	•
21,505	215	21.50 - 21.99	25.40	21.20	251.00	158.10	56.00	○
22,000	220	22.00 - 22.49	25.00	21.70	255.00	161.70	56.00	•
22,005	220	22.00 - 22.49	25.40	21.70	255.00	161.70	56.00	○
22,500	225	22.50 - 22.99	25.00	22.20	260.00	165.30	56.00	•
22,505	225	22.50 - 22.99	25.40	22.20	260.00	165.30	56.00	○
23,000	230	23.00 - 23.49	25.00	22.70	264.00	168.90	56.00	•
23,005	230	23.00 - 23.49	25.40	22.70	264.00	168.90	56.00	○
23,500	235	23.50 - 23.99	25.00	23.20	269.00	172.50	56.00	•
23,505	235	23.50 - 23.99	25.40	23.20	269.00	172.50	56.00	○
24,000	240	24.00 - 24.49	25.00	23.70	273.00	176.10	56.00	•
24,005	240	24.00 - 24.49	25.40	23.70	273.00	176.10	56.00	○
24,500	245	24.50 - 24.99	25.00	24.20	277.00	179.70	56.00	•
24,505	245	24.50 - 24.99	25.40	24.20	277.00	179.70	56.00	○
25,000	250	25.00 - 25.49	25.00	24.70	282.00	183.30	56.00	•
25,005	250	25.00 - 25.49	25.40	24.70	282.00	183.30	56.00	○
25,500	255	25.50 - 25.99	32.00	25.20	291.00	186.90	60.00	○
25,505	255	25.50 - 25.99	31.75	25.20	291.00	186.90	60.00	○
26,000	260	26.00 - 26.49	32.00	25.70	297.00	190.00	60.00	•
26,005	260	26.00 - 26.49	31.75	25.70	297.00	190.00	60.00	○
26,500	265	26.50 - 26.99	32.00	26.20	301.00	194.00	60.00	○
26,505	265	26.50 - 26.99	31.75	26.20	301.00	194.00	60.00	○
27,000	270	27.00 - 27.49	32.00	26.70	306.00	197.20	60.00	•
27,005	270	27.00 - 27.49	31.75	26.70	306.00	197.20	60.00	○
27,500	275	27.50 - 27.99	32.00	27.20	310.00	200.80	60.00	○
27,505	275	27.50 - 27.99	31.75	27.20	310.00	200.80	60.00	○
28,000	280	28.00 - 28.49	32.00	27.70	314.00	204.40	60.00	•
28,005	280	28.00 - 28.49	31.75	27.70	314.00	204.40	60.00	○
28,500	285	28.50 - 28.99	32.00	28.20	318.00	208.40	60.00	○
28,505	285	28.50 - 28.99	31.75	28.20	318.00	208.40	60.00	○
29,000	290	29.00 - 29.49	32.00	28.70	323.00	212.50	60.00	•
29,005	290	29.00 - 29.49	31.75	28.70	323.00	212.50	60.00	○
29,500	295	29.50 - 29.99	32.00	29.20	327.00	215.10	60.00	○
29,505	295	29.50 - 29.99	31.75	29.20	327.00	215.10	60.00	○
30,000	300	30.00 - 30.49	32.00	29.70	332.00	218.60	60.00	•
30,005	300	30.00 - 30.49	31.75	29.70	332.00	218.60	60.00	○

• *Australian stock item* ○ *German stock item*

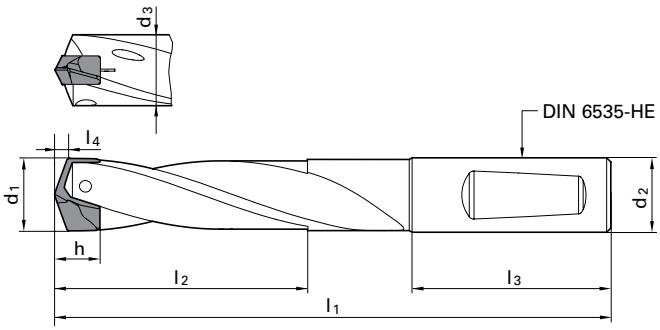
Guhring no. **4109**



Code no.	Holder Size	d1	d2	d3	incl. WP l1*	l2 max	l3	AVAILABILITY
		mm	mm	mm	mm	mm	mm	
30,500	305	30.50 - 30.99	32.00	30.20	336.00	222.20	60.00	❍
30,505	305	30.50 - 30.99	31.75	30.20	336.00	222.20	60.00	❍
31,000	310	31.00 - 31.49	32.00	30.70	340.00	225.80	60.00	•
31,005	310	31.00 - 31.49	31.75	30.70	340.00	225.80	60.00	❍
31,500	315	31.50 - 31.99	32.00	31.20	344.00	229.40	60.00	❍
31,505	315	31.50 - 31.99	31.75	31.20	344.00	229.40	60.00	❍
33,000	330	33.00 - 33.99	32.00	32.70	362.00	244.60	60.00	❍
39,000	390	39.00 - 40.00	32.00	38.70	413.00	287.40	60.00	❍

• *Australian stock item* ❍ *German stock item*

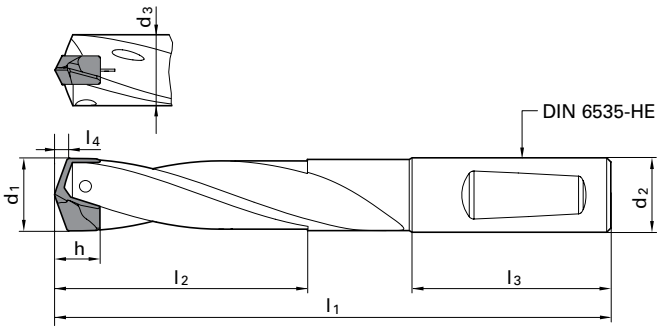
Guhring no. **4110**



Code no.	Holder Size	d1	d2	d3	incl. WP l1*	l2 max	l3	AVAILABILITY
		mm	mm	mm	mm	mm	mm	
11.000	110	11.00 - 11.49	12.00	10.70	182.00	117.10	45.00	•
11.005	110	11.00 - 11.49	12.70	10.70	182.00	117.10	45.00	○
11.500	115	11.50 - 11.99	12.00	11.20	187.00	122.10	45.00	•
11.505	115	11.50 - 11.99	12.70	11.20	187.00	122.10	45.00	○
12.000	120	12.00 - 12.49	12.00	11.70	194.00	127.20	45.00	•
12.005	120	12.00 - 12.49	12.70	11.70	194.00	127.20	45.00	○
12.500	125	12.50 - 12.99	14.00	12.20	199.00	132.30	45.00	•
12.505	125	12.50 - 12.99	15.875	12.20	199.00	132.30	45.00	○
13.000	130	13.00 - 13.49	14.00	12.70	205.00	137.50	45.00	•
13.005	130	13.00 - 13.49	15.875	12.70	205.00	137.50	45.00	○
13.500	135	13.50 - 13.99	14.00	13.20	211.00	142.50	45.00	•
13.505	135	13.50 - 13.99	15.875	13.20	211.00	142.50	45.00	○
14.000	140	14.00 - 14.49	14.00	13.70	217.00	147.70	45.00	•
14.005	140	14.00 - 14.49	15.875	13.70	217.00	147.70	45.00	○
14.500	145	14.50 - 14.99	16.00	14.20	225.00	152.80	48.00	○
14.505	145	14.50 - 14.99	15.875	14.20	225.00	152.80	48.00	○
15.000	150	15.00 - 15.49	16.00	14.70	232.00	157.80	48.00	○
15.005	150	15.00 - 15.49	15.875	14.70	232.00	157.80	48.00	○
15.500	155	15.50 - 15.99	16.00	15.20	237.00	162.90	48.00	○
15.505	155	15.50 - 15.99	15.875	15.20	237.00	162.90	48.00	○
16.000	160	16.00 - 16.49	16.00	15.70	243.00	168.00	48.00	○
16.005	160	16.00 - 16.49	15.875	15.70	243.00	168.00	48.00	○
16.500	165	16.50 - 16.99	18.00	16.20	249.00	173.10	48.00	•
16.505	165	16.50 - 16.99	19.05	16.20	249.00	173.10	48.00	○
17.000	170	17.00 - 17.49	18.00	16.70	255.00	178.30	48.00	○
17.005	170	17.00 - 17.49	19.05	16.70	255.00	178.30	48.00	○
17.500	175	17.50 - 17.99	18.00	17.20	260.00	183.50	48.00	○
17.505	175	17.50 - 17.99	19.05	17.20	260.00	183.50	48.00	○
18.000	180	18.00 - 18.49	18.00	17.70	267.00	188.40	48.00	○
18.005	180	18.00 - 18.49	19.05	17.70	267.00	188.40	48.00	○
18.500	185	18.50 - 18.99	20.00	18.20	274.00	193.50	50.00	○
18.505	185	18.50 - 18.99	19.05	18.20	274.00	193.50	50.00	○
19.000	190	19.00 - 19.49	20.00	18.70	280.00	198.70	50.00	○
19.005	190	19.00 - 19.49	19.05	18.70	280.00	198.70	50.00	○
19.500	195	19.50 - 19.99	20.00	19.20	286.00	203.70	50.00	○
19.505	195	19.50 - 19.99	19.05	19.20	286.00	203.70	50.00	○
20.000	200	20.00 - 20.49	20.00	19.70	292.00	208.90	50.00	○
20.005	200	20.00 - 20.49	19.05	19.70	292.00	208.90	50.00	○
20.500	205	20.50 - 20.99	25.00	20.20	306.00	214.00	56.00	○

• *Australian stock item* ○ *German stock item*

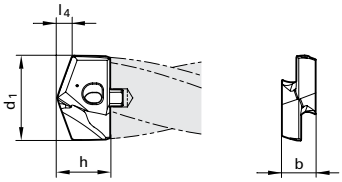
Guhring no. **4110**



Code no.	Holder Size	d1	d2	d3	incl. WP l1*	l2 max	l3	AVAILABILITY
		mm	mm	mm	mm	mm	mm	
20.505	205	20.50 - 20.99	25.40	20.20	306.00	214.00	56.00	○
21.000	210	21.00 - 21.49	25.00	20.70	312.00	219.10	56.00	○
21.005	210	21.00 - 21.49	25.40	20.70	312.00	219.10	56.00	○
21.500	215	21.50 - 21.99	25.00	21.20	317.00	224.20	56.00	○
21.505	215	21.50 - 21.99	25.40	21.20	317.00	224.20	56.00	○
22.000	220	22.00 - 22.49	25.00	21.70	323.00	229.30	56.00	○
22.005	220	22.00 - 22.49	25.40	21.70	323.00	229.30	56.00	○
22.500	225	22.50 - 22.99	25.00	22.20	329.00	234.40	56.00	○
23.000	230	23.00 - 23.49	25.00	22.70	335.00	239.50	56.00	○
23.500	235	23.50 - 23.99	25.00	23.20	341.00	244.60	56.00	○
24.000	240	24.00 - 24.49	25.00	23.70	347.00	249.70	56.00	○
24.500	245	24.50 - 24.99	25.00	24.20	352.00	254.80	56.00	○
25.000	250	25.00 - 25.49	25.00	24.70	359.00	259.90	56.00	○
25.500	255	25.50 - 25.99	32.00	25.20	369.00	265.00	60.00	○
26.000	260	26.00 - 26.49	32.00	25.70	377.00	270.00	60.00	•
26.500	265	26.50 - 26.99	32.00	26.20	382.00	275.00	60.00	○
27.000	270	27.00 - 27.49	32.00	26.70	388.00	280.10	60.00	•
27.500	275	27.50 - 27.99	32.00	27.20	394.00	285.20	60.00	○
28.000	280	28.00 - 28.49	32.00	27.70	400.00	290.30	60.00	○
28.500	285	28.50 - 28.99	32.00	28.20	405.00	295.40	60.00	○
29.000	290	29.00 - 29.49	32.00	28.70	412.00	300.50	60.00	•
29.500	295	29.50 - 29.99	32.00	29.20	418.00	305.60	60.00	○
30.000	300	30.00 - 30.49	32.00	29.70	424.00	310.60	60.00	•
30.500	305	30.50 - 30.99	32.00	30.20	429.00	315.70	60.00	○
31.000	310	31.00 - 31.49	32.00	30.70	435.00	320.80	60.00	•
31.500	315	31.50 - 31.99	32.00	31.20	441.00	325.90	60.00	○

• *Australian stock item* ○ *German stock item*

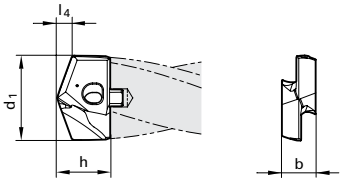
Guhring no.	4112	4115
Standard	Guhring std.	Guhring std.
Tool material	Solid carbide	Solid carbide
Application	Steel	Stainless Steel
Surface finish	F	a
Tolerance	m7	m7
Point angle	140°	140°



Code no.	for drill. holder size	for pilot. holder size	d1 mm	l4 mm	b mm	h mm	AVAILABILITY	
11,000	110	110	11.00	2.10	4.50	7.50	•	•
11,200	110	110	11.20	2.10	4.50	7.50	•	○
11,500	115	110	11.50	2.10	4.50	7.50	•	•
11,510	115	110	11.51	2.10	4.50	7.50	○	○
11,700	115	110	11.70	2.10	4.50	7.50	○	○
11,800	115	110	11.80	2.10	4.50	7.50	•	○
11,910	115	110	11.91	2.20	4.50	7.50	•	○
12,000	120	120	12.00	2.20	5.00	7.70	•	•
12,100	120	120	12.10	2.20	5.00	7.70	○	○
12,200	120	120	12.20	2.20	5.00	7.70	•	○
12,300	120	120	12.30	2.20	5.00	7.70	○	○
12,500	125	120	12.50	2.30	5.00	7.70	•	•
12,600	125	120	12.60	2.30	5.00	7.70	○	○
12,700	125	120	12.70	2.30	5.00	7.70	•	○
12,800	125	120	12.80	2.30	5.00	7.70	•	○
12,900	125	120	12.90	2.30	5.00	7.70	○	○
13,000	130	130	13.00	2.40	5.50	8.50	•	•
13,100	130	130	13.10	2.40	5.50	8.50	•	○
13,490	130	130	13.49	2.40	5.50	8.50	○	○
13,500	140	130	13.50	2.40	5.50	8.50	•	•
13,600	140	130	13.60	2.40	5.50	8.50	○	○
13,700	140	130	13.70	2.40	5.50	8.50	○	○
13,800	140	130	13.80	2.50	5.50	8.50	•	○
13,890	140	130	13.89	2.50	5.50	8.50	○	○
14,000	140	140	14.00	2.50	6.00	9.60	•	•
14,100	140	140	14.10	2.50	6.00	9.60	○	○
14,290	140	140	14.29	2.60	6.00	9.60	○	○
14,400	140	140	14.40	2.60	6.00	9.60	○	○
14,500	140	140	14.50	2.60	6.00	9.60	•	•
14,600	145	140	14.60	2.70	6.00	9.60	○	•
14,680	145	140	14.68	2.70	6.00	9.60	○	○
14,700	145	140	14.70	2.70	6.00	9.60	○	•
14,800	145	140	14.80	2.70	6.00	9.60	•	○
15,000	150	140	15.00	2.70	6.00	9.80	•	•
15,080	150	140	15.08	2.70	6.00	9.80	○	○
15,100	150	140	15.10	2.70	6.00	9.80	•	○
15,200	150	140	15.20	2.80	6.00	9.80	•	○
15,300	150	140	15.30	2.80	6.00	9.80	○	○
15,480	150	140	15.48	2.80	6.00	9.80	○	○

• *Australian stock item* ○ *German stock item*

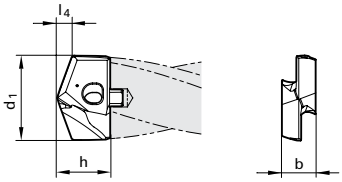
Guhring no.	4112	4115
Standard	Guhring std.	Guhring std.
Tool material	Solid carbide	Solid carbide
Application	Steel	Stainless Steel
Surface finish	F	a
Tolerance	m7	m7
Point angle	140°	140°



Code no.	for drill. holder size	for pilot. holder size	d1 mm	l4 mm	b mm	h mm	AVAILABILITY	
15,500	155	140	15.50	2.80	6.00	9.80	•	•
15,600	155	140	15.60	2.90	6.00	9.80	○	○
15,700	155	140	15.70	2.90	6.00	9.80	○	○
15,800	155	140	15.80	2.90	6.00	9.80	○	○
15,870	155	140	15.87	2.90	6.00	9.80	•	•
16,000	160	160	16.00	2.90	7.00	11.00	•	•
16,270	160	160	16.27	3.00	7.00	11.00	○	○
16,500	165	160	16.50	3.00	7.00	11.00	•	•
16,670	165	160	16.67	3.00	7.00	11.00	○	•
17,000	170	160	17.00	3.10	7.00	11.00	•	•
17,070	170	160	17.07	3.10	7.00	11.00	○	○
17,460	170	160	17.46	3.10	7.00	11.00	○	○
17,500	175	160	17.50	3.20	7.00	11.00	•	•
17,600	175	160	17.60	3.20	7.00	11.00	•	○
17,860	175	160	17.86	3.30	7.00	11.00	○	•
18,000	180	180	18.00	3.30	8.00	12.60	•	•
18,260	180	180	18.26	3.40	8.00	12.60	○	○
18,500	185	180	18.50	3.40	8.00	12.60	•	•
18,650	185	180	18.65	3.40	8.00	12.60	○	○
19,000	190	180	19.00	3.50	8.00	12.60	•	•
19,050	190	180	19.05	3.50	8.00	12.60	•	•
19,250	190	180	19.25	3.60	8.00	12.60	•	•
19,450	190	180	19.45	3.60	8.00	12.60	○	○
19,500	195	180	19.50	3.60	8.00	12.60	•	•
19,600	195	180	19.60	3.60	8.00	12.60	•	○
19,840	195	180	19.84	3.70	8.00	12.60	○	○
20,000	200	180	20.00	3.70	9.00	13.90	•	•
20,240	200	200	24.24	3.70	9.00	13.90	○	○
20,500	205	200	20.50	3.80	9.00	13.90	•	•
20,640	205	200	20.64	3.80	9.00	13.90	○	○
21,000	210	200	21.00	3.90	9.00	13.90	•	•
21,030	210	200	21.03	3.90	9.00	13.90	○	○
21,100	210	200	21.10	3.90	9.00	13.90	○	○
21,430	210	200	21.43	3.90	9.00	13.90	○	○
21,500	215	200	21.50	4.00	9.00	13.90	•	•
21,830	215	200	21.83	4.00	9.00	13.90	○	○
22,000	220	220	22.00	4.10	10.00	15.30	•	•
22,220	220	220	22.22	4.10	10.00	15.30	•	•
22,500	225	220	22.50	4.10	10.00	15.30	•	•

• *Australian stock item* ○ *German stock item*

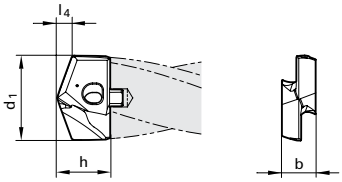
Guhring no.	4112	4115
Standard	Guhring std.	Guhring std.
Tool material	Solid carbide	Solid carbide
Application	Steel	Stainless Steel
Surface finish	F	a
Tolerance	m7	m7
Point angle	140°	140°



Code no.	for drill. holder size	for pilot. holder size	d1 mm	l4 mm	b mm	h mm	AVAILABILITY	
22,620	225	220	22.62	4.20	10.00	15.30	○	○
23,000	230	220	23.00	4.20	10.00	15.30	•	•
23,020	230	220	23.02	4.20	10.00	15.30	○	○
23,420	230	220	23.42	4.30	10.00	15.30	○	○
23,500	235	220	23.50	4.30	10.00	15.30	•	•
23,810	235	220	23.81	4.40	10.00	15.30	○	○
24,000	240	240	24.00	4.40	11.00	15.80	•	•
24,100	240	240	24.10	4.40	11.00	15.80	○	○
24,210	240	240	24.21	4.50	11.00	15.80	○	○
24,500	245	240	24.50	4.50	11.00	15.80	•	•
24,610	245	240	24.61	4.50	11.00	15.80	○	○
25,000	250	240	25.00	4.60	11.00	15.80	•	•
25,400	250	240	25.40	4.70	11.00	15.80	•	•
25,500	255	240	25.50	4.70	11.00	15.80	○	○
25,670	255	240	25.67	4.70	11.00	15.80	○	○
25,700	255	240	25.70	4.70	11.00	15.80	○	○
25,810	255	240	25.81	4.70	11.00	15.80	○	○
26,000	260	260	26.00	4.80	12.00	20.00	•	•
26,190	260	260	26.19	4.80	12.00	20.00	○	○
26,500	260	260	26.50	4.90	12.00	20.00	○	○
26,590	260	260	26.59	4.90	12.00	20.00	○	○
27,000	270	260	27.00	5.00	12.00	20.00	•	•
27,500	270	260	27.50	5.10	12.00	20.00	○	○
27,700	270	260	27.70	5.10	12.00	20.00	○	○
27,780	270	260	27.78	5.10	12.00	20.00	○	○
28,000	280	280	28.00	5.10	13.00	20.70	•	•
28,180	280	280	28.18	5.20	13.00	20.70	○	○
28,500	280	280	28.50	5.20	13.00	20.70	○	○
28,580	280	280	28.58	5.30	13.00	20.70	○	○
29,000	290	280	29.00	5.30	13.00	20.70	•	○
29,370	290	280	29.00	5.40	13.00	20.70	○	•
29,500	290	280	29.50	5.40	13.00	20.70	○	•
29,770	290	280	29.77	5.50	13.00	20.70	○	○
30,000	300	300	30.00	5.50	14.00	22.30	•	•
30,160	300	300	30.16	5.50	14.00	22.30	○	○
30,500	300	300	30.50	5.60	14.00	22.30	○	○
30,960	300	300	30.96	5.70	14.00	22.30	○	○
31,000	310	300	31.00	5.70	14.00	22.30	•	○
31,500	310	300	31.50	5.80	14.00	22.30	•	○

• *Australian stock item* ○ *German stock item*

Guhring no.	4112	4115
Standard	Guhring std.	Guhring std.
Tool material	Solid carbide	Solid carbide
Application	Steel	Stainless Steel
Surface finish	F	a
Tolerance	m7	m7
Point angle	140°	140°



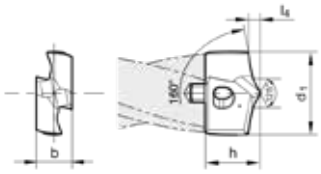
Code no.	for drill. holder size	for pilot. holder size	d1 mm	l4 mm	b mm	h mm	AVAILABILITY	
31,750	310	300	31.75	5.80	14.00	22.30	•	○
32,000	320	320	32.00	5.90	15.00	23.10	•	•
32,500	320	320	32.50	6.00	15.00	23.10	○	○
32,540	320	320	32.54	6.00	15.00	23.10	○	○
32,940	320	320	34.94	6.00	15.00	23.10	○	○
33,000	330	320	33.00	6.10	15.00	23.10	•	○
33,340	330	320	33.34	6.10	15.00	23.10	○	○
33,500	330	320	33.50	6.10	15.00	23.10	○	○
34,000	340	320	34.00	6.20	15.00	23.10	•	•
34,130	340	320	34.13	6.30	15.00	23.10	○	○
34,500	340	320	34.50	6.30	15.00	23.10	○	○
34,930	340	320	34.93	6.40	15.00	23.10	○	○
35,000	350	360	35.00	6.40	15.00	23.10	○	•
35,500	350	360	35.50	6.50	15.00	23.10	○	○
35,720	350	360	35.72	6.50	15.00	23.10	○	○
36,000	360	360	36.00	6.60	16.00	23.90	•	•
36,500	360	360	36.50	6.70	16.00	23.90	○	○
36,510	360	360	36.51	6.70	16.00	23.90	○	○
37,000	370	360	37.00	6.80	16.00	23.90	○	•
37,310	370	360	37.31	6.80	16.00	23.90	○	○
37,500	370	360	37.50	6.90	16.00	23.90	•	○
38,000	380	360	38.00	7.00	16.00	23.90	•	○
38,100	380	360	38.10	7.00	16.00	23.90	○	○
38,460	380	360	38.46	7.00	16.00	23.90	○	○
38,500	380	360	38.50	7.10	16.00	23.90	○	○
39,000	390	360	39.00	7.10	16.00	23.90	○	○
39,500	390	360	39.50	7.20	16.00	23.90	○	○
40,000	390	360	40.00	7.30	16.00	23.90	•	•

Heads for aluminium Cast Iron and 150° available

• *Australian stock item* ○ *German stock item*

Guhring no.	4229
Standard	WN
Tool material	Solid carbide
Application	Steel
Surface finish	F
Tolerance	h7
Point angle	160° / 125°

FOR BEAM DRILLING



Code no.	for drill. holder size	for pilot. holder size	d1 mm	l4 mm	b mm	h mm	AVAILABILITY
12,000	120	120	12.00	1.70	5.00	7.50	○
14,000	140	140	14.00	2.00	6.00	9.60	○
16,000	160	160	16.00	2.30	7.00	10.80	•
18,000	180	180	18.00	2.60	8.00	12.30	•
20,000	200	180	20.00	2.90	9.00	13.60	•
21,000	210	210	21.00	3.00	9.00	13.60	○
22,000	220	220	22.00	3.20	10.00	14.90	•
24,000	240	240	24.00	3.50	11.00	15.50	○
25,000	250	250	25.00	3.60	11.00	15.50	○
26,000	260	260	26.00	3.80	12.00	18.50	○
27,000	270	260	27.00	3.90	12.00	18.60	○
28,000	280	280	28.00	4.10	13.00	19.20	•
29,000	290	280	29.00	4.20	13.00	19.60	○
30,000	300	300	30.00	4.40	14.00	19.90	•
32,000	320	320	32.00	4.60	15.00	21.30	•
33,000	330	330	33.00	4.80	15.00	21.90	•
34,000	340	340	34.00	4.90	15.00	22.00	○
36,000	360	360	36.00	5.20	16.00	22.50	•
38,000	380	380	38.00	5.50	16.00	22.70	•
40,000	400	400	40.00	5.80	16.00	23.30	•

• *Australian stock item* ○ *German stock item*

CUTTING SPEED RECOMMENDATION FOR TWIST DRILLS

Drill Ø mm	Feed column no. 1	2	3	4	5	6	7	8	9
	f (mm/rev.)								
0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
10,00	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,400
12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250
50,00	0,250	0,310	0,400	0,500	0,630	0,800	1,000	1,250	1,250
63,00	0,315	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600
80,00	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600	2,000

Guhring no.

Standard/DIN

Tool material

Surface finish

Type

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Guhring Optimising Apple Application

Coolant:
- ○ Air
- ● Neat oil
- ◉ Soluble oil

Material group	Material examples	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate	≤500		◉
	E295, E360, P500NH	≤1000		◉
Free-cutting steels	11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14	≤850		◉
	46S20, 46SPb20	≤1000		◉
Unalloyed heat-treatable steels	C22, C30E, 1035, 1045, 1055, 1060, 1025	≤700		◉
	C45, C45E	≤850		◉
	C60, C60E	≤1000		◉
Alloyed heat-treatable steels	50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26	≤1000		◉
	36NiCr6, 41Cr4, 42CrMo4	≤1400		◉
Unalloyed case hardened steels	C10E, 1010, 1015	≤850		◉
Alloyed case hardened steels	10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620	≤1000		●
	15NiCr13, 16MnCr5, 20CrMo5, N33, EN36A	≤1400		●
Nitriding steels	34CrAl6	≤1000		◉
	31CrMoV9, 34CrAlNi7	≤1400		●
Tool steels	C75W, 102Cr6, 29CrMoV9, H11, H13, P20, D2, D3	≤850		◉
	X210Cr12, X42Cr13, 105WCr6, X45NiCrMo4	≤1400		●
High speed steels	S 6-5-2-5, S 6-5-2, S 6-5-3, M2, M3, M35, M45	≤1400		●
Spring steels	55Si7, 55Cr3, 51CrV4, 5155, 6150, 9255		≤350 HB	●
Stainless steels, sulphured	X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	≤900		●
austenitic	X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	≤1100		●
martensitic	X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	≤1500		●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Special alloys	Nimonic, Inconel, Monel, Hastelloy, Bisalloy	≤2000		●
Cast iron	GG10, GG15, GG20		≤240 HB	◉ ○
	GG25, GG30, GG35 GG40		≤350 HB	◉ ○
Spheroidal graphite iron and	GGG40, GGG50, GGG60, 32510,GTW35		≤240 HB	◉
Malleable cast iron	GGG70, GTS70, 50005, Nodular Iron		≤350 HB	◉
Chilled cast iron	–		≤350 HB	◉
Ti and Ti-alloys	Ti99,5, TiAl5Sn2,5, TiCu2	≤850		●
	TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al-alloys	Al99,5, AlMgSi1, AlMg1	≤400		◉
Al wrought alloys	AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	≤650		◉
Al cast alloys ≤ 10 % Si	G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9	≤600		◉
≤ 24 % Si	G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		◉
Magnesium alloys	MgMn2, G-MgAl8Zn1, G-MgAl6Zn1	≤400		○
Copper, low-alloyed	SE-Cu, CuSn6, G-CuSn5ZnPb	≤500		◉
Brass, short-chipping	CuZn39Pb2, CuZn39Pb3, CuZn43Pb2	≤600		◉
long-chipping	CuZn20, CuZn33, CuZn37Pb0,5	≤600		◉
Bronze, short-chipping	CuSn7ZnPb, CuPb5Sn5, CuPb10Sn	≤600		◉ ●
	CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	CuAl5, CuAl9Mn, CuSn10	≤850		●
	CuAl11Ni, CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglas, Hostalen, Novodur, Makralon	≤100		◉ ○
New cast materials CGI	GGV25, GGV35		≤220 HB	◉ ○
	GGV40, GGV50, SiMo 6		≤300 HB	◉ ○
New cast materials ADI	ADI800, ADI1000	≤1000		◉ ○
	ADI1200, ADI1400	≤1400		◉ ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concent. plastics	GRP/CFRP	≤1000		○

○ bright ◉ steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

CUTTING SPEED RECOMMENDATION FOR TWIST DRILLS

| ≤3XD DRILLING DEPTH | | |

CUTTING SPEED RECOMMENDATION FOR TWIST DRILLS

Drill Ø mm	Feed column no. 1	2	3	4	5	6	7	8	9
	f (mm/rev.)								
0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
10,00	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,400
12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250
50,00	0,250	0,310	0,400	0,500	0,630	0,800	1,000	1,250	1,250
63,00	0,315	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600
80,00	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600	2,000

Guhring no.
Standard/DIN
Tool material
Surface finish
Type

Scan to Download
Guhring Optimising Apple Application

Coolant:
○ Air
● Neat oil
◍ Soluble oil

Material group	Material examples	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate	≤500		◍
	E295, E360, P500NH	≤1000		◍
Free-cutting steels	11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14	≤850		◍
	46S20, 46SPb20	≤1000		◍
Unalloyed heat-treatable steels	C22, C30E, 1035, 1045, 1055, 1060, 1025	≤700		◍
	C45, C45E	≤850		◍
	C60, C60E	≤1000		◍
Alloyed heat-treatable steels	50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26	≤1000		◍
	36NiCr6, 41Cr4, 42CrMo4	≤1400		◍
Unalloyed case hardened steels	C10E, 1010, 1015	≤850		◍
Alloyed case hardened steels	10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620	≤1000		●
	15NiCr13, 16MnCr5, 20CrMo5, N33, EN36A	≤1400		●
Nitriding steels	34CrAl6	≤1000		◍
	31CrMoV9, 34CrAlNi7	≤1400		●
Tool steels	C75W, 102Cr6, 29CrMoV9, H11, H13, P20, D2, D3	≤850		◍
	X210Cr12, X42Cr13, 105WCr6, X45NiCrMo4	≤1400		●
High speed steels	S 6-5-2-5, S 6-5-2, S 6-5-3, M2, M3, M35, M45	≤1400		●
Spring steels	55Si7, 55Cr3, 51CrV4, 5155, 6150, 9255		≤350 HB	●
Stainless steels, sulphured	X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	≤900		●
austenitic	X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	≤1100		●
martensitic	X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	≤1500		●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Special alloys	Nimonic, Inconel, Monel, Hastelloy, Bisalloy	≤2000		●
Cast iron	GG10, GG15, GG20		≤240 HB	◍ ○
	GG25, GG30, GG35 GG40		≤350 HB	◍ ○
Spheroidal graphite iron and	GGG40, GGG50, GGG60, 32510,GTW35		≤240 HB	◍
Malleable cast iron	GGG70, GTS70, 50005, Nodular Iron		≤350 HB	◍
Chilled cast iron	–		≤350 HB	◍
Ti and Ti-alloys	Ti99,5, TiAl5Sn2,5, TiCu2	≤850		●
	TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al-alloys	Al99,5, AlMgSi1, AlMg1	≤400		◍
Al wrought alloys	AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	≤650		◍
Al cast alloys ≤ 10 % Si	G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9	≤600		◍
≤ 24 % Si	G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		◍
Magnesium alloys	MgMn2, G-MgAl8Zn1, G-MgAl6Zn1	≤400		○
Copper, low-alloyed	SE-Cu, CuSn6, G-CuSn5ZnPb	≤500		◍
Brass, short-chipping	CuZn39Pb2, CuZn39Pb3, CuZn43Pb2	≤600		◍
long-chipping	CuZn20, CuZn33, CuZn37Pb0,5	≤600		◍
Bronze, short-chipping	CuSn7ZnPb, CuPb5Sn5, CuPb10Sn	≤600		◍ ●
	CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	CuAl5, CuAl9Mn, CuSn10	≤850		●
	CuAl11Ni, CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglas, Hostalen, Novodur, Makralon	≤100		◍ ○
New cast materials CGI	GGV25, GGV35		≤220 HB	◍ ○
	GGV40, GGV50, SiMo 6		≤300 HB	◍ ○
New cast materials ADI	ADI800, ADI1000	≤1000		◍ ○
	ADI1200, ADI1400	≤1400		◍ ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concent. plastics	GRP/CFRP	≤1000		○

○ bright ◍ steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

≤3XD DRILLING DEPTH						≤5XD DRILLING DEPTH								≤10XD				>10XD		MICRO-PRECISION DRILLS ≤4XD		≤8XD	
1228		659		5520		5524		658		5523		5522		336		5537		618 619		301		5652		6408	
1897		1897		1897		1897		338		338		338		340		340		1869		1899		G.S.		G.S.	
HSCO		HSCO		HSCO		HSCO		HSCO		HSCO		HSS-E-PM		HSCO		HSCO		HSCO		HSS-E-PM		Carbide		Carbide	
S		S		S		S		S		○		S		○		S		◓		○		○		A	
GT80		GV120		GU500 DZ		GU500 DZ		GT100		GU500 DZ		GT100		GU500 DZ		GU500 DZ		GT100		N		N		N	

Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.
38	6	38	5	45	6	35	6	42	6	35	6	40	6	29	6	32	6	30	4	21	106	100	62	105	58
33	5	33	4	35	5	30	5	36	5	30	5	32	5	22	5	25	5	25	4	18	105	100	62	100	58
44	6	44	5	50	6	40	6	48	5	40	6	45	6	32	6	35	6	33	4	18	106	100	62	105	59
38	5	38	5	40	6	30	6	42	5	30	6	40	5	25	6	28	6	30	4	16	105	90	61	90	59
44	6	44	5	42	6	32	6			32	6	42	6	25	6	28	6	33	4	20	105	90	62	95	58
44	5	44	5	35	6	28	6	48	5	28	6	40	5	22	6	25	6	33	4	18	105	90	62	95	58
38	4	38	4	22	5	20	5	42	4	20	5	28	4	13	5	15	5	20	3	14	104	90	61	90	58
27	4	27	4	18	4	15	4	30	4	15	4	25	4	12	4	13	4	14	3	14	104	90	61	90	58
22	3	22	3	15	3	13	3	34	3	13	3	20	3	11	3	12	3	10	2	12	103	70	60	70	58
44	4	44	4	40	6	30	6	48	4	30	6	40	4	25	6	28	6	29	4	18	106	100	61	100	57
22	4	22	4	20	4	16	4	24	4	16	4	22	4	12	4	14	4	14	3	14	104	85	61	85	58
18	3	18	3	15	3	12	3	20	3	12	3	18	3	11	3	12	3	10	2	12	103	70	60	70	58
22	4	22	4	18	4	15	4	24	4	15	4	20	4	12	4	13	4	10	3	14	104	70	60	70	57
18	3	18	3	12	3	10	3	20	3	10	3	15	3	7	3	8	3	8	2	12	103	60	60	60	57
19	4	19	4	18	4	15	4	21	4	15	4	25	4	12	4	13	4	11	3	16	104	50	60	50	58
14	3	14	3	13	3	10	3	16	3	10	3	15	3	9	3	10	3	8	2	14	103	60	60	50	58
14	3	14	3	13	3	10	3	17	3	10	3	15	3	9	3	10	3	8	2	14	103			50	57
9	2	9	2									12	2					5	1	8	102			50	57
15	4	20	4	18	4	14	4	22	4	14	4	15	4	12	4	13	4	10	3	18	104			70	57
10	3	15	3	12	4	10	4			10	4	10	3	7	4	8	4	8	2	14	103			60	56
12	3	18	3	15	4	12	4	20	3	12	4	12	3	11	4	12	4	10	2	16	103			70	57
		4	1															3	1						
		6	2															5	1					25	56
45	6	40	6	45	6	36	6	45	6	36	6	50	6	29	6	32	6			26	106	130	66	150	60
40	6	35	6	36	6	30	6	40	6	30	6	40	6	23	6	26	6	20	5	22	106	130	66	140	60
33	6	33	6	40	6	30	6	36	6	30	6	45	6	25	6	28	6			18	106	130	66	140	60
27	6	27	6	28	6	22	6	29	6	22	6	32	6	18	6	20	6	16	5	22	106	120	65	130	60
8	3	12	3									8	3					5	2						
		11	2															6	1					35	56
		7	2															5	1					35	56
				70	7	50	7			50	7			45	7	50	7							70	68
				70	7	50	7			50	7			45	7	50	7							70	68
				85	7	65	7			65	7			54	7	60	7	50	6	26	107			135	59
				70	6	60	6			60	6			45	6	50	6	40	5	18	106			135	59
				70	6	60	6			60	6			45	6	50	6			75	106				
88	5			32	5	70	5	96	5	25	5	50	5	21	5	24	5	30	4	42	105				
77	5			63	5	45	5			45	5			45	5	50	5	45	4						
44	5			40	5	30	5			30	5	60	5	25	5	28	5	30	4	22	105				
45	5	45	5	50	4	36	4			36	4	50	5	31	4	35	4	25	4	22	104				
40	4	40	4	35	4	30	4			30	4	45	4	22	4	25	4	20	4	18	104				
22	4	23	4	32	4	30	4	25	4	30	4	40	4	22	4	24	4	16	3	13	104				
17	4	17	4	28	4	25	4	20	4	25	4	32	4	18	4	20	4	10	3						
22	4			25	4	20	4	24	4	20	4	25	4	16	4	18	4	14	3	16	104				
27	5			15	4	15	4			15	4			11	4	12	4	20	3	18	104				

Drill Ø mm	Feed column no. 1	2	3	4	5	6	7	8	9
	f (mm/rev.)								
0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
10,00	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,400
12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250
50,00	0,250	0,310	0,400	0,500	0,630	0,800	1,000	1,250	1,250
63,00	0,315	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600
80,00	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600	2,000

Guhring no.
Standard/DIN
Tool material
Carbide grade
Surface finish
Type
Coolant

Scan to Download
Guhring Optimising Apple Application

Coolant:
○ Air
● Neat oil
◍ Soluble oil

Material group	Material examples	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate	≤500		◍
	E295, E360, P500NH	≤1000		◍
Free-cutting steels	11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14	≤850		◍
	46S20, 46SPb20	≤1000		◍
Unalloyed heat-treatable steels	C22, C30E, 1035, 1045, 1055, 1060, 1025	≤700		◍
	C45, C45E	≤850		◍
	C60, C60E	≤1000		◍
Alloyed heat-treatable steels	50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26	≤1000		◍
	36NiCr6, 41Cr4, 42CrMo4	≤1400		◍
Unalloyed case hardened steels	C10E, 1010, 1015	≤850		◍
Alloyed case hardened steels	10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620	≤1000		●
	15NiCr13, 16MnCr5, 20CrMo5, N33, EN36A	≤1400		●
Nitriding steels	34CrAl6	≤1000		◍
	31CrMoV9, 34CrAlNi7	≤1400		●
Tool steels	C75W, 102Cr6, 29CrMoV9, H11, H13, P20, D2, D3	≤850		◍
	X210Cr12, X42Cr13, 105WCr6, X45NiCrMo4	≤1400		●
High speed steels	S 6-5-2-5, S 6-5-2, S 6-5-3, M2, M3, M35, M45	≤1400		●
Spring steels	55Si7, 55Cr3, 51CrV4, 5155, 6150, 9255		≤350 HB	●
Stainless steels, sulphured	X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	≤900		●
austenitic	X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	≤1100		●
martensitic	X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	≤1500		●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Special alloys	Nimonic, Inconel, Monel, Hastelloy, Bisalloy	≤2000		●
Cast iron	GG10, GG15, GG20		≤240 HB	◍ ○
	GG25, GG30, GG35 GG40		≤350 HB	◍ ○
Spheroidal graphite iron and	GGG40, GGG50, GGG60, 32510,GTW35		≤240 HB	◍
Malleable cast iron	GGG70, GTS70, 50005, Nodular Iron		≤350 HB	◍
Chilled cast iron	–		≤350 HB	◍
Ti and Ti-alloys	Ti99,5, TiAl5Sn2,5, TiCu2	≤850		●
	TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al-alloys	Al99,5, AlMgSi1, AlMg1	≤400		◍
Al wrought alloys	AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	≤650		◍
Al cast alloys ≤ 10 % Si	G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9	≤600		◍
≤ 24 % Si	G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		◍
Magnesium alloys	MgMn2, G-MgAl8Zn1, G-MgAl6Zn1	≤400		○
Copper, low-alloyed	SE-Cu, CuSn6, G-CuSn5ZnPb	≤500		◍
Brass, short-chipping	CuZn39Pb2, CuZn39Pb3, CuZn43Pb2	≤600		◍
long-chipping	CuZn20, CuZn33, CuZn37Pb0,5	≤600		◍
Bronze, short-chipping	CuSn7ZnPb, CuPb5Sn5, CuPb10Sn	≤600		◍ ●
	CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	CuAl5, CuAl9Mn, CuSn10	≤850		●
	CuAl11Ni, CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglas, Hostalen, Novodur, Makralon	≤100		◍ ○
New cast materials CGI	GGV25, GGV35		≤220 HB	◍ ○
	GGV40, GGV50, SiMo 6		≤300 HB	◍ ○
New cast materials ADI	ADI800, ADI1000	≤1000		◍ ○
	ADI1200, ADI1400	≤1400		◍ ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concent. plastics	GRP/CFRP	≤1000		○

○ bright ◍ steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

≤3XD DRILLING DEPTH										≤5XD DRILLING DEPTH														≤7XD		≤12XD	
723 5649		730 5516		2463		5514		5510		732	2464		5517		5515		5580		5511		5498		5512		5525	
G.S.		6539		6539		6537K		6537K		G.S.			G.S.		6537L		6537L		6537L		6537L		G.S.		G.S.	
Carbide		Carbide		Carbide		Carbide		Carbide		Carbide			Carbide		Carbide		Carbide		Carbide		Carbide		Carbide		Carbide	
		K10/ K20		K/P		K/P		K/P		K/P		K/P	K10/ K20		K/P		K10/ K20		K/P		K/P		K/P		K/P	
○		○		F		F		F		○		F	○		F		A		F		F		F		F	
N		N		N		N		N		N		N	N		N		N		N		N		N		N	
																	axial				axial					
Vc m/ min	Feed col. no.	Vc m/ min	Feed col. no.	Vc m/ min	Feed col. no.	Vc m/ min	Feed col. no.	Vc m/ min	Feed col. no.	Vc m/ min	Feed col. no.	Feed col. no.	Vc m/ min	Feed col. no.	Vc m/ min	Feed col. no.	Vc m/ min	Feed col. no.	Vc m/ min	Feed col. no.	Vc m/ min	Feed col. no.	Vc m/ min	Feed col. no.	Vc m/ min	Feed col. no.
80	4	80	4	104	5	130	7	145	7	100	4	5	80	4	130	7			145	7	200	8	145	6	90	6
70	4	70	4	91	5	110	6	120	6	90	4	5	70	4	110	6			120	6	200	7	120	5	80	5
80	5	80	5	104	6	145	8	170	8	100	5	6	80	5	145	8			170	8	200	8	170	7	100	7
70	4	70	4	91	5	110	7	145	8	90	4	4	70	4	110	7			145	8	200	8	145	7	90	7
80	4	80	4	104	5	120	7	130	8	100	4	5	80	4	120	7			130	8	180	8	130	7	90	7
70	4	70	4	91	5	110	7	125	7	90	4	5	70	4	110	7			125	7	160	8	125	6	80	6
60	4	60	4	78	5	105	7	120	7	80	4	5	60	4	105	7			120	7	130	8	120	6	80	6
60	4	60	4	78	5	105	7	120	7	80	4	5	60	4	105	7			120	7	120	8	120	6	80	6
						100	6	105	7						100	6			105	7	120	7	105	6	60	6
80	5	80	5	104	6	130	8	145	8	100	5	6	80	5	130	8			145	8	180	8	145	7	90	7
60	4	60	4	78	5	120	7	120	7	80	4	5	60	4	120	7			120	7	120	8	120	6	80	6
						85	5	85	5						85	5			85	5	110	7	85	4	60	4
50	4	50	4	65	5	100	6	100	7	65	4	5	50	4	100	6			100	7	110	7	110	6	60	6
						90	5	105	5						90	5			105	5	100	5	105	4	50	4
50	3	50	3	65	4	65	6	80	6	65	3	3	50	3	65	6			80	6	90	7	80	5	50	5
						55	5	65	5						55	5			65	5	65	6	65	4	40	4
								60	5										60	5	60	5	60	4	35	4
25	2	25	2	32	3	45	3	60	3	30	2	3	25	2	45	3			60	3	60	5	60	2	35	2
25	4	25	2	32	2	55	4	60	5	30	2	2	25	4	55	4	80	5	60	5	80	5	60	4	40	4
25	3	15	1	20	1	45	4	55	5	20	1	1	25	3	45	4	60	2-3	55	5			55	4	40	4
25	3	25	2	32	2	45	3	45	5	30	2	2	25	3	45	3	80	5	45	5	60	5	45	4	40	4
20	3	20	2	26	4	45	3	55	3	20	2	2	20	3	45	3			55	3	55	3	55	2		
		10				25	2	35	2						25	2			35	2			35	1		
15	2	15	2	20	2	25	4	35	4	20	2	3	15	2	25	4			35	4	30	4	35	3		
90	4	90	4	117	5	210	8	210	9	115	4	5	90	4	210	8			210	9	180	9	195	8	120	8
80	4	80	4	104	5	155	8	160	9	100	4	5	80	4	155	8			160	9	160	9	160	8	120	8
80	4	80	4	91	5	145	7	140	9	90	4	5	70	4	145	7			140	9	140	9	140	8	90	8
70	4	70	4	104	5	125	7	130	8	80	4	5	60	4	125	7			130	8	140	8	130	7	80	7
		10				35	3	40	3						35	3			40	3			40	2		
20	3	15	1	15	1	40	4	45	4	15	1	1	20	3	40	4	30	4	45	4	40	4	40	3		
15	2	15	1	15	1	35	3	40	3	15	1	1	15	2	35	3	45	4	40	3	35	3	40	2		
200	7	200	7	260	8	260	9	310	9	260	7	8	200	7	260	9	40	3	310	9			310	8	150	8
200	7	200	7	260	8	260	9	310	9	260	7	8	200	7	260	9			310	9			310	8	150	8
150	6	150	6	195	7	235	8	260	9	195	6	7	150	6	235	9			260	9			260	8	150	8
120	6	120	6	156	7	170	8	220	9	155	6	7	120	6	170	8			220	9			220	8	120	8
180	5	180	6	234	6	260	8	280	8	235	5	6	180	5	260	8			280	8			280	7	150	7
80	5	80	5	104	6	105	7	125	7	100	5	6	80	5	105	7			125	7			125	6	80	6
180	5	180	5	234	6	270	8	325	8	235	5	6	180	5	270	8			325	8			325	7	120	7
180	5	180	5	234	6	180	7	220	7	235	5	6	180	5	180	7			220	7			220	6	120	6
120	5	120	5	156	6	105	6	125	7	155	5	6	120	5	105	6			125	7			125	6	40	6
120	5	120	5	156	6	85	6	105	6	155	5	6	120	5	85	6			105	6			105	5		
70	4	70	4	91	5	80	5	90	6	90	4	5	70	4	80	5			90	6			90	5	40	5
50	3	50	3	65	4	60	5	80	6	65	3	4	50	3	60	5			80	6			80	5		
40	4	50	4	65	5					50	4	5	40	4												
50	3	40	3	52	4					65	3	4														
																					140	8				
																					140	8				
																					80	7				
																					80	7				
80	3	80	3	104	4					100	3	4														

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Drill Ø mm	Feed column no. 1	2	3	4	5	6	7	8	9
	f (mm/rev.)								
0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
10,00	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,400
12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250
50,00	0,250	0,310	0,400	0,500	0,630	0,800	1,000	1,250	1,250
63,00	0,315	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600
80,00	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600	2,000

Guhring no.

Standard/DIN

Tool material

Carbide grade

Surface finish

Type

Scan to Download

Guhring Optimising Apple Application

Coolant:
- ○ Air
- ● Neat oil
- ◉ Soluble oil

Material group	Material examples	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate	≤500		◉
	E295, E360, P500NH	≤1000		◉
Free-cutting steels	11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14	≤850		◉
	46S20, 46SPb20	≤1000		◉
Unalloyed heat-treatable steels	C22, C30E, 1035, 1045, 1055, 1060, 1025	≤700		◉
	C45, C45E	≤850		◉
	C60, C60E	≤1000		◉
Alloyed heat-treatable steels	50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26	≤1000		◉
	36NiCr6, 41Cr4, 42CrMo4	≤1400		◉
Unalloyed case hardened steels	C10E, 1010, 1015	≤850		◉
Alloyed case hardened steels	10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620	≤1000		●
	15NiCr13, 16MnCr5, 20CrMo5, N33, EN36A	≤1400		●
Nitriding steels	34CrAl6	≤1000		◉
	31CrMoV9, 34CrAlNi7	≤1400		●
Tool steels	C75W, 102Cr6, 29CrMoV9, H11, H13, P20, D2, D3	≤850		◉
	X210Cr12, X42Cr13, 105WCr6, X45NiCrMo4	≤1400		●
High speed steels	S 6-5-2-5, S 6-5-2, S 6-5-3, M2, M3, M35, M45	≤1400		●
Spring steels	55Si7, 55Cr3, 51CrV4, 5155, 6150, 9255		≤350 HB	●
Stainless steels, sulphured	X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	≤900		●
austenitic	X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	≤1100		●
martensitic	X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	≤1500		●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Special alloys	Nimonic, Inconel, Monel, Hastelloy, Bisalloy	≤2000		●
Cast iron	GG10, GG15, GG20		≤240 HB	◉ ○
	GG25, GG30, GG35 GG40		≤350 HB	◉ ○
Spheroidal graphite iron and	GGG40, GGG50, GGG60, 32510,GTW35		≤240 HB	◉
Malleable cast iron	GGG70, GTS70, 50005, Nodular Iron		≤350 HB	◉
Chilled cast iron	–		≤350 HB	◉
Ti and Ti-alloys	Ti99,5, TiAl5Sn2,5, TiCu2	≤850		●
	TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al-alloys	Al99,5, AlMgSi1, AlMg1	≤400		◉
Al wrought alloys	AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	≤650		◉
Al cast alloys ≤ 10 % Si	G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9	≤600		◉
≤ 24 % Si	G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		◉
Magnesium alloys	MgMn2, G-MgAl8Zn1, G-MgAl6Zn1	≤400		○
Copper, low-alloyed	SE-Cu, CuSn6, G-CuSn5ZnPb	≤500		◉
Brass, short-chipping	CuZn39Pb2, CuZn39Pb3, CuZn43Pb2	≤600		◉
long-chipping	CuZn20, CuZn33, CuZn37Pb0,5	≤600		◉
Bronze, short-chipping	CuSn7ZnPb, CuPb5Sn5, CuPb10Sn	≤600		◉ ●
	CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	CuAl5, CuAl9Mn, CuSn10	≤850		●
	CuAl11Ni, CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglas, Hostalen, Novodur, Makralon	≤100		◉ ○
New cast materials CGI	GGV25, GGV35		≤220 HB	◉ ○
	GGV40, GGV50, SiMo 6		≤300 HB	◉ ○
New cast materials ADI	ADI800, ADI1000	≤1000		◉ ○
	ADI1200, ADI1400	≤1400		◉ ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concent. plastics	GRP/CFRP	≤1000		○

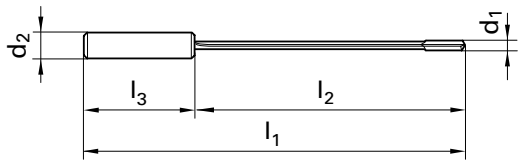
○ bright ◉ steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

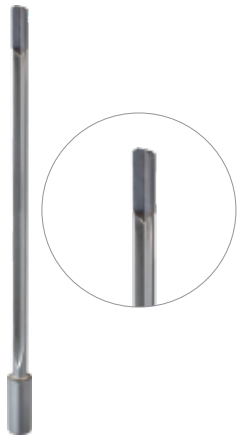
HT800WP INTERCHANGEABLE INSERTS

≤20XD		≤30XD		≤40XD		≤3XD				≤5XD				≤7XD				≤10XD			
6511		6513		6514		4112		4115		4112		4115		4112		4115		4112		4115	
G.S.		G.S.		G.S.		G.S.		G.S.		G.S.		G.S.		G.S.		G.S.		G.S.		G.S.	
Carbide		Carbide		Carbide		Carbide		Carbide		Carbide		Carbide		Car-bide		Carbide		Carbide		Carbide	
K/P		K/P		K/P		K/P		K/P		K/P		K/P		K/P		K/P		K/P		K/P	
A		A		A		F		a		F		a		F		a		F		a	
RT100T		RT100T		RT100T																	
Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.
110	8	80	7	80	7	130	6			125	6			120	5			100	5		
110	8	80	7	80	7	110	5			105	5			105	4			95	4		
120	8	100	8	100	8	130	7			125	7			120	6			100	6		
120	8	100	8	100	8	110	6			105	6			105	5			95	5		
110	6	110	6	110	6	130	6			125	6			120	5			100	5		
110	8	80	7	80	7	125	6			120	6			110	5			95	5		
100	7	80	7	80	7	110	5			105	5			100	4			90	4		
110	7	80	7	80	6-7	110	6			105	6			100	5			90	5		
110	6	80	6	80	6	90	5			85	5			85	4			85	4		
110	8	80	7	80	7	130	7			125	7			120	6			100	6		
110	7	80	6	80	6	110	6			105	6			100	5			90	5		
110	6	80	6	80	6	70	4			70	4			70	4			70	4		
100	5	80	5	80	5	105	5			105	5			105	4			95	4		
80	5	60	5	60	5	70	4			70	4			70	3			70	3		
100	6	80	6	80	6-7	60	5			55	5			55	4			55	4		
80	5	70	4	70	4	55	4			50	4			50	3			50	3		
50	5	50	4	50	4	55	3			55	3			55	2			55	2		
50	5	50	4	50	4	50	2			50	2			50	2			50	2		
100	5	80	5	80	5			55	3			55	3			55	2			55	2
60	3	60	3	70	2-3			40	3			40	3			40	2			40	2
100	5	80	5	80	5			35	3			35	3			35	2			35	2
50	4	50	4	50	4			25	2			25	2			25	1			25	1
																				25	1
30	2	30	2	30	2			25	2			25	2			25	1				
140	8	120	8	120	8																
100	8	80	8	80	8																
140	8	120	8	120	8																
100	8	80	8	80	8																
								90	6			90	6			70	6			70	6
								40	3			40	3			40	2			40	2
								35	2			35	2			35	1			35	1
120	1	120	1	120	1																
120	8	100	8	100	8																
100	6	80	6	80	6																
100	6	80	6	80	6																
90	8	70	8	70	8																

GUN DRILLS

Guhring no.	5639
Standard	Guhring std.
Tool material	Carbide
Surface	C
Drilling depth	20 x D
Cutting direction	right-hand
Tolerance	h5





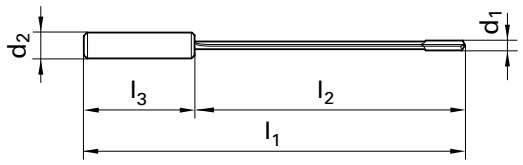
d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l3 mm	AVAILABILITY
3.970	5/32	10.00	150.00	100.00	40.00	○
4.000		12.00	150.00	100.00	40.00	•
5.000		16.00	180.00	130.00	48.00	•
5.156	13/64	16.00	180.00	130.00	48.00	○
6.000		16.00	210.00	160.00	48.00	•
6.350	1/4	16.00	220.00	170.00	48.00	○
7.000		16.00	235.00	185.00	48.00	○
7.938	5/16	16.00	260.00	210.00	48.00	○
8.000		16.00	260.00	210.00	48.00	•
9.000		16.00	280.00	230.00	48.00	•
9.525	3/8	16.00	290.00	240.00	48.00	○
10.000		20.00	320.00	260.00	50.00	•
11.000		20.00	340.00	290.00	50.00	○
11.113	7/16	20.00	340.00	290.00	50.00	○
12.000		20.00	370.00	310.00	50.00	•
12.700	1/2	20.00	385.00	330.00	50.00	○
13.000		25.00	405.00	325.00	70.00	•
13.500		25.00	408.00	338.00	70.00	•
14.000		25.00	420.00	350.00	70.00	•
14.500		25.00	433.00	363.00	70.00	•
15.000		25.00	445.00	375.00	70.00	•
15.500		25.00	458.00	388.00	70.00	•
16.000		25.00	470.00	400.00	70.00	•
17.000		25.00	495.00	425.00	70.00	•
18.000		25.00	520.00	450.00	70.00	•
19.000		25.00	545.00	475.00	70.00	•
20.000		25.00	570.00	500.00	70.00	•
22.000		25.00	620.00	550.00	70.00	•
25.000		25.00	695.00	625.00	70.00	•
30.000		32.00	820.00	750.00	70.00	•302633296
32.000		32.00	870.00	800.00	70.00	•302633297

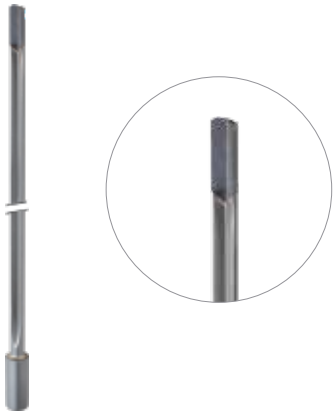
Sizes above Ø30.00 are uncoated

• *Australian stock item* ○ *German stock item*

Guhring no.	5641
Standard	Guhring std.
Tool material	Carbide
Surface	C
Drilling depth	40 x D
Cutting direction	right-hand
Tolerance	h5

**Sizes above dia 13mm all uncoated*





d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l3 mm	AVAILABILITY
3.970	5/32	10.00	230.00	185.00	40.00	○
4.000		12.00	230.00	185.00	45.00	•
5.000		16.00	280.00	232.00	48.00	•
5.156	13/64	16.00	280.00	232.00	48.00	○
6.000		16.00	320.00	272.00	48.00	•
6.350	1/4	16.00	340.00	292.00	48.00	○
7.000		16.00	370.00	322.00	48.00	•
7.938	5/16	16.00	420.00	372.00	48.00	○
8.000		16.00	420.00	372.00	48.00	•
9.000		16.00	450.00	402.00	48.00	○
9.525	3/8	16.00	480.00	432.00	48.00	○
10.000		20.00	510.00	460.00	50.00	•
11.000		20.00	550.00	500.00	50.00	○
11.113	7/16	20.00	550.00	500.00	50.00	○
12.000		20.00	600.00	550.00	50.00	•
12.700	1/2	20.00	635.00	585.00	50.00	○
13.000		25.00	655.00	585.00	70.00	•
13.500		25.00	678.00	585.00	70.00	•
14.000		25.00	700.00	630.00	70.00	•
14.500		25.00	723.00	653.00	70.00	•
15.000		25.00	745.00	675.00	70.00	•
15.500		25.00	768.00	698.00	70.00	•
16.000		25.00	790.00	720.00	70.00	•
17.000		25.00	835.00	765.00	70.00	•
18.000		25.00	880.00	810.00	70.00	•
19.000		25.00	925.00	855.00	70.00	•
20.000		25.00	970.00	900.00	70.00	•
22.000		25.00	1060.00	990.00	70.00	•
25.000		25.00	1195.00	1125.00	70.00	•
30.000		32.00	1420.00	1350.00	70.00	• 302633304
32.000		32.00	1510.00	1440.00	70.00	• 302633305

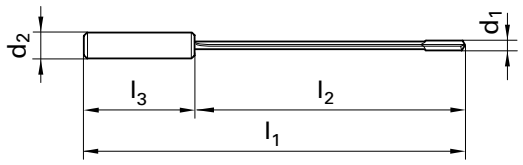
Sizes above Ø25.00 are uncoated

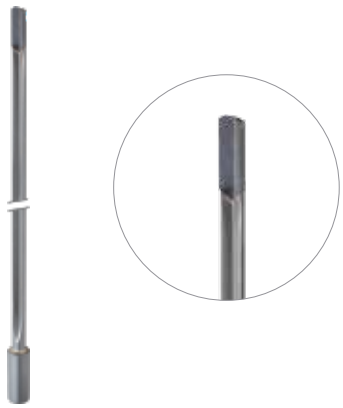
• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands S TiN A TiAlN C TiCN F FIRE/nanoFIRE a TiAlN SuperA

Guhring no.	**5642**
Standard	**Guhring std.**
Tool material	**Carbide**
Surface	C
Drilling depth	**80 x D**
Cutting direction	**right-hand**
Tolerance	**h5**

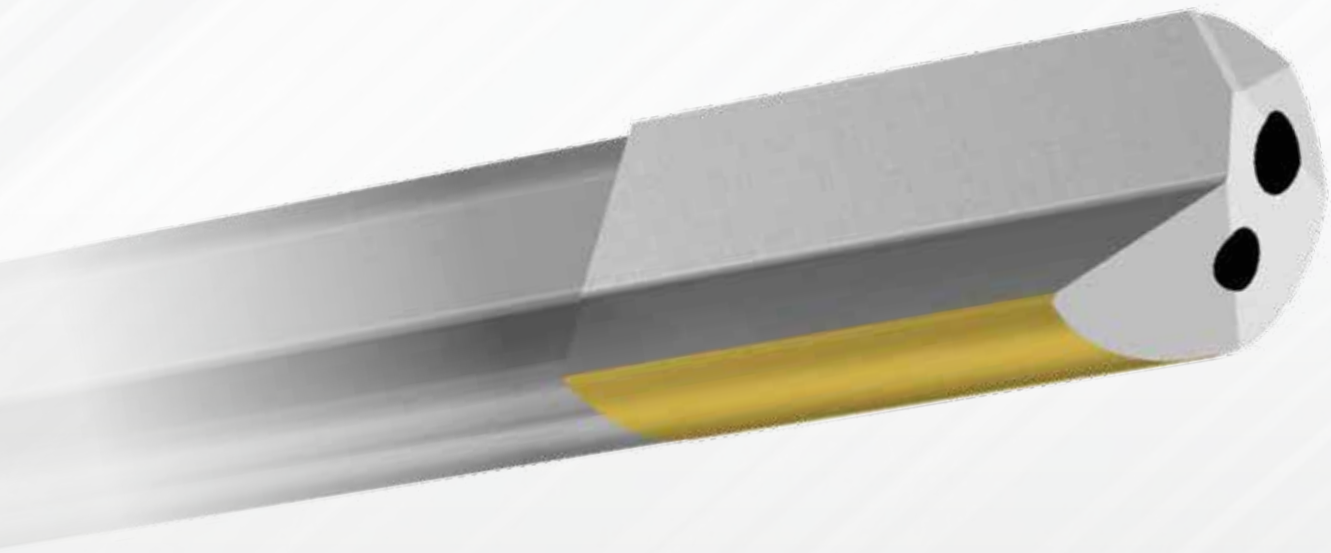
**Sizes above dia 15.95mm all uncoated*





d1		d2	l1	l2	l3	AVAILABILITY
mm	inch	mm	mm	mm	mm	
4.950		16.000	480.00	432.00	48.00	•
5.106		16.000	480.00	432.00	48.00	○
5.950	15/64	16.000	560.00	512.00	48.00	•
6.300		16.000	590.00	542.00	48.00	○
6.950		16.000	650.00	602.00	48.00	○
7.888		16.000	740.00	692.00	48.00	○
7.950		16.000	740.00	692.00	48.00	•
8.950		16.000	820.00	772.00	48.00	○
9.475		16.000	870.00	822.00	48.00	○
9.950		20.000	910.00	860.00	50.00	•
10.950		20.000	995.00	945.00	50.00	○
11.063		20.000	995.00	945.00	50.00	○
11.950		20.000	1080.00	1030.00	50.00	•
12.650		20.000	1140.00	1090.00	50.00	○
12.950		20.000	1170.00	1101.00	50.00	•
13.450		25.000	1215.00	1143.00	70.00	•
13.950		25.000	1255.00	1186.00	70.00	•
14.450		25.000	1300.00	1228.00	70.00	•
14.950		25.000	1340.00	1271.00	70.00	•
15.450		25.000	1383.00	1313.00	70.00	•
15.950		25.000	1425.00	1356.00	70.00	•
16.950		25.000	1510.00	1441.00	70.00	• 302633313
17.950		25.000	1600.00	1526.00	70.00	• 302633314
18.950		25.000	1680.00	1611.00	70.00	• 302633315
19.950		25.000	1765.00	1696.00	70.00	• 302633316
21.950		25.000	1940.00	1866.00	70.00	• 302633317
24.950		25.000	2190.00	2121.00	70.00	• 302633318

• *Australian stock item* ○ *German stock item*

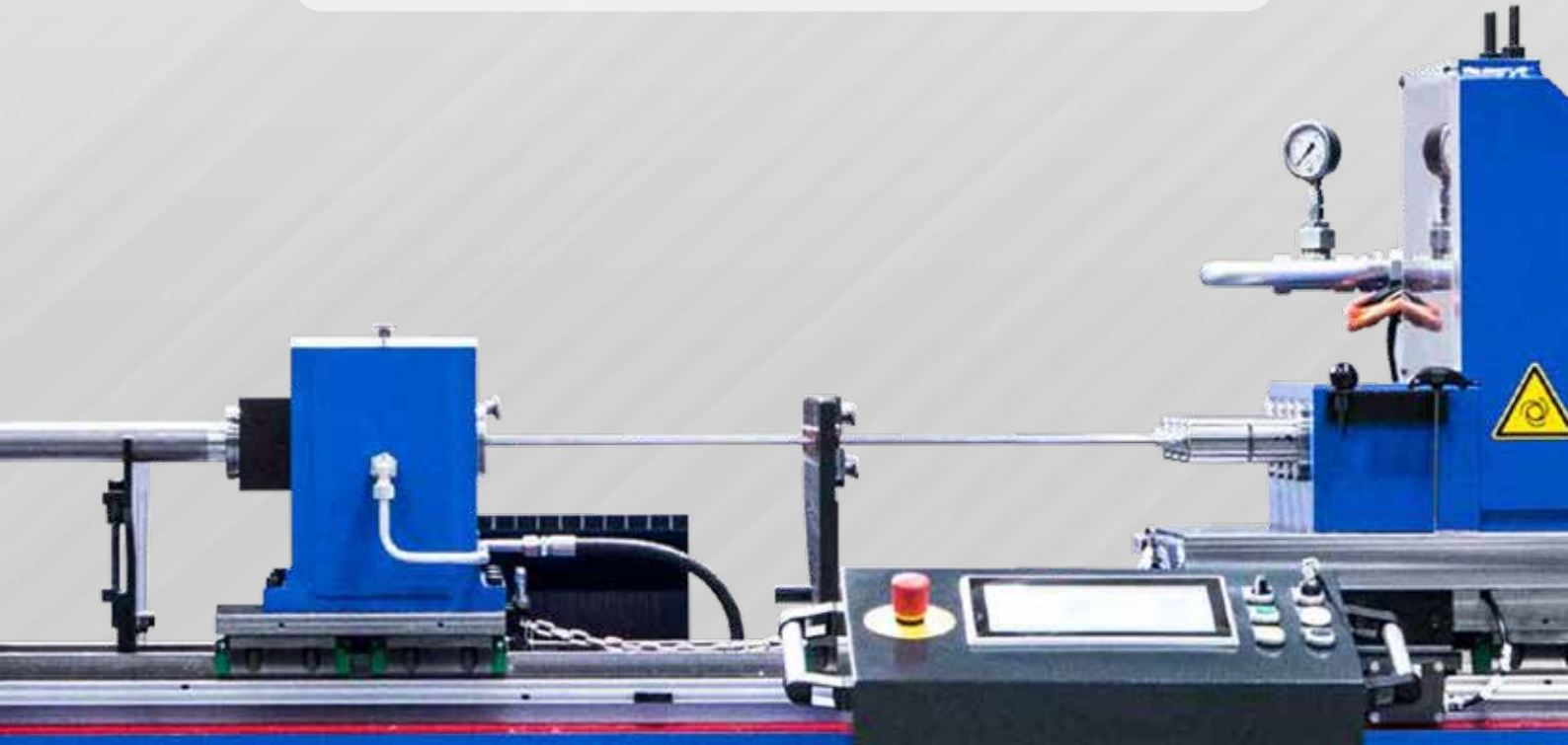


EB 80 XXL

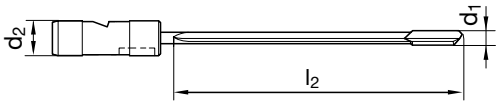
- Up to 1500 x quicket machining times than conventional spiral deep hole drills
- Idea for deep drilling machines
- Optimal use in die and mould industry
- Ploished long flute for the application in steel and non-ferrous metals with excellent chip control and optimal wear protection
- TiN coating for long tool life
- Including clamping sleeve for deep drilling machines

STOP

All gun drills must have support for the pilot hole.
Gun drills must never operate at full speed without support in the machine shop.



Guhring no.	5691	5692	5693	5694
Standard	Guhring std.			
Tool material	Solid carbide			
Surface	S	S	S	S
Drilling depth (l_2)	700mm	1100mm	1500mm	1900mm
Cutting direction	right-hand	right-hand	right-hand	right-hand
Tolerance	h5	h5	h5	h5



d1	d2 h6	AVAILABILITY			
mm	mm				
4.000	25.00			○	
5.000	25.00	○	○	○	○
5.500	25.00			○	
6.000	25.00	○	○	○	○
6.500	25.00			○	
7.000	25.00	○	○	○	○
7.500	25.00			○	
8.000	25.00	○	○	○	○
9.000	25.00	○	○	○	○
9.500	25.00			○	
10.000	25.00	○	○	○	○
11.000	25.00			○	
11.500	25.00	○	○	○	○
12.000	25.00	○	○	○	○
13.000	25.00			○	
14.000	25.00			○	
15.000	25.00	○	○	○	○
16.000	25.00	○	○	○	○
17.000	25.00	○		○	
18.000	25.00	○	○	○	○
19.000	25.00	○	○	○	○
20.000	25.00	○	○	○	○
21.000	25.00	○			
22.000	25.00	○	○	○	○
25.000	25.00	○			

• *Australian stock item* ○ *German stock item*

CUTTING SPEED RECOMMENDATION FOR GUN DRILLS

Drill Ø mm	Feed column no. 11	12	13	14	15	16	17	18	19	20
	f (mm/rev.)									
1.50	0.002	0.004	0.006	0.008	0.012	0.020	0.032	0.045	0.045	0.075
2.00	0.003	0.005	0.007	0.010	0.016	0.028	0.046	0.055	0.050	0.100
2.50	0.004	0.006	0.008	0.012	0.018	0.030	0.054	0.070	0.075	0.125
4.00	0.005	0.007	0.010	0.016	0.025	0.043	0.065	0.085	0.120	0.240
6.00	0.007	0.009	0.013	0.024	0.035	0.061	0.085	0.120	0.180	0.360
8.00	0.010	0.014	0.022	0.032	0.045	0.068	0.100	0.150	0.240	0.480
10.00	0.012	0.016	0.028	0.040	0.055	0.075	0.120	0.160	0.300	0.600
14.00	0.020	0.025	0.035	0.050	0.065	0.085	0.130	0.180	0.420	0.700
18.00	0.025	0.030	0.040	0.055	0.070	0.095	0.145	0.200		
20.00	0.026	0.035	0.045	0.060	0.080	0.110	0.180	0.250		
24.00	0.027	0.036	0.047	0.065	0.085	0.130	0.185	0.300		
28.00	0.028	0.038	0.049	0.068	0.090	0.140	0.195	0.350		
30.00	0.030	0.040	0.050	0.070	0.100	0.150	0.200	0.400		
35.00	0.035	0.045	0.055	0.075	0.120	0.180	0.250	0.450		
40.00	0.040	0.050	0.060	0.080	0.150	0.200	0.300	0.500		

*The feed rates always relate to tools with the recommended coating. In some cases the successful application of un-coated tools cannot be guaranteed.

	≤20XD	≤40XD	
Guhring no.	5639	5641	5642
Standard/DIN	G.S.	G.S.	
Tool material	Carbide	Carbide	
Carbide grade	K30/K40	K30/K40	K30/K40
Surface finish	C	C	C
Type	EB80	EB80	EB80

All deep hole drills must have support for the pilot hole.
Deep hole drills must never operate at full speed without support in the machine shop.

Coolant:
- ○ Air
- ● Neat oil
- ◐ Soluble oil

Material group	Material examples	Tensile strength MPa (N/mm²)	Coolant	Rec. coating	Vc m/min	Feed col. no.	Vc m/min	Feed col. no.	Feed col. no.
Common structural steels	S185, P275N, P235GH, P265GH, Mild steel,	≤500	◐	S	100	14	95	13	13
	Grade 250 plate, Grade 350 plate, E295, E360, P500NH	≤1000	◐		85	14	80	13	13
Free-cutting steels	11SMnPb30, 11SMn37, 1020, S1214, S1213	≤850	◐	S	90	14	85	13	13
	S12L13, S12L14 , 46S20, 46SPb20	≤1000	◐		80	14	75	13	13
Unalloyed heat-treatable steels	C22, C30E, 1035, 1045, 1055, 1060, 1025	≤700	◐		90	13	85	12	12
	C45, C45E	≤850	◐	S	80	13	75	12	12
	C60, C60E	≤1000	◐		75	13	70	12	12
Alloyed heat-treatable steels	50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150,	≤1000	◐	S	75	13	70	12	12
	4340, 6150, EN16, EN26, 36NiCr6, 41Cr4, 42CrMo4	≤1400	◐		65	13	60	12	12
Unalloyed case hardened steels	C10E, 1010, 1015	≤850	◐	S	80	14	75	13	13
Alloyed case hardened steels	10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620,	≤1000	●	S	75	13	70	12	12
	5120, 8617, 8620, 15NiCr13, 16MnCr5, 20CrMo5, N33	≤1400	●		65	13	60	12	12
Nitriding steels	34CrAl6	≤1000	◐	C	75	13	70	12	12
	31CrMoV9, 34CrAlNi7	≤1400	●		65	13	60	12	12
Tool steels	C75W, 102Cr6, 29CrMoV9, H11, H13, P20, D2, D3	≤850	◐	C	75	12	70	11	11
	X210Cr12, X42Cr13, 105WCr6, X45NiCrMo4	≤1400	●		65	12	60	11	11
High speed steels	S 6-5-2-5, S 6-5-2, S 6-5-3, M2, M3, M35, M45	≤1400	●	C	55	11	50	11	11
Spring steels	55Si7, 55Cr3, 51CrV4, 5155, 6150, 9255	≤350 HB	●	C	65	12	60	12	12
Stainless steels, sulphured	X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	≤900	●		55	13	50	12	12
austenitic	X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 321	≤1100	●	C	45	13	40	12	12
martensitic	X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420,	≤1500	●		35	13	35	12	12
Hardened steels	–	≤48 HRC	●	C	30	12	25	11	11
		≤66 HRC	●		25	11	20	11	11
Special alloys	Nimonic, Inconel, Monel, Hastelloy, Bisalloy	≤2000	●	C	35	11	30	11	11
Cast iron	GG10, GG15, GG20	≤240 HB	◐○		85	15	80	14	14
	GG25, GG30, GG35 GG40	≤350 HB	◐○		80	15	75	14	14
Spheroidal graphite iron and	GGG40, GGG50, GGG60, 32510,GTW35	≤240 HB	◐		80	14	75	13	13
malleable cast iron	GGG70, GTS70, 50005, Nodular Iron	≤350 HB	◐		70	14	65	13	13
Chilled cast iron	–	≤350 HB	◐		55	13	50	12	12
Ti and Ti-alloys	Ti99,5, TiAl5Sn2,5, TiCu2	≤850	●	C	35	11	30	11	11
	TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400	●		30	11	25	11	11
Aluminium and Al-alloys	Al99,5, AlMgSi1, AlMg1	≤400	◐		150	16	140	14	14
Al wrought alloys	AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	≤650	◐		120	16	115	14	14
Al cast alloys ≤ 10 % Si	G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9	≤600	◐		150	17	140	16	16
≤ 24 % Si	G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	≤600	◐		130	17	120	16	16
Magnesium alloys	MgMn2, G-MgAl8Zn1, G-MgAl6Zn1	≤400	○		110	16	100	15	15
Copper, low-alloyed	SE-Cu, CuSn6, G-CuSn5ZnPb	≤500	◐	C	75	14	70	13	13
Brass, short-chipping	CuZn39Pb2, CuZn39Pb3, CuZn43Pb2	≤600	◐		120	17	115	16	16
long-chipping	CuZn20, CuZn33, CuZn37Pb0,5	≤600	◐		90	17	85	16	16
Bronze, short-chipping	CuSn7ZnPb, CuPb5Sn5, CuPb10Sn	≤600	◐●		95	16	90	15	15
	CuNi18Zn19Pb	≤850	●		75	16	70	15	15
Bronze, long-chipping	CuAl5, CuAl9Mn, CuSn10	≤850	●		70	16	65	15	15
	CuAl11Ni, CuBe2	≤1000	●		60	16	55	15	15
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150	○		75	14	70	13	13
Thermoplastics	Plexiglas, Hostalen, Novodur, Makralon	≤100	◐○		70	14	65	13	13
New cast materials CGI	GGV25, GGV35	≤220 HB	◐○						
	GGV40, GGV50, SiMo 6	≤300 HB	◐○						
New cast materials ADI	ADI800, ADI1000	≤1000	◐○						
	ADI1200, ADI1400	≤1400	◐○						
Kevlar	Kevlar	≤1000	○		60	13	55	12	12
Glass, carbon concent. plastics	GRP/CFRP	≤1000	○		50	13	45	12	12

○ bright ◐ steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

❑ **Inquiry** ❑ **Order** ❑ **Repeat order, no. of initial order**

Deep hole gun drill:

❑ **EB 100**

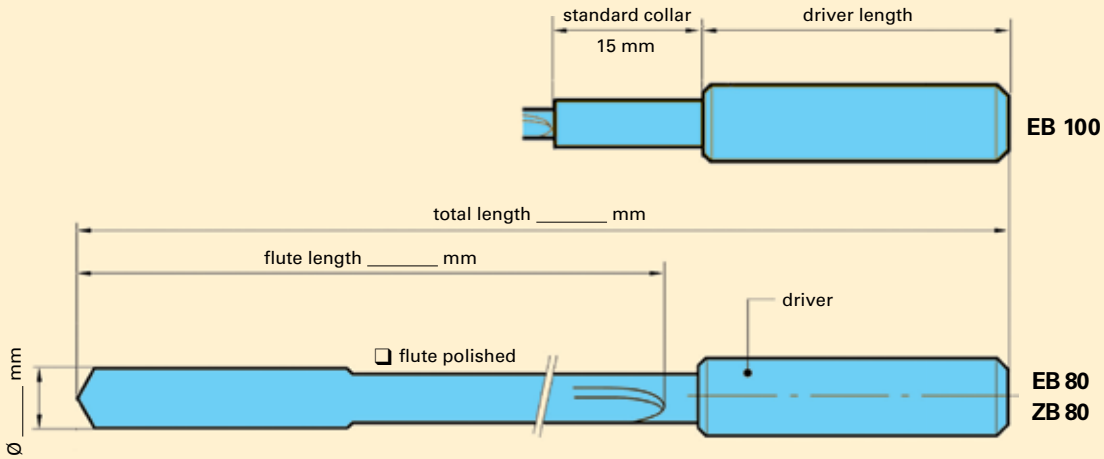
❑ **EB 80**
❑ polished
❑ fast service

❑ **ZB 80**
❑ polished

❑ **EB 800**

Number required:

tool_____**items**
insert _____**items**
sup. strip_____**items**



Drawing of lay-out

required in special cases only

Driver: ❑ **no** ❑ **code-no.:** ❑ **to enclosed drawing**

Coating: ❑ **TiN** Ⓢ ❑ **Fire** Ⓕ ❑ **TiCN** Ⓒ ❑ **TiAlN** Ⓐ ❑ **SuperA** Ⓐ ❑ _____

Workpiece: **drill. depth:**_____ **hole tolerance:**_____ **material/designation:** _____

Machine type: ❑ **deep hole drilling machine** ❑ **conventional machine tool**
❑ **pilot hole** ❑ **drilling bush**

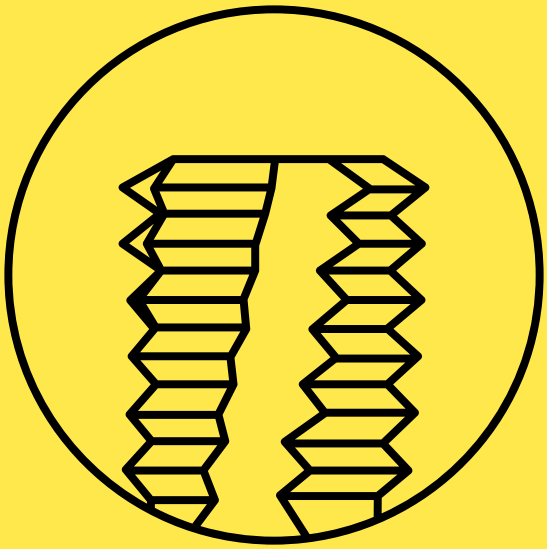
Coolant: ❑ **deep hole drilling oil** ❑ **soluble oil**
pressure _____ **bar** **quantity**_____ **l/min**

Company: _____ **Company stamp:**

Telephone/fax: _____

Contact: _____ **Signature:** _____

THREADING



RECOMMENDATION CHART FOR TAPS

Colour Ring	Material Groups	Tens Strength Mpa (N/mm²)	Hardness HB	Cutting Speed Vc m/min *		
				HSS-E	HSS-E-PM	Solid Carbide
	Structural steels - mild steel, 250 and 350 plate	≤ 850	-	10 - 15	15 - 20	30 - 50
	Free cutting steels - 1020, S1214, S1213, S12L13, S12L14	≤ 1000	-	10 - 20	15 - 25	30 - 50
	Unalloyed case hardened steels - 1010, 1015	≤ 750	-	10 - 15	15 - 20	30 - 50
	Un9/9/2008d Heat treatable steels - 1035, 1045, 1055, 1060, 1025	≤ 850	-	10 - 15	15 - 20	30 - 50
	Alloyed case hardened steels - 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620, N33, EN36A	850 - 1200	-	8 - 12	10 - 15	25 - 40
	Alloyed heat treatable steels - 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26	850 - 1200	-	8 - 12	10 - 15	25 - 40
	Alloyed tool steels - H11, H13, P20, D2, D3	≤ 1000	-	6 - 10	8 - 12	25 - 40
	High speed tool steels M2, M3, M35, M45	650 - 1000	-	6 - 10	8 - 12	25 - 40
	Stainless and acid resistant steels - Sulphured - 410S, 430F, 630	≤ 850	-	6 - 12	8 - 15	30 - 50
	- Austentic -302, 303, 304, 310, 316, 316Ti, 321	≤ 850	-	6 - 12	8 - 15	30 - 50
	- Marttensitic - 410, 410X, 416, 420, 420C, 431, 440C	≤ 850	-	6 - 12	8 - 15	30 - 50
	Structural steels - mild steel, 250 and 350 plate	≤ 800		10 - 15	15 - 20	30 - 50
	Free cutting steels - 1020, S1214, S1213, S12L13, S12L14	≤ 1000		10 - 20	15 - 25	30 - 50
	Case hardened steels	≤ 1000		10 - 15	15 - 20	30 - 50
	Heat treatable steels	≤ 1200		10 - 15	15 - 20	30 - 50
	Nitriding steels	≤ 1200		10 - 15	15 - 20	30 - 50
	Spheroidal graphite cast iron - GGG40, GGG50, GGG60, GGG70	-	≤ 240	10 - 20	15 - 25	30 - 50
	Aluminium and Al-Alloys	≤ 400	-	15 - 20	20 - 25	30 - 50
	Al wrought alloys	≤ 400	-	15 - 20	20 - 25	30 - 50
	Alcast alloys ≤ 10 % Si	≤ 600	-	15 - 20	20 - 25	30 - 50
	> 10 % Si	≤ 600	-	15 - 20	20 - 25	25 - 40
	Cast iron - GG10, GG15, GG20, GG25, GG30, GG35, GG40	-	≤ 240	15 - 20	20 - 25	30 - 40
	Spheroidal graphite cast iron - GGG40, GGG50, GGG60, GGG70	-	≤ 240	15 - 20	20 - 25	30 - 40
	Malleable cast iron - 32510, 50005, Nodular Iron	-	≤ 240	15 - 20	20 - 25	30 - 40
	Brass short chipping	≤ 600	-	10 - 15	15 - 20	25 - 30
	Brass long chipping	≤ 600	-	10 - 15	15 - 20	25 - 30
	Plastics	-	-	5 - 10	15 - 20	25 - 30
	Magnesium alloys	≤ 450	-	30 - 50		40 - 60
	Titanium and Ti-alloys	≤ 1200			2 - 8	
	Ni alloys				2 - 8	

* With coated tools cutting speed may be increased up to 50%

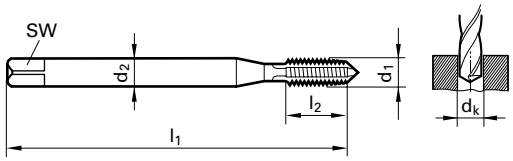
bright steam tempered nitrided P AlCrN S TiN C TiCN Cb Carbo

universal general steel tool steel stainless steel Aluminium cast materials

METRIC GUN NOSE TAPS

THROUGH HOLE

Guhring no.	803	815	5733	5716	5736	789	790	804
Standard	DIN 371	DIN 376	DIN 371					
Tool material	HSS-E				HSS-E-PM	HSS-E		
Surface	bright	bright	steam tempered	steam tempered	S	bright	bright	bright
Type	N	N	N	N	N	N	N	H
Form	B	B	B	B	B	B	B	B
Cutting direction	right-hand					left-hand		right
Tolerance	ISO 2 / 6H							
Application	general steel	general steel	universal	universal	universal	general steel	general steel	tool steel
Cutting speed m/min	10-15	10-15	10-15	10-15	10-15	10-15	10-15	8-12



d1	P	d2	SW	dk	l1	l2	803	815	5733	5716	5736	789	790	804
mm	mm	mm	mm	mm	mm	mm	AVAILABILITY							
M1.4	0.30	2.50	2.10	1.10	40.00	7.00	•							
M1.6	0.35	2.50	2.10	1.25	40.00	8.00	•							
M2	0.40	2.80	2.10	1.60	45.00	8.00	•							•
M2.5	0.45	2.80	2.10	2.05	50.00	9.00	•							•
M3	0.50	3.50	2.70	2.50	56.00	10.00	•		•		•	•		•
M4	0.70	4.50	3.40	3.30	63.00	13.00		•	•		•	•		
M5	0.80	6.00	4.90	4.20	70.00	16.00		•	•		•	•		
M6	1.00	6.00	4.90	5.00	80.00	19.00		•	•		•	•		
M8	1.25	8.00	6.20	6.80	90.00	22.00		•	•		•	•		
M10	1.50	10.00	8.00	8.50	100.00	24.00		•	•		•	•		
M12	1.75	9.00	7.00	10.20	110.00	24.00		•		•	•		•	
M14	2.00	11.00	9.00	12.00	110.00	26.00		•		•	•			
M16	2.00	12.00	9.00	14.00	110.00	26.00		•		•	•		•	
M18	2.50	14.00	11.00	15.50	125.00	30.00		•			•			
M20	2.50	16.00	12.00	17.50	140.00	32.00		•		•	•		•	
M22	2.50	18.00	14.50	19.50	140.00	32.00		•						
M24	3.00	18.00	14.50	21.00	160.00	36.00		•						
M30	3.50	22.00	18.00	26.50	180.00	40.00		•						
M36	4.00	28.00	22.00	32.00	200.00	50.00		•						

bright · steam tempered · nitrided · P AlCrN · S TiN · C TiCN · Cb Carbo · S Sirius

universal · general steel · tool steel · stainless steel · Aluminium · cast materials

METRIC GUN NOSE TAPS

THROUGH HOLE

5558	816	57	58	5559	879	4218	5557	817	805	4672
DIN 371										
HSS-E		HSS-E-PM				HSS-E				
steam tempered	bright	S	S	steam tempered	bright	S	bright	bright	bright	Cb
H	H	H	H	VA	VA	VA	Al	Al	Al	Al
B	B	B	B	B	B	B	B	B	B	B
right-hand										
ISO 2 / 6H										
tool steel	tool steel	tool steel	tool steel	stainless steel	stainless steel	stainless steel	Aluminium	Aluminium	Aluminium	Aluminium
8-12	8-12	8-12	8-12	6-12	6-12	10-15	10-15	10-15	10-15	10-15

AVAILABILITY

						•			•	○
						•			•	○
		•				•			•	○
•		•		•		•	•			○
•		•		•		•	•			○
•		•		•		•	•			○
•		•		•		•	•			○
•		•		•		•	•			○
•	•		•		•	•	•	•		○
	•		•		•	•				○
•	•		•		•	•	•			○
	•		•			•				
○	•		•		•	•	•			
			○			•				
						•				

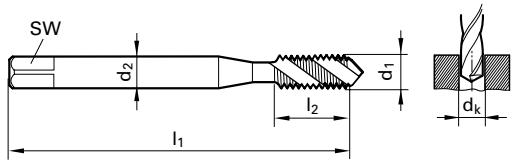
○ bright ○ steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo (S) Sirius

universal general steel tool steel stainless steel Aluminium cast materials

METRIC SPIRAL TAPS

BLIND HOLE

Guhring no.	810	822	5734	5717	5722	786	787
Standard	DIN 371	DIN 376			DIN 371		
Tool material	HSS-E				HSS-E-PM	HSS-E	
Surface	bright	bright	steam tempered	steam tempered	S	bright	bright
Type	N	N	N	N	N	N	N
Form	C	C	C	C	C	C	C
Cutting direction	right-hand					left-hand	
Tolerance	ISO 2 / 6H						
Application	universal	universal	universal	universal	universal	universal	universal
Cutting speed m/min	10-15	10-15	10-15	10-15	10-15	10-15	10-15



d1	P	d2	SW	dk	l1	l2	810	822	5734	5717	5722	786	787
mm	mm	mm	mm	mm	mm	mm	AVAILABILITY						
M2	0.40	2.80	2.10	1.60	45.00	8.00	•						
M2.5	0.45	2.80	2.10	2.05	50.00	9.00	•						
M3	0.50	3.50	2.70	2.50	56.00	10.00	•		•		•	•	
M4	0.70	4.50	3.40	3.30	63.00	7.50		•	•		•	•	
M5	0.80	6.00	4.90	4.20	70.00	8.50		•	•		•	•	
M6	1.00	6.00	4.90	5.00	80.00	11.00		•	•		•	•	
M8	1.25	8.00	6.20	6.80	90.00	14.00		•	•		•	•	
M10	1.50	10.00	8.00	8.50	100.00	16.00		•	•		•	•	
M12	1.75	9.00	7.00	10.20	110.00	18.50		•		•	•		•
M14	2.00	11.00	9.00	12.00	110.00	20.00		•			•		•
M16	2.00	12.00	9.00	14.00	110.00	20.00		•		•	•		•
M18	2.50	14.00	11.00	15.50	125.00	25.00		•					
M20	2.50	16.00	12.00	17.50	140.00	25.00		•		•	•		•
M22	2.50	18.00	14.50	19.50	140.00	27.00		•					
M24	3.00	18.00	14.50	21.00	160.00	30.00		•					
M30	3.50	22.00	18.00	26.50	180.00	35.00		•					
M33	3.50	25.00	20.00	29.50	180.00	35.00							
M36	4.00	28.00	22.00	32.00	200.00	50.00							
M39	4.00	32.00	24.00	35.00	200.00	50.00							

bright · steam tempered · nitrided · P AlCrN · S TiN · C TiCN · Cb Carbo · S Sirius

universal · general steel · tool steel · stainless steel · Aluminium · cast materials

METRIC SPIRAL TAPS

BLIND HOLE

811	5552	823	5553	910	59	60	393	5551	824	812	4670
DIN 371											
HSS-E			HSS-E	HSS-E-PM			HSS-E				
○	●	○	●	○	S	S	A	○	○	○	Cb
H	H	H	VA	VA	VA	VA	VA	Al	Al	Al	Al
C	C	C	C	C	C	C	C	C	C	C	C
right-hand											
ISO 2 / 6H											
●	●	●	●	●	●	●	●	●	●	●	●
8-12	8-12	8-12	6-12	6-12	6-12	6-12	10-15	10-15	10-15	10-15	10-15

AVAILABILITY											
•							•			•	○
•							•			•	○
•					•		•			•	○
	•		•		•		•	•			○
	•		•		•		•	•			○
	•		•		•		•	•			○
	•		•		•		•	•			○
	•		•				•	•			○
	•	•	•	•		•	•	•	•		○
		•		•		•	•				○
	•	•	•	•		•	•	•	•		○
		•					•				
	•	•	•	•		•	•	•	•		
		•		•			•				
		•					•				
							○				
							•				
							○				

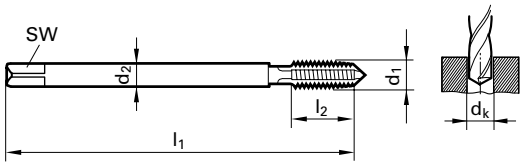
○ bright ● steam tempered ● nitrided P AlCrN S TiN C TiCN Cb Carbo A TiAlN

● ● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

METRIC FINE GUN NOSE TAPS

THROUGH HOLE

Guhring no.	827	2871
Standard	DIN 374	
Tool material	HSS-E	
Surface	○	●
Type	N	N
Form	B	B
Cutting direction	right-hand	right-hand
Tolerance	ISO 2 / 6H	ISO 2 / 6H
Application		
Cutting speed m/min	10-15	6-12

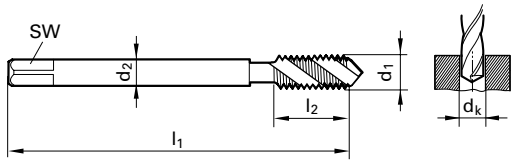


d1	P	d2	SW	dk	l1	l2	Code	AVAILABILITY	
mm	mm	mm	mm	mm	mm	mm	no.		
M3	0.35	2.20		2.65	56.00	7.00	3.002	•	•
M4	0.50	2.80	2.10	3.50	63.00	8.00	4.003	•	•
M5	0.50	3.50	2.70	4.50	70.00	10.00	5.003	•	•
M6	0.50	4.50	3.40	5.50	80.00	13.00	6.003	•	
M6	0.75	4.50	3.40	5.25	80.00	13.00	6.004	•	•
M8	0.50	6.00	4.90	7.50	80.00	14.00	8.003	•	
M8	0.75	6.00	4.90	7.25	80.00	14.00	8.004	•	•
M8	1.00	6.00	4.90	7.00	90.00	18.00	8.005	•	•
M10	0.75	7.00	5.50	9.25	90.00	18.00	10.004	•	
M10	1.00	7.00	5.50	9.00	90.00	18.00	10.005	•	•
M10	1.25	7.00	5.50	8.80	100.00	20.00	10.006	•	
M12	1.00	9.00	7.00	11.00	100.00	20.00	12.005	•	•
M12	1.25	9.00	7.00	10.80	100.00	20.00	12.006	•	
M12	1.50	9.00	7.00	10.50	100.00	20.00	12.007	•	•
M14	1.00	11.00	9.00	13.00	100.00	20.00	14.005	•	
M14	1.25	11.00	9.00	12.80	100.00	20.00	14.006	•	
M14	1.50	11.00	9.00	12.50	100.00	20.00	14.007	•	•
M16	1.00	12.00	9.00	15.00	100.00	22.00	16.005	•	
M16	1.50	12.00	9.00	14.50	100.00	22.00	16.007	•	•
M18	1.00	14.00	11.00	17.00	110.00	25.00	18.005	•	
M18	1.50	14.00	11.00	16.50	110.00	25.00	18.007	•	•
M20	1.00	16.00	12.00	19.00	125.00	25.00	20.005	•	
M20	1.50	16.00	12.00	18.50	125.00	25.00	20.007	•	•
M20	2.00	16.00	12.00	18.00	140.00	32.00	20.008	•	
M22	1.50	18.00	14.50	20.50	125.00	25.00	22.007	•	•
M22	2.00	18.00	14.50	20.00	140.00	32.00	22.008	•	
M24	1.00	18.00	14.50	23.00	140.00	28.00	24.005	•	
M24	1.50	18.00	14.50	22.50	140.00	28.00	24.007	•	•
M24	2.00	18.00	14.50	22.00	140.00	28.00	24.008	•	
M30	1.50	22.00	18.00	28.50	150.00	28.00	30.007	•	
M32	1.50	22.00	18.00	30.50	150.00	28.00	32.007	•	

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo (S) Sirius

● ● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

Guhring no.	834	2864
Standard	DIN 374	
Tool material	HSS-E	
Surface	bright	steam tempered
Type	N	N
Form	C	C
Cutting direction	right-hand	right-hand
Tolerance	ISO 2 / 6H	ISO 2 / 6H
Application	general steel	stainless steel
Cutting speed m/min	10-15	6-12



d1	P	d2	SW	dk	l1	l2	Code	AVAILABILITY	
mm	mm	mm	mm	mm	mm	mm	no.		
M4	0.50	2.80	2.10	3.50	63.00	5.00	4.003	•	•
M5	0.50	3.50	2.70	4.50	70.00	5.00	5.003	•	•
M6	0.50	4.50	3.40	5.50	80.00	5.00	6.003	•	•
M6	0.75	4.50	3.40	5.25	80.00	8.00	6.004	•	•
M8	0.50	6.00	4.90	7.50	80.00	8.00	8.003		•
M8	0.75	6.00	4.90	7.25	80.00	8.00	8.004	•	•
M8	1.00	6.00	4.90	7.00	90.00	11.00	8.005	•	•
M10	1.00	7.00	5.50	9.00	90.00	11.00	10.005	•	•
M10	1.25	7.00	5.50	8.80	100.00	14.00	10.006	•	
M12	1.00	9.00	7.00	11.00	100.00	11.00	12.005	•	•
M12	1.25	9.00	7.00	10.80	100.00	15.00	12.006	•	
M12	1.50	9.00	7.00	10.50	100.00	15.00	12.007	•	•
M14	1.00	11.00	9.00	13.00	100.00	11.00	14.005	•	
M14	1.25	11.00	9.00	12.80	100.00	15.00	14.006	•	
M14	1.50	11.00	9.00	12.50	100.00	15.00	14.007	•	•
M16	1.00	12.00	9.00	15.00	100.00	11.00	16.005	•	
M16	1.50	12.00	9.00	14.50	100.00	15.00	16.007	•	•
M18	1.00	14.00	11.00	17.00	110.00	12.00	18.005	•	
M18	1.50	14.00	11.00	16.50	110.00	16.00	18.007	•	•
M20	1.50	16.00	12.00	18.50	125.00	16.00	20.007	•	•
M22	1.50	18.00	14.50	20.50	125.00	16.00	22.007	•	•
M24	1.50	18.00	14.50	22.50	140.00	16.00	24.007	•	•
M24	2.00	18.00	14.50	22.00	140.00	22.00	24.008	•	•
M30	1.50	22.00	18.00	28.50	150.00	20.00	30.007		

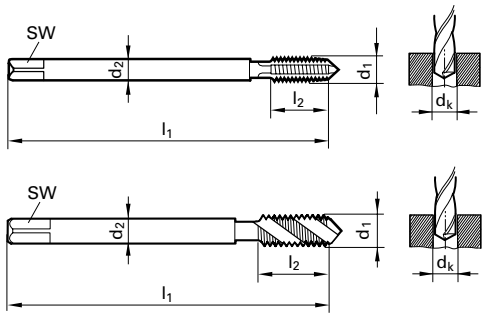
bright · steam tempered · nitrided · AlCrN · TiN · TiCN · Carbo · Sirius

universal · general steel · tool steel · stainless steel · Aluminium · cast materials

METRIC RECOIL TAPS

THROUGH HOLE | BLIND HOLE

Guhring no.	1010	1011	
Standard	DIN 40435		
Tool material	HSS-E		
Surface	S	S	○
Type	N	N	N
Form	B	C	C
Cutting direction	right-hand	right-hand	right-hand
Tolerance	6H	6H	6H
Application	●	●	●
Cutting speed m/min	10-15	10-15	10-15
			Thread former

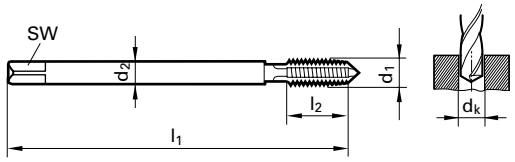


d1	P	d2	SW	dk	l1	l2	AVAILABILITY		
mm	mm	mm	mm	mm	mm	mm			
M3	0.50	3.50	2.70	2.50	56.00	10.00	•		
M4	0.70	6.00	4.90	4.20	70.00	12.00	•		
M5	0.80	6.00	4.90	5.25	80.00	14.00	•		
M6	1.00	8.00	6.20	6.30	90.00	17.00	•		
M8	1.25	10.00	8.00	8.40	100.00	20.00	•		
M10	1.50	9.00	7.00	10.50	100.00	20.00	•		
M12	1.75	11.00	9.00	12.50	110.00	30.00	•		
M14	2.00	12.00	9.00	14.50	110.00	26.00	•		
M16	2.00	14.00	11.00	16.50	125.00	33.00	•		
M3	0.50	3.50	2.70	2.50	56.00	10.00		•	
M4	0.70	6.00	4.90	4.20	70.00	7.50		•	
M5	0.80	6.00	4.90	5.25	80.00	8.50		•	
M6	1.00	8.00	6.20	6.30	90.00	11.00		•	
M8	1.25	10.00	8.00	8.40	100.00	14.00		•	
M10	1.50	9.00	7.00	10.50	100.00	16.00		•	
M12	1.75	11.00	9.00	12.50	110.00	18.50		•	
M14	2.00	12.00	9.00	14.50	110.00	20.00		•	
M16	2.00	14.00	11.00	16.50	125.00	20.00		•	
M2.5	0.45	3.50	2.70	2.90	56.00	10.00			• 303502990
M3	0.50	4.00	3.00	3.45	56.00	11.50			• 303502991
M4	0.70	6.00	4.90	4.60	70.00	14.00			• 303503092
M6	1.00	8.00	6.20	6.85	90.00	16.00			• 303503093
M8	1.25	10.00	8.00	9.05	100.00	20.00			• 303503094

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo (S) Sirius

● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

Guhring no.	5009	4640	4627
Standard	Guhring std.		
Tool material	HSS-E		
Surface	○	S	
Cutting direction	right-hand	right-hand	right-hand
Tolerance	ISO 2 / 6H	6H + 0.1	6H + 0.1
Application	●	●	●
Cutting speed m/min	6-10	6-10	6-10
	OVERSIZE TAP +0.4mm	OVERSIZE TAP +0.1mm	OVERSIZE TAP +0.1mm



d1	P	d2	SW	dk	l1	l2	AVAILABILITY		
mm	mm	mm	mm	mm	mm	mm			
M10	1.50	8.00	5.00	8.80	100.00	23.00	• 303433725		
M12	1.75	9.00	7.00	10.40	110.00	24.00	• 302790623		
M16	2.00	12.00	9.00	14.20	110.00	26.00	• 302790624		
M20	2.50	16.00	12.00	17.70	140.00	32.00	• 302790625		
M24	3.00	18.00	14.50	21.40	160.00	36.00	• 302790626		
M2	0.40	2.80	2.10	1.60	45.00	8.00		○	○
M2.5	0.45	2.80	2.10	2.05	50.00	9.00		○	○
M3	0.50	3.50	2.70	2.50	56.00	10.00		○	○
M4	0.70	4.50	3.40	3.30	63.00	12.00		○	○
M5	0.80	9.00	4.90	4.20	70.00	14.00		○	○
M6	1.00	9.00	4.90	5.00	80.00	16.00		○	○
M8	1.25	8.00	6.20	6.80	90.00	17.00		○	○
M10	1.50	10.00	8.00	8.50	100.00	20.00		○	○
M12	1.70	9.00	7.00	10.20	110.00	24.00		○	○
M14	2.00	11.00	9.00	12.00	110.00	26.00		○	○
M16	2.00	12.00	9.00	14.00	110.00	26.00		○	○
M18	2.50	14.00	11.00	15.50	125.00	30.00		○	○
M20	2.50	16.00	12.00	17.50	140.00	32.00		○	○
M24	3.00	18.00	14.50	21.00	160.00	36.00		○	○
M30	3.50	22.00	18.00	26.50	180.00	40.00		○	○

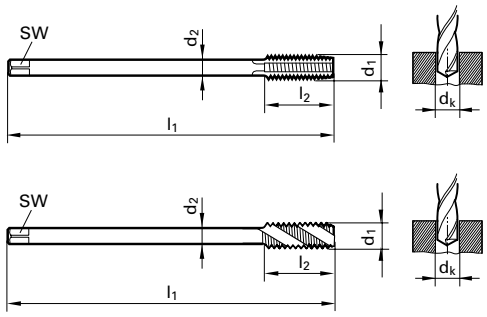
○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo

● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

METRIC LONG SERIES TAPS

THROUGH HOLE | BLIND HOLE

Guhring no.	998	5718
Standard	Guhring std.	
Tool material	HSS-E	
Surface	○	S
Type	N	N
Form	B	C
Cutting direction	right-hand	right-hand
Tolerance	ISO 2 / 6H	ISO 2 / 6H
Application	●	●
Cutting speed m/min	6-10	6-10



d1	P	d2	SW	dk	l1	l2	AVAILABILITY	
mm	mm	mm	mm	mm	mm	mm		
M3	0.50	2.20		2.50	70.00	18.00	•	
M4	0.70	2.80	2.10	3.30	90.00	22.00	•	
M5	0.80	3.50	2.70	4.20	100.00	24.00	•	
M6	1.00	4.50	3.40	5.00	110.00	25.00	•	
M8	1.25	6.00	4.90	6.80	125.00	28.00	•	
M10	1.50	7.00	5.50	8.50	140.00	30.00	•	
M12	1.75	9.00	7.00	10.20	180.00	35.00	•	
M14	2.00	11.00	9.00	12.00	200.00	35.00	•	
M16	2.00	12.00	9.00	14.00	200.00	40.00	•	
M20	2.50	16.00	12.00	17.50	250.00	45.00	•	
M3	0.50	3.50	2.70	2.50	112.00	6.00		•
M4	0.70	2.80	2.10	3.30	112.00	7.50		•
M5	0.80	3.50	2.70	4.20	125.00	8.50		•
M6	1.00	4.50	3.40	5.00	125.00	11.00		•
M8	1.25	6.00	4.90	6.80	140.00	14.00		•
M10	1.50	7.00	5.50	8.50	160.00	16.00		•
M12	1.75	9.00	7.00	10.20	180.00	18.50		•
M16	2.00	12.00	9.00	14.00	220.00	20.00		•
M20	2.50	16.00	12.00	17.50	280.00	25.00		•

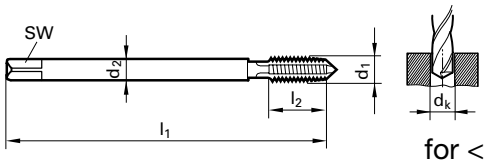
○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo (S) Sirius

● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

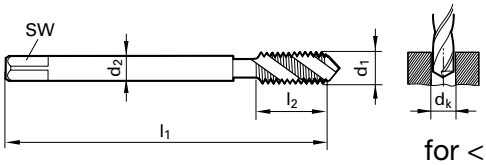
METRIC EXTRA LONG SERIES TAPS

THROUGH HOLE | BLIND HOLE

Guhring no.	4645	4633
Standard	Guhring std.	
Tool material	HSS-E	
Surface	S	A
Type	N	N
Form	B	C
Cutting direction	right-hand	right-hand
Tolerance	ISO 2 / 6HX	ISO 2 / 6HX
Application		
Cutting speed m/min	6-10	6-10



for < 10mm



for < 10mm

d1	P	d2	SW	dk	l1	l2	AVAILABILITY	
mm	mm	mm	mm	mm	mm	mm		
M3	0.50	3.50	2.70	2.50	90.00	10.00	•	
M4	0.70	4.50	3.40	3.30	125.00	12.00	•	
M5	0.80	6.00	490	4.20	140.00	14.00	•	
M6	1.00	6.00	4.90	5.00	160.00	16.00	•	
M8	1.25	8.00	6.20	6.80	180.00	17.00	•	
M10	1.50	10.00	8.00	8.50	200.00	20.00	•	
M12	1.75	9.00	7.00	10.20	220.00	24.00	•	
M14	2.00	11.00	9.00	12.00	220.00	26.00	•	
M16	2.00	12.00	9.00	14.00	220.00	26.00	•	
M20	2.50	16.00	12.00	17.50	280.00	32.00	•	
M3	0.50	3.50	2.70	2.50	90.00	6.00		•
M4	0.70	4.50	3.40	3.30	125.00	7.50		•
M5	0.80	6.00	1.90	4.20	140.00	8.50		•
M6	1.00	6.00	4.90	5.00	160.00	11.00		•
M8	1.25	8.00	6.20	6.80	180.00	14.00		•
M10	1.50	10.00	8.00	8.50	200.00	16.00		•
M12	1.75	9.00	7.00	10.20	220.00	18.50		•
M14	2.00	11.00	9.00	12.00	220.00	20.00		•
M16	2.00	12.00	9.00	14.00	220.00	20.00		•
M20	2.50	16.00	12.00	17.50	280.00	25.00		•

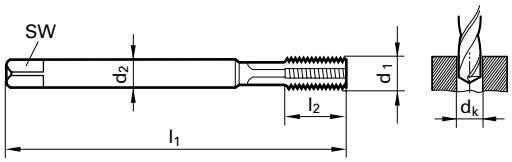
bright | steam tempered | nitrided | P AlCrN | S TiN | C TiCN | Cb Carbo | S Sirius

universal | general steel | tool steel | stainless steel | Aluminium | cast materials

METRIC TAPS, HARDENED MATERIALS <62 HRC

THROUGH HOLE | BLIND HOLE

Guhring no.	2944
Standard	Guhring std.
Tool material	Solid carbide
Surface	C
Type	H
Form	D
Cutting direction	right-hand
Tolerance	ISO 2 / 6H
Application	Hardened Materials
Cutting speed m/min	2-4

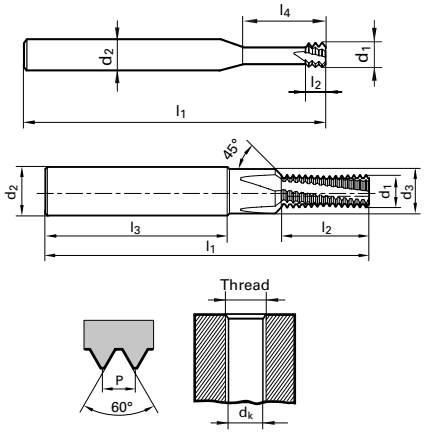


d1	P	d2	SW	dk	l1	l2	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm	
M3	0.50	3.50	2.70	2.60	56.00	12.00	•
M4	0.70	4.50	3.40	3.40	63.00	14.00	•
M5	0.80	6.00	4.90	4.30	70.00	17.00	•
M6	1.00	6.00	4.90	5.10	80.00	20.00	•
M8	1.25	8.00	6.20	6.90	90.00	20.00	•
M10	1.50	10.00	8.00	8.60	100.00	24.00	•
M12	1.75	12.00	9.00	10.40	110.00	28.00	•
M16	2.00	16.00	12.00	14.00	110.00	40.00	○

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo (S) Sirius

● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

Guhring no.	4226	4133
Standard	Guhring std.	Guhring std.
Tool material	Solid carbide	Solid carbide
Carbide grade	K/P	K/P
Surface	S	S
Cutting direction	right-hand	right-hand
Type	SP M	TMSP
Thread length	3 x D	2 x D
Cutting speed m/min	50-100	50-100



4226

4133

Thread	P	d1	d2	l1	l2	l4	Code	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm	no.	
M1.6	0.35	1.20	3.00	39.00	1.10	4.80	**1.600**	•
M1.8	0.35	1.40	3.00	39.00	1.10	5.40	**1.800**	•
M2	0.40	1.55	3.00	39.00	1.20	6.00	**2.000**	•
M2.5	0.45	1.95	3.00	39.00	1.40	7.50	**2.500**	•
M3	0.50	2.40	6.00	58.00	1.50	9.50	**3.000**	•
M3.5	0.60	2.80	6.00	58.00	1.80	11.00	**3.500**	•
M4	0.70	3.20	6.00	58.00	2.10	12.50	**4.000**	•
M5	0.80	4.00	6.00	58.00	2.40	16.00	**5.000**	•
M6	1.00	4.80	6.00	58.00	3.00	20.00	**6.000**	•
M8	1.25	5.95	6.00	58.00	3.80	24.00	**8.000**	•
M10	1.50	7.80	8.00	73.00	4.50	33.00	**10.000**	•
M12	1.75	9.00	10.00	84.00	5.30	38.00	**12.000**	•
M16	2.00	11.80	12.00	84.00	6.00	35.00	**16.000**	○
M20	2.50	15.00	16.00	105.00	7.50	51.00	**20.000**	○
M6	1.00	4.80	6.00	54.00	13.50		**6.000**	•
M8	1.25	6.40	8.00	62.00	18.10		**8.000**	•
M10	1.50	7.95	10.00	74.00	21.80		**10.000**	•
M12	1.75	9.95	10.00	74.00	25.40		**12.000**	•
M14	2.00	11.20	12.00	90.00	31.00		**14.000**	•
M16	2.00	12.80	14.00	90.00	35.00		**16.000**	•
M20	2.50	14.95	16.00	102.00	41.30		**20.000**	•

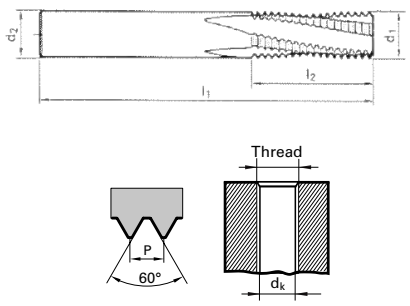
Scan to Download
CNC Guhro Threadmill
Program / Software

bright steam tempered nitrided P AlCrN S TiN C TiCN Cb Carbo S Sirius

universal general steel tool steel stainless steel Aluminium cast materials

THREAD MILLING CUTTER FOR UNC-THREADS

Guhring no.	4128
Standard	Guhring std.
Tool material	Solid carbide
Carbide grade	K/P
Surface	S
Cutting direction	right-hand
Type	TMSP
Thread length	2 x D
Application	●
Cutting speed m/min	50-100



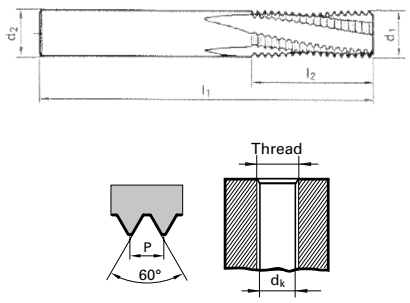
Thread	P	d1	d2	dk	l1	l2	z	Code	AVAILABILITY
inch	inch	mm	mm	mm	mm	mm		no.	
No. 10	24	3.45	6.35	3.91	63.50	11.09	3	**4.826**	○
No. 12	24	4.09	6.35	4.50	63.50	12.19	3	**5.486**	○
1/4	20	4.70	6.35	5.10	63.50	14.60	3	**6.350**	●
5/16	18	6.15	6.35	6.57	63.50	17.60	3	**7.938**	●
3/8	16	7.65	7.95	8.00	63.50	21.41	3	**9.525**	●
7/16	14	8.99	9.52	9.40	76.20	0.965	3	**11.113**	●
1/2	13	9.42	9.52	10.80	76.20	24.51	3	**12.700**	●
9/16	12	11.40	12.70	12.19	95.30	30.70	4	**14.288**	●
5/8	11	12.60	12.70	13.48	95.30	35.78	4	**15.875**	●
3/4	10	15.77	15.87	16.51	108.00	39.40	4	**19.050**	○
7/8	9	15.77	15.87	19.50	108.00	46.60	4	**22.225**	○
1"	8	15.77	15.87	22.25	108.00	49.19	4	**25.400**	○

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo (S) Sirius

● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

THREAD MILLING CUTTER FOR UNF-THREADS

Guhring no.	**4129**
Standard	**Guhring std.**
Tool material	**Solid carbide**
Carbide grade	**K/P**
Surface	S
Cutting direction	**right-hand**
Type	**TMSP**
Thread length	**2 x D**
Application	
Cutting speed m/min	**50-100**



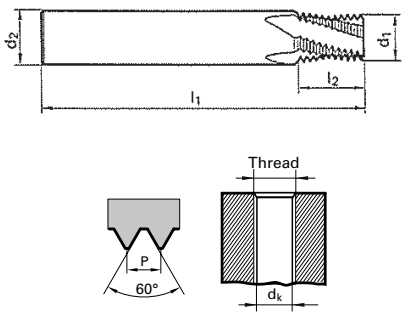
Thread	P	d1	d2	dk	l1	l2	z	Code	AVAILABILITY
inch	inch	mm	mm	mm	mm	mm		no.	
No. 10	32	3.81	6.35	4.08	63.50	11.50	3	**4.826**	○
No. 12	28	4.29	6.35	4.60	63.50	12.19	3	**5.486**	○
1/4	28	5.15	6.35	5.51	63.50	14.09	3	**6.350**	•
5/16	24	6.14	6.35	6.88	63.50	17.50	3	**7.938**	•
3/8	24	7.84	7.95	8.50	63.50	20.60	3	**9.525**	•
7/16	20	9.42	9.52	9.90	76.20	24.79	3	**11.113**	•
1/2	20	9.42	9.52	11.50	76.20	27.30	3	**12.700**	•
9/16	18	11.40	12.70	12.90	95.30	30.30	4	**14.288**	•
5/8	18	12.60	12.70	14.50	108.00	33.19	4	**15.875**	•
3/4	16	15.77	15.87	17.50	108.00	38.88	4	**19.050**	○
7/8	14	15.77	15.87	20.40	108.00	46.30	4	**22.225**	○
1"	12	15.77	15.87	23.24	108.00	45.49	4	**25.400**	○

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo (S) Sirius

● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

THREAD MILLING CUTTER FOR NPT-THREADS

Guhring no.	4130
Standard	Guhring std.
Tool material	Solid carbide
Carbide grade	K/P
Surface	S
Cutting direction	right-hand
Type	TMSP
Thread length	2 x D
Application	
Cutting speed m/min	50-100



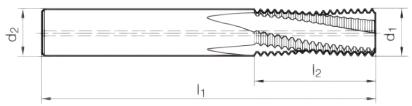
Thread	P	d1	d2	dk	l1	l2	z	Code	AVAILABILITY
inch	inch	mm	mm	mm	mm	mm		no.	
1/16	27	5.41	7.92	6.15	57.15	9.90	3	8.190	○
1/8	27	7.31	7.92	8.50	57.15	9.90	3	10.620	•
1/4	18	9.93	12.70	10.99	82.55	14.80	4	14.140	•
3/8	18	11.20	12.70	14.50	82.55	14.80	4	17.570	•
1/2	14	14.50	15.87	17.85	88.90	18.99	4	21.900	•
1"	11 1/2	17.50	19.05	29.00	95.25	23.19	5	34.180	○

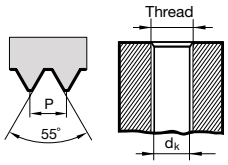
○ bright ○ steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo (S) Sirius

● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

THREAD MILLING CUTTER FOR BSP-THREADS

Guhring no.	3748
Standard	Guhring std.
Tool material	Solid carbide
Carbide grade	K/P
Surface	S
Cutting direction	right-hand
Type	TMSP
Thread length	2 x D
Application	
Cutting speed m/min	50-100





Thread	P	d1	d2	dk	l1	l2	z	Code	AVAILABILITY
inch	inch	mm	mm	mm	mm	mm		no.	
G1/8	28.00	7.95	8.00	8.80	64.00	21.30	3	**9.728**	•
G1/4	19.00	10.50	12.00	11.80	90.00	28.70	4	**13.157**	•
G3/8	19.00	13.60	14.00	15.25	90.00	35.40	4	**16.662**	•

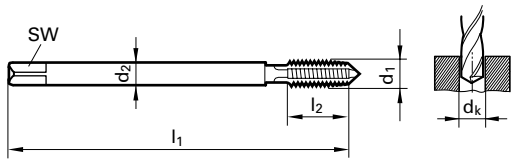
bright steam tempered nitrided P AlCrN S TiN C TiCN Cb Carbo S Sirius

universal general steel tool steel stainless steel Aluminium cast materials

MACHINE TAPS FOR UNC THREADS

THROUGH HOLE

Guhring no.	873	878	5725	4642	3992
Standard	DIN 371	DIN 376	DIN 371	DIN 371+376	DIN/ANSI
Tool material	HSS-E				HSS-E-PM
Surface	bright	bright	steam tempered	Sirius	TiN
Type	N	N	N	VA	N
Form	B	B	B	B	B
Cutting direction	right-hand	right-hand	right-hand	right-hand	right-hand
Tolerance	2B	2B	2B	2BX	2B
Application	general steel	general steel	universal	stainless steel	tool steel
Cutting speed m/min	10-15	10-15	10-15	10-15	10-15

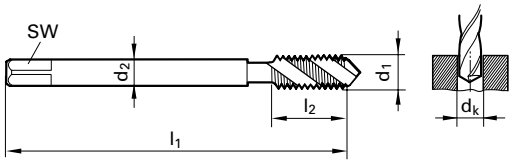


d1	P	d2	SW	dk	l1	l2	Code	873	878	5725	4642	3992
inch	inch	mm	mm	mm	mm	mm	no.	AVAILABILITY				
No.2	56	2.80	2.10	1.85	45.00	9.00	**2.184**	•			•	
No.3	48	2.80	2.10	2.10	50.00	9.00	**2.515**	•				
No.4	40	3.50	2.70	2.35	56.00	11.00	**2.845**	•		•	•	
No.5	40	3.50	2.70	2.65	56.00	11.00	**3.175**	•				
No.6	32	4.00	3.00	2.85	56.00	12.00	**3.505**	•		•	•	
No.8	32	4.50	3.40	3.50	63.00	13.00	**4.166**	•		•	•	
No.10	24	6.00	4.90	3.90	70.00	14.00	**4.826**	•		•	•	
No.12	24	6.00	4.90	4.50	80.00	16.00	**5.486**				•	
1/4	20	7.00	5.50	5.10	80.00	16.00	**6.350**	•		•	•	
5/16	18	8.00	6.20	6.60	90.00	18.00	**7.938**	•		•	•	
3/8	16	10.00	8.00	8.00	100.00	20.00	**9.525**	•		•	•	
7/16	14	8.00	6.20	9.40	100.00	22.00	**11.113**		•	•	•	
1/2	13	9.00	7.00	10.80	110.00	25.00	**12.700**		•	•	•	
9/16	12	11.00	9.00	12.20	110.00	30.00	**14.288**		•		•	
5/8	11	12.00	9.00	13.50	110.00	30.00	**15.875**		•	•	•	
3/4	10	14.00	11.00	16.50	125.00	33.00	**19.050**		•	•	•	
7/8	9	18.00	14.50	19.50	140.00	35.00	**22.225**		•		•	
1"	8	18.00	14.50	22.25	160.00	38.00	**25.400**		•		•	
1 1/8	7	18.00	18.00	25.00	180.00	44.00	**28.575**		•			
1 1/4	7	18.00	18.00	28.00	180.00	44.00	**31.750**		•			
1 1/2	6	28.00	22.00	34.00	200.00	50.00	**38.100**		•			
1/4	20	6.48	4.85	5.10	80.00	16.00	**6.350**					•
5/16	18	8.08	6.05	6.60	90.00	18.00	**7.938**					•
3/8	16	9.68	7.26	8.00	100.00	20.00	**9.525**					•
7/16	14	8.20	6.15	9.40	100.00	22.00	**11.113**					•
1/2	13	9.32	6.99	10.80	110.00	25.00	**12.700**					•
9/16	12	10.90	8.18	12.20	110.00	30.00	**14.288**					•
5/8	11	12.19	9.14	13.50	110.00	30.00	**15.875**					•
3/4	10	14.99	11.23	16.50	125.00	33.00	**19.050**					•
7/8	9	17.70	13.28	19.50	140.00	35.00	**22.225**					•

bright · steam tempered · nitrided · AlCrN · TiN · TiCN · Carbo · Sirius

universal · general steel · tool steel · stainless steel · Aluminium · cast materials

Guhring no.	876	881	5726	391	3993
Standard	DIN 371	DIN 376	DIN 371	DIN 371+376	DIN/ANSI
Tool material	HSS-E				HSS-E-PM
Surface	bright	bright	steam tempered	A	S
Type	N	N	N	VA R45	N
Form	C	C	C	C	C
Cutting direction	right-hand	right-hand	right-hand	right-hand	right-hand
Tolerance	2B	2B	2B	2B	2B
Application	universal, general steel	universal, general steel	universal, general steel	stainless steel	tool steel
Cutting speed m/min	10-15	10-15	10-15	6-12	6-12



d1	P	d2	SW	dk	l1	l2	Code	876	881	5726	391	3993
inch	inch	mm	mm	mm	mm	mm	no.	AVAILABILITY				
No.2	56	2.80	2.10	1.85	45.00	8.00	**2.184**	•			•	
No.3	48	2.80	2.10	2.10	50.00	9.00	**2.515**					
No.4	40	3.50	2.70	2.35	56.00	6.50	**2.845**	•		•	•	
No.5	40	3.50	2.70	2.65	56.00	6.50	**3.175**					
No.6	32	4.00	3.00	2.65	56.00	8.00	**3.505**	•		•	•	
No.8	32	4.50	3.40	3.50	63.00	8.00	**4.166**	•		•	•	
No.10	24	6.00	4.90	3.90	70.00	11.00	**4.826**	•		•	•	
No.12	24	6.00	4.90	4.50	80.00	11.00	**5.486**	•			•	
1/4	20	7.00	5.10	5.10	80.00	13.00	**6.350**	•		•	•	
5/16	18	8.00	6.20	6.60	90.00	14.00	**7.938**	•		•	•	
3/8	16	10.00	7.00	8.00	90.00	16.00	**9.525**	•		•	•	
7/16	14	8.00	6.20	9.40	100.00	18.00	**11.113**		•	•	•	
1/2	13	9.00	7.00	10.75	110.00	20.00	**12.700**		•	•	•	
9/16	12	11.00	9.00	14.00	110.00	21.00	**14.288**		•		•	
5/8	11	12.00	9.00	13.50	110.00	24.00	**15.875**		•	•	•	
3/4	10	14.00	11.00	16.50	125.00	25.00	**19.050**		•	•	•	
7/8	9	18.00	14.50	19.50	140.00	28.00	**22.225**		•		•	
1"	8	18.00	14.50	22.25	160.00	32.00	**25.400**		•		•	
1/4	20	6.48	4.85	5.10	80.00	16.00	**6.350**					•
5/16	18	8.08	6.05	6.60	90.00	18.00	**7.938**					•
3/8	16	9.68	7.26	8.00	100.00	20.00	**9.525**					•
7/16	14	8.20	6.15	9.40	100.00	22.00	**11.113**					•
1/2	13	9.32	6.99	10.80	110.00	25.00	**12.700**					•
9/16	12	10.90	8.18	12.20	110.00	30.00	**14.288**					•
5/8	11	12.19	9.14	13.50	110.00	30.00	**15.875**					•
3/4	10	14.99	11.23	16.50	125.00	33.00	**19.050**					•
7/8	9	17.70	13.28	19.50	140.00	35.00	**22.225**					•

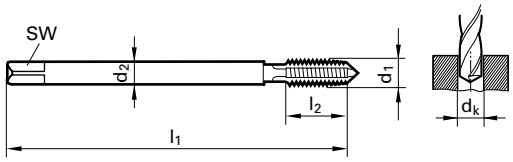
bright · steam tempered · nitrided · P AlCrN · S TiN · C TiCN · Cb Carbo · S Sirius

universal · general steel · tool steel · stainless steel · Aluminium · cast materials

MACHINE TAPS FOR UNF THREADS

THROUGH HOLE

Guhring no.	5727	908	4643	3994
Standard	DIN 374	DIN 374	DIN 371+374	DIN/ANSI
Tool material	HSS-E			HSS-E-PM
Surface			S	S
Type	N	N	VA	N
Form	B	B	B	B
Cutting direction	right-hand	right-hand	right-hand	right-hand
Tolerance	2B	2B	2BX	2B
Application				
Cutting speed m/min	10-15	10-15	6-12	6-12

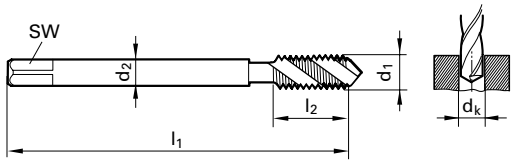


d1 inch	P inch	d2 mm	SW mm	dk mm	l1 mm	l2 mm	Code no.	AVAILABILITY			
No.4	48	2.20		2.40	56.00	10.00	**2.845**	•	•	•	
No.6	40	2.50	2.10	2.95	56.00	11.00	**3.505**	•		•	
No.8	36	2.80	2.10	3.50	63.00	12.00	**4.166**			•	
No.10	32	3.50	2.70	4.10	70.00	14.00	**4.826**	•		•	
No.12	28	6.00	4.90	4.60	80.00	16.00	**5.486**			•	
1/4	28	4.50	3.40	5.50	80.00	16.00	**6.350**	•	•	•	
5/16	24	6.00	4.90	6.90	90.00	18.00	**7.938**		•	•	
3/8	24	7.00	5.50	8.50	90.00	18.00	**9.525**	•	•	•	
7/16	20	8.00	6.20	9.90	100.00	22.00	**11.113**		•	•	
1/2	20	9.00	7.00	11.50	100.00	20.00	**12.700**		•	•	
9/16	18	11.00	9.00	12.90	100.00	22.00	**14.288**		•	•	
5/8	18	12.00	9.00	14.50	100.00	22.00	**15.875**	•	•	•	
3/4	16	14.00	11.00	17.50	110.00	25.00	**19.050**		•	•	
7/8	14	18.00	14.50	20.45	125.00	25.00	**22.225**		•	•	
1	12	18.00	14.50	23.25	140.00	28.00	**25.400**		•	•	
1 1/8	12	22.00	18.00	26.50	150.00	28.00	**28.575**		•		
1 1/4	12	22.00	18.00	29.50	150.00	28.00	**31.750**		•		
1 1/2	12	28.00	22.00	36.00	170.00	30.00	**38.100**				
1/4	28	6.48	4.85	5.10	80.00	16.00	**6.350**				•
5/16	24	8.08	6.05	6.60	90.00	18.00	**7.938**				•
3/8	24	9.68	7.26	8.00	100.00	20.00	**9.525**				•
7/16	20	8.20	6.15	9.40	100.00	22.00	**11.113**				•
1/2	20	9.32	6.99	10.80	110.00	25.00	**12.700**				•
9/16	18	10.90	8.18	12.20	110.00	30.00	**14.288**				•
5/8	18	12.19	9.14	13.50	110.00	30.00	**15.875**				•
3/4	16	14.99	11.23	16.50	125.00	33.00	**19.050**				•
7/8	14	17.70	13.28	19.50	140.00	35.00	**22.225**				•

bright · steam tempered · nitrided · P AlCrN · S TiN · C TiCN · Cb Carbo · S Sirius

universal · general steel · tool steel · stainless steel · Aluminium · cast materials

Guhring no.	5728	911	392	3995
Standard	DIN 374			DIN/ANSI
Tool material	HSS-E			HSS-E-PM
Surface			A	S
Type	N	N	VA R45	N
Form	C	C	C	C
Cutting direction	right-hand	right-hand	right-hand	right-hand
Tolerance	2B	2B	2BX	2B
Application				
Cutting speed m/min	10-15	10-15	6-12	6-12



d1	P	d2	SW	dk	l1	l2	Code	AVAILABILITY			
inch	inch	mm	mm	mm	mm	mm	no.				
No.4	48	2.20		2.40	56.00	6.00	**2.845**	•		•	
No.6	40	2.50	2.10	2.95	56.00	11.00	**3.505**	•		•	
No.8	36	2.80	2.10	3.50	63.00	10.00	**4.166**		•	•	
No.10	32	3.50	2.70	4.10	70.00	12.00	**4.826**	•	•	•	
No.12	28	6.00	4.90	4.60	80.00	9.50	**5.486**		○	•	
1/4	28	4.50	3.40	5.50	80.00	14.00	**6.350**	•	•	•	
5/16	24	6.00	4.90	6.90	90.00	18.00	**7.938**		•	•	
3/8	24	7.00	5.50	8.50	90.00	18.00	**9.525**	•	•	•	
7/16	20	8.00	6.20	9.90	90.00	18.00	**11.113**		•	•	
1/2	20	9.00	7.00	11.50	100.00	20.00	**12.700**		•	•	
9/16	18	11.00	9.00	12.90	100.00	22.00	**14.288**		•	•	
5/8	18	12.00	9.00	14.50	100.00	22.00	**15.875**	•	•	•	
3/4	16	14.00	11.00	17.50	110.00	25.00	**19.050**		•	•	
7/8	14	18.00	14.50	20.40	125.00	25.00	**22.225**		•	•	
1	12	18.00	14.50	23.25	140.00	28.00	**25.400**		•	○	
1/4	28	6.48	4.85	5.10	80.00	16.00	**6.350**				•
5/16	24	8.08	6.05	6.60	90.00	18.00	**7.938**				•
3/8	24	9.68	7.26	8.00	100.00	20.00	**9.525**				•
7/16	20	8.20	6.15	9.40	100.00	22.00	**11.113**				•
1/2	20	9.32	6.99	10.80	110.00	25.00	**12.700**				•
9/16	18	10.90	8.18	12.20	110.00	30.00	**14.288**				•
5/8	18	12.19	9.14	13.50	110.00	30.00	**15.875**				•
3/4	16	14.99	11.23	16.50	125.00	33.00	**19.050**				•
7/8	14	17.70	13.28	19.50	140.00	35.00	**22.225**				•

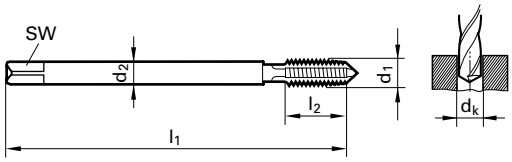
○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo (S) Sirius

● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

MACHINE TAPS FOR BSP THREADS

THROUGH HOLE

Guhring no.	5731	962	4220
Standard	DIN 5156		
Tool material	HSS-E		
Surface	steam tempered	bright	Sirius
Cutting direction	right-hand	right-hand	right-hand
Type	N	VA	VA
Form	B	B	B
Application	general steel	universal	stainless steel
Cutting speed m/min	8-10	10-15	8-10



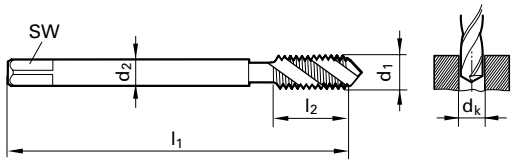
d1 inch	P inch	d2 mm	SW mm	dk mm	l1 mm	l2 mm	Code no.	5731	962	4220
G1/16	28	6.00	4.90	6.80	90.00	18.00	**7.723**			•
G1/8	28	7.00	5.50	8.80	90.00	18.00	**9.728**	•	•	•
G1/4	19	11.00	9.00	11.80	100.00	20.00	**13.157**	•	•	•
G3/8	19	12.00	9.00	15.25	100.00	22.00	**16.662**	•	•	•
G1/2	14	16.00	12.00	19.00	125.00	25.00	**20.955**	•	•	•
G5/8	14	18.00	14.50	21.00	125.00	25.00	**22.911**			•
G3/4	14	20.00	16.00	24.50	140.00	28.00	**26.441**	•	•	•
G7/8	14	22.00	18.00	28.25	150.00	22.00	**30.201**			○
G 1”	11	25.00	20.00	30.75	160.00	30.00	**33.249**	•		•

AVAILABILITY

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo (S) Sirius

● ● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

Guhring no.	5732	965	395
Standard	DIN 5156		
Tool material	HSS-E		
Surface			A
Cutting direction	right-hand	right-hand	right-hand
Type	N	N	VA R45
Form	C	C	C
Application			
Cutting speed m/min	8-10	10-15	8-10



d1 inch	P inch	d2 mm	SW mm	dk mm	l1 mm	l2 mm	Code no.	AVAILABILITY		
G1/16	28	6.00	4.90	6.80	90.00	11.00	**7.723**			•
G1/8	28	7.00	5.50	8.80	90.00	11.00	**9.728**	•	•	•
G1/4	19	11.00	9.00	11.80	100.00	14.00	**13.157**	•	•	•
G3/8	19	12.00	9.00	15.25	100.00	14.00	**16.662**	•	•	•
G1/2	14	16.00	12.00	19.00	125.00	18.00	**20.955**	•	•	•
G5/8	14	18.00	14.50	21.00	125.00	18.00	**22.911**			•
G3/4	14	20.00	16.00	24.50	140.00	20.00	**26.441**	•	•	•
G7/8	14	22.00	18.00	28.25	150.00	22.00	**30.201**			○
G 1”	11	25.00	20.00	30.75	160.00	24.00	**33.249**	•	•	•

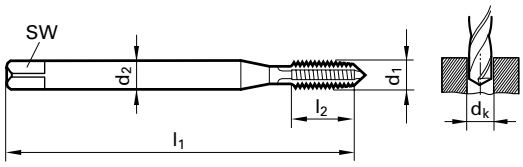
bright steam tempered nitrided P AlCrN S TiN C TiCN Cb Carbo A TiAlN

universal general steel tool steel stainless steel Aluminium cast materials

MACHINE TAPS FOR BSW THREADS

THROUGH HOLE

Guhring no.	2892	2893	4680
Standard	DIN 371	DIN 376	DIN 376
Tool material	HSS-E		
Surface			S
Type	N	N	N
Form	B	B	B
Cutting direction	right-hand	right-hand	right-hand
Application			
Cutting speed m/min	10-15	10-15	10-15



NEW

d1 inch	P inch	d2 mm	SW mm	dk mm	l1 mm	l2 mm	Code no.	2892	2893	4680
W1/8	40	3.50	2.70	2.50	56.00	11.00	**3.175**	•		•
W5/32	32	4.50	3.40	3.20	63.00	13.00	**3.969**	•		•
W3/16	24	6.00	4.90	3.60	70.00	11.00	**4.762**	•		•
W1/4	20	7.00	5.50	5.10	80.00	13.00	**6.350**	•		•
W5/16	18	8.00	6.20	6.50	90.00	14.00	**7.938**	•		•
W3/8	16	10.00	8.00	7.90	100.00	20.00	**9.525**	•		•
W7/16	14	8.00	6.20	9.20	100.00	22.00	**11.113**		•	
W1/2	12	9.00	7.00	10.50	110.00	25.00	**12.700**		•	•
W9/16	12	11.00	9.00	12.00	110.00	30.00	**14.287**		•	
W5/8	11	12.00	9.00	13.50	110.00	30.00	**15.876**		•	•
W3/4	10	14.00	11.00	16.25	125.00	33.00	**19.051**		•	•
W7/8	9	18.00	14.50	19.25	140.00	35.00	**22.226**			•
W1	8	18.00	14.50	22.00	160.00	38.00	**25.401**		•	○

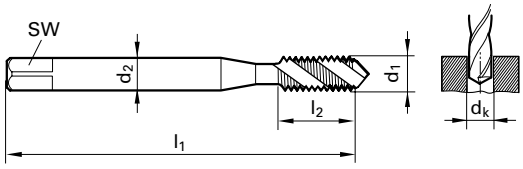
AVAILABILITY

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo

● ● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

Guhring no.	2847	2848	4679
Standard	DIN 371	DIN 376	
Tool material	HSS-E		
Surface			A
Type	N	N	N
Form	C	C	C
Cutting direction	right-hand	right-hand	right-hand
Application			
Cutting speed m/min	10-15	10-15	10-15

NEW



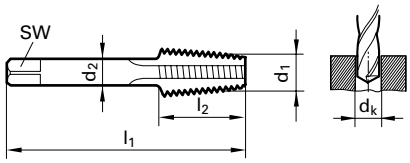
d1 inch	P inch	d2 mm	SW mm	dk mm	l1 mm	l2 mm	Code no.	AVAILABILITY		
W1/8	40	3.50	2.70	2.50	56.00	7.00	**3.175**	•		•
W3/16	24	6.00	4.90	3.60	70.00	11.00	**4.762**	•		•
W1/4	20	7.00	5.50	5.10	80.00	13.00	**6.350**	•		•
W5/16	18	8.00	6.20	6.50	90.00	14.00	**7.938**	•		•
W3/8	16	10.00	8.00	7.90	100.00	16.00	**9.525**	•		•
W3/8	16	7.00	5.50	7.90	100.00	16.00	**9.525**		•	•
W7/16	14	8.00	9.20	9.20	100.00	18.00	**11.113**		•	•
W1/2	12	9.00	10.50	10.50	110.00	20.00	**12.700**		•	•
W9/16	12	11.00	12.00	12.00	110.00	21.00	**14.287**		•	
W5/8	11	12.00	13.50	13.50	110.00	24.00	**15.876**		•	•
W3/4	10	14.00	16.25	16.25	125.00	25.00	**19.051**		•	•
W7/8	9	18.00	19.25	19.25	140.00	38.00	**22.226**		•	•
W1	8	18.00	22.00	22.00	160.00	32.00	**25.401**			○

bright steam tempered nitrided P AlCrN S TiN C TiCN Cb Carbo

universal general steel tool steel stainless steel Aluminium cast materials

Guhring no.	5007	4683
Standard	Guhring std.	
Tool material	HSS-E	HSS-PM
Surface	○	A
Cutting direction	right-hand	right-hand
Tolerance		
Application	●	●
Cutting speed m/min	5-10	5-10

NEW

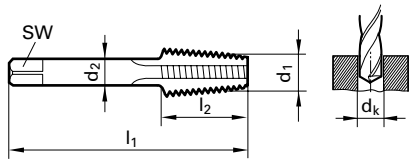


d1 inch	P inch	d2 mm	SW mm	dk mm	l1 mm	l2 mm	Code no.	AVAILABILITY	
1/8	28	7.00	5.50	8.40	63.00	15.00	**9.728**	• 302617274	
1/4	19	11.00	9.00	11.20	63.00	21.00	**13.157**	• 302617275	
3/8	19	12.00	9.00	14.75	70.00	21.00	**16.662**	• 302617276	
1/2	14	16.00	12.00	18.25	80.00	27.00	**20.955**	• 302617277	
3/4	14	20.00	16.00	23.75	100.00	27.00	**26.441**	• 302617278	
1	11	25.00	20.00	30.00	110.00	32.00	**33.249**	• 302617279	
Rc1/8	**28**	7.00	5.50	8.40	**90.00**	**35.00**	**9.728**		•
Rc1/4	**19**	11.00	9.00	11.20	**100.00**	**40.00**	**13.157**		•
Rc3/8	**19**	12.00	9.00	14.75	**100.00**	**44.00**	**16.662**		•
Rc1/2	**14**	16.00	12.00	18.25	**125.00**	**44.00**	**20.955**		•
Rc3/4	**14**	20.00	16.00	23.75	**140.00**	**53.00**	**26.441**		•
Rc1	**11**	25.00	20.00	30.00	**140.00**	**56.00**	**33.249**		•

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo

● ● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

Guhring no.	973	1088
Standard	Guhring std.	
Tool material	HSS-E	
Surface	○	S
Type	N	VA
Form	C	C
Cutting direction	right-hand	right-hand
Application	●	●
Cutting speed m/min	5-10	3-8



d1	P	d2	SW	dk	l1	l2	Code	AVAILABILITY	
inch	inch	mm	mm	mm	mm	mm	no.		
1/16	27	6.00	4.90	6.15	56.00	14.00	8.190	•	
1/8	27	7.00	5.50	8.40	63.00	15.00	10.620	•	
1/4	18	11.00	9.00	11.10	63.00	21.00	14.140	•	
3/8	18	12.00	9.00	14.30	70.00	21.00	17.570	•	
1/2	14	16.00	12.00	17.90	80.00	27.00	21.900	•	
3/4	14	20.00	16.00	23.30	100.00	27.00	27.230	•	
1	11.5	25.00	20.00	29.00	110.00	32.00	34.180	•	
1 1/4	11.5	32.00	24.00	37.70	125.00	33.00	42.900	•	
1 1/2	11.5	36.00	29.00	43.70	140.00	33.00	48.940	•	
2	11.5	36.00	29.00	55.60	160.00	33.00	61.000	•	
1/16	27	8.00	6.20	6.25	90.00	14.00	8.190		○
1/8	27	11.00	9.00	8.50	90.00	15.00	10.620		•
1/4	18	14.00	11.00	11.20	100.00	21.00	14.140		•
3/8	18	16.00	12.00	14.40	110.00	21.00	17.570		•
1/2	14	18.00	14.50	18.00	125.00	27.00	21.900		•
3/4	14	22.00	18.00	23.40	140.00	27.00	27.230		•
1	11.5	25.00	20.00	29.10	170.00	32.00	34.180		○

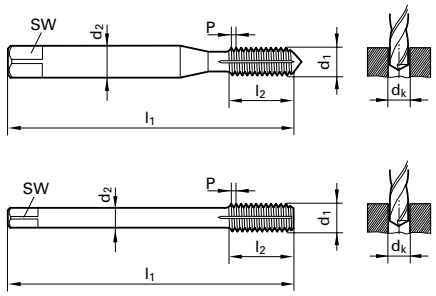
○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo

● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

FLUTELESS MACHINE TAPS FOR METRIC THREADS
(THREAD FORMERS)

THROUGH HOLE | BLIND HOLE

Guhring no.	782	793	5598	5599
Standard	DIN 371	DIN 371	DIN 371	DIN 376
Tool material	HSS-E			
Surface	bright	bright	S	S
Type	N	N	N	N
Form	C	C	C	C
Cutting direction	right-hand	right-hand	right-hand	right-hand
Tolerance	6HX	6HX	6HX	6HX
Application	universal	universal	universal	universal
Cutting speed m/min	12-18	12-18	10-15	10-15



d1	P	d2	SW	dk	l1	l2	782	793	5598	5599
mm	mm	mm	mm	mm	mm	mm				
M1	0.25	2.50	2.10	0.90	40.00	4.00				
M1.2	0.25	2.50	2.10	1.10	40.00	4.80				
M1.4	0.30	2.50	2.10	1.28	40.00	5.60				
M1.6	0.35	2.50	2.10	1.46	40.00	6.40				
M1.7	0.35	2.50	2.10	1.55	40.00	6.80				
M1.8	0.35	2.50	2.10	1.66	40.00	7.20				
M2	0.40	2.80	2.10	1.80	45.00	8.00	•			
M2.5	0.45	2.80	2.10	2.30	50.00	9.00	•			
M3	0.50	3.50	2.70	2.80	56.00	10.00		•	•	
M3.5	0.60	4.00	3.00	3.25	56.00	12.00		•		
M4	0.70	4.50	3.40	3.70	63.00	12.00		•	•	
M5	0.80	6.00	4.90	4.65	70.00	14.00		•	•	
M6	1.00	6.00	4.90	5.55	80.00	16.00		•	•	
M8	1.25	8.00	6.20	7.40	90.00	18.00		•	•	
M10	1.50	10.00	8.00	9.25	100.00	20.00		•	•	
M12	1.75	9.00	7.00	11.25	110.00	24.00				•
M14	2.00	11.00	9.00	13.10	110.00	26.00				•
M16	2.00	12.00	9.00	15.10	110.00	26.00				•

AVAILABILITY

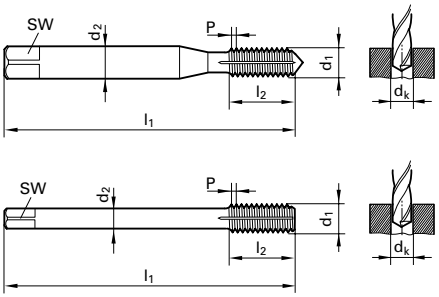
bright | steam tempered | nitrided | AlCrN | TiN | TiCN | Carbo | Sirius

universal | general steel | tool steel | stainless steel | Aluminium | cast materials

FLUTELESS MACHINE TAPS FOR METRIC THREADS
(THREAD FORMERS)

THROUGH HOLE | BLIND HOLE

Guhring no.	4487	4676	1587	1589	4485
Standard	DIN 371	DIN 371	DIN 371	DIN 376	DIN 371+376
Tool material	HSS-E-PM	HSS-E			HSS-E-PM
Surface	C	Cb	P	P	C
Type	N	N	N	N	N
Form	C	C	C	C	C
Cutting direction	right-hand	right-hand	right-hand	right-hand	right-hand
Tolerance	4HX / 6HX	6HX	6HX	6HX	6HX
Application					
Cutting speed m/min	6-30	12-18	6-12	6-12	6-12



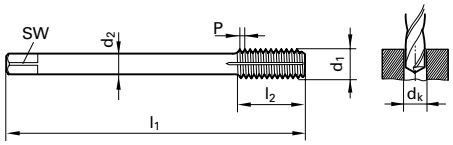
d1	P	d2	SW	dk	l1	l2	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm	
M1	0.25	2.50	2.10	0.90	40.00	4.00	•
M1.2	0.25	2.50	2.10	1.10	40.00	4.80	•
M1.4	0.30	2.50	2.10	1.25	40.00	5.60	•
M1.6	0.35	2.50	2.10	1.45	40.00	6.40	•
M1.7	0.35	2.50	2.10	1.55	40.00	6.80	○
M1.8	0.35	2.50	2.10	1.65	40.00	7.30	•
M2	0.40	2.80	2.10	1.85	45.00	8.00	•
M2.5	0.45	2.80	2.10	2.30	50.00	9.00	•
M3	0.50	3.50	2.70	2.80	56.00	10.00	•
M4	0.70	4.50	3.40	3.70	63.00	12.00	•
M5	0.80	6.00	4.90	4.65	70.00	14.00	• •
M6	1.00	6.00	4.90	5.55	80.00	16.00	• •
M8	1.25	8.00	6.20	7.40	90.00	17.00	• •
M10	1.50	10.00	8.00	9.30	100.00	20.00	• •
M12	1.75	9.00	7.00	11.20	110.00	24.00	• •
M14	2.00	11.00	9.00	13.10	110.00	26.00	• •
M16	2.00	12.00	9.00	15.10	110.00	26.00	• •
M20	2.50	16.00	12.00	18.90	140.00	32.00	○ ○
M2	0.40	2.80	2.10	1.85	45.00	8.00	•
M2.5	0.45	2.80	2.10	2.30	50.00	9.00	•
M3	0.50	3.50	2.70	2.80	56.00	10.00	• •
M4	0.70	4.50	3.40	3.70	63.00	12.00	• •
M5	0.80	6.00	4.90	4.65	70.00	14.00	• •
M6	1.00	6.00	4.90	5.55	80.00	16.00	• •
M8	1.25	8.00	6.20	7.40	90.00	18.00	• •
M10	1.50	10.00	8.00	9.30	100.00	20.00	• •
M12	1.75	9.00	7.00	11.20	110.00	24.00	• •
M14	2.00	11.00	9.00	13.10	110.00	26.00	•
M16	2.00	12.00	9.00	15.10	110.00	26.00	• •
M20	2.500	16.00	12.00	18.90	140.00	32.00	○

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo (S) Sirius

● ● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

FLUTELESS MACHINE TAPS FOR ISO METRIC FINE THREADS
(THREAD FORMERS)

Guhring no.	4489
Standard	DIN 374
Tool material	HSS-E-PM
Surface	C
Type	N
Form	C
Cutting direction	right-hand
Tolerance	6HX
Application	
Cutting speed m/min	10-15



d1	P	d2	SW	dk	l1	l2	l5	Code	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm	mm	no.	
M3	0.35	2.20	1.80	2.85	56.00	7.00	18.00	3.002	○
M4	0.35	2.80	2.10	3.85	63.00	8.00	21.00	4.002	○
M4	0.50	2.80	2.10	3.80	63.00	8.00	21.00	4.003	○
M5	0.50	3.50	2.70	4.80	70.00	10.00	25.00	5.003	○
M6	0.50	4.50	3.40	5.75	80.00	13.00	30.00	6.003	○
M6	0.75	4.50	3.40	5.65	80.00	13.00	30.00	6.004	○
M8	0.75	6.00	4.90	7.65	80.00	14.00	30.00	8.004	○
M9	1.00	7.00	5.50	8.55	80.00	16.00	35.00	9.005	○
M10	0.75	7.00	5.50	9.65	90.00	16.00	35.00	10.004	○
M10	1.00	7.00	5.50	9.55	90.00	16.00	35.00	10.005	○
M10	1.25	7.00	5.50	9.40	90.00	20.00	39.00	10.006	○
M11	1.00	8.00	6.20	10.55	100.00	20.00	33.00	11.005	○
M12	1.00	9.00	7.00	11.55	100.00	20.00	40.00	12.005	○
M12	1.25	9.00	7.00	11.40	100.00	20.00	40.00	12.006	○
M12	1.50	9.00	7.00	11.30	100.00	20.00	40.00	12.007	○
M14	1.00	11.00	9.00	13.55	100.00	20.00	40.00	14.005	○
M14	1.25	11.00	9.00	13.40	100.00	20.00	40.00	14.006	○
M14	1.50	11.00	9.00	13.30	100.00	20.00	40.00	14.007	○
M16	1.00	12.00	9.00	15.55	100.00	20.00	40.000	16.005	○
M16	1.50	12.00	9.00	15.30	100.00	22.00	44.00	16.007	○
M18	1.00	14.00	9.00	17.55	100.00	22.00	44.00	18.005	○
M18	1.50	14.00	11.00	17.30	110.00	25.00	44.00	18.007	○
M18	2.00	14.00	11.00	17.10	125.00	25.00	44.00	18.008	○
M20	1.00	16.00	12.00	19.55	125.00	30.00	58.00	20.005	○
M20	1.50	16.00	12.00	19.30	125.00	25.00	44.00	20.007	○
M20	2.00	16.00	12.00	19.10	140.00	32.00	60.00	20.008	○
M22	1.00	18.00	14.50	21.55	140.00	25.00	44.00	22.005	○
M22	1.50	18.00	14.50	21.30	125.00	25.00	44.00	22.007	○
M22	2.00	18.00	14.50	21.10	125.00	32.00	62.00	22.008	○
M24	1.00	18.00	14.50	23.55	140.00	28.00	48.00	24.005	○
M24	1.50	18.00	14.50	23.30	140.00	28.00	48.00	24.007	○
M24	2.00	18.00	14.50	23.10	140.00	28.00	48.00	24.008	○

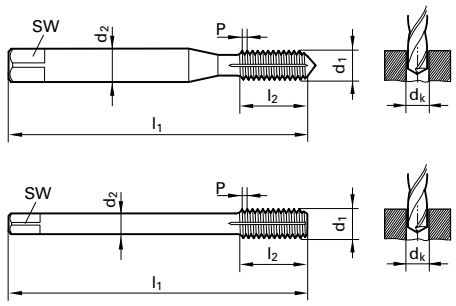
bright · steam tempered · nitrided · P AlCrN · S TiN · C TiCN · Cb Carbo · S Sirius

universal · general steel · tool steel · stainless steel · Aluminium · cast materials

FLUTELESS MACHINE TAPS FOR UNC THREADS
(THREAD FORMERS)

THROUGH HOLE | BLIND HOLE

Guhring no.	4491
Standard	DIN 371 / DIN 376
Tool material	HSS-E-PM
Surface	C
Type	N
Form	C
Cutting direction	right-hand
Tolerance	2BX
Application	
Cutting speed m/min	6-30



d1	P	d2	SW	dk	l1	l2	Code	AVAILABILITY
inch	inch	mm	mm	mm	mm	mm	no.	
No.4	40	3.50	2.70	2.55	56.00	11.00	**2.845**	•
No.6	32	4.00	3.00	3.15	56.00	12.00	**3.505**	•
No.8	32	4.50	3.40	3.80	63.00	12.00	**4.166**	•
No.10	24	6.00	4.90	4.35	70.00	14.00	**4.826**	•
No.12	24	6.00	4.90	5.00	80.00	16.00	**5.486**	•
1/4	20	7.00	5.50	5.75	80.00	16.00	**6.350**	•
5/16	18	8.00	6.20	7.30	90.00	18.00	**7.938**	•
3/8	16	10.00	8.00	8.80	90.00	20.00	**9.525**	•
7/16	14	8.00	6.20	10.30	100.00	22.00	**11.113**	•
1/2	13	9.00	7.00	11.80	100.00	25.00	**12.700**	•
9/16	12	11.00	9.00	13.30	100.00	28.00	**14.288**	•
5/8	11	12.00	9.00	14.80	100.00	30.00	**15.875**	•
3/4	10	14.00	11.00	17.90	110.00	33.00	**19.050**	•

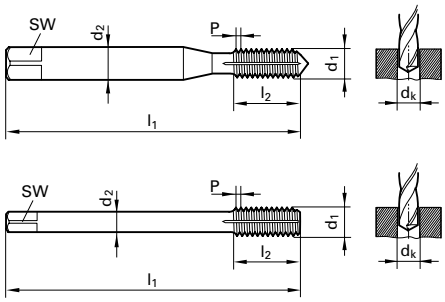
bright | steam tempered | nitrided | AlCrN | TiN | TiCN | Carbo | Sirius

universal | general steel | tool steel | stainless steel | Aluminium | cast materials

FLUTELESS MACHINE TAPS FOR UNF THREADS
(THREAD FORMERS)

THROUGH HOLE | BLIND HOLE

Guhring no.	4492
Standard	DIN 371 / DIN 374
Tool material	HSS-E-PM
Surface	C
Type	N
Form	C
Cutting direction	right-hand
Tolerance	2BX
Application	
Cutting speed m/min	6-30



d1	P	d2	SW	dk	l1	l2	Code	AVAILABILITY
inch	inch	mm	mm	mm	mm	mm	no.	
No.4	48	3.50	2.70	2.60	56.00	10.00	**2.845**	•
No.6	40	4.00	3.00	3.20	56.00	11.00	**3.505**	•
No.8	36	4.50	3.40	3.85	63.00	12.00	**4.166**	•
No.10	32	6.00	4.90	4.45	70.00	14.00	**4.826**	•
No.12	28	6.00	4.90	5.10	80.00	16.00	**5.486**	•
1/4	28	7.00	5.50	5.95	80.00	16.00	**6.350**	•
5/16	24	8.00	6.20	7.45	90.00	18.00	**7.938**	•
3/8	24	10.00	8.00	9.05	100.00	18.00	**9.525**	•
7/16	20	8.00	6.20	10.55	100.00	22.00	**11.113**	•
1/2	20	9.00	7.00	12.10	100.00	20.00	**12.700**	•
9/16	18	11.00	9.00	13.65	100.00	22.00	**14.288**	•
5/8	18	12.00	9.00	15.25	100.00	22.00	**15.875**	•
3/4	16	14.00	11.00	18.35	110.00	25.00	**19.050**	•

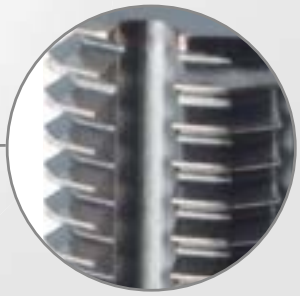
bright | steam tempered | nitrided | AlCrN | TiN | TiCN | Carbo | Sirius

universal | general steel | tool steel | stainless steel | Aluminium | cast materials

Pionex

the new generation ***FLUTELESS MACHINE TAPS***

A special surface finish treatment in combination with the TiCN-coating ensures increased wear-resistance.



Optimised polygon form

Based to a geometric modification the contact surface between tool and functionality area could be optimised. This reduced torque by up to 30 %.

Tool material

Increased wear-resistance thanks to the application of a new powder metallurgical base material.

Shank tolerance h6

Due to the shank tolerance h6 the new fluteless tap generation can be applied in all standard clamping chucks.

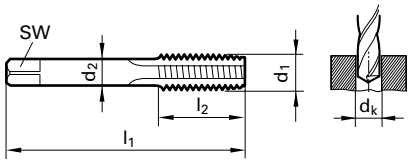
New lubricating groove geometry

Thanks to the optimised lubricating grooves the lubricating effect has been clearly improved in the forming lead area.

HAND TAPS FOR METRIC THREADS
(SERIES TAPS)

THROUGH HOLE | BLIND HOLE

Guhring no.	861	862	863	864
Standard	DIN 352			
Tool material	HSS			
Surface	○	○	○	○
Type	N	N	N	N
Description	Set of taps	First	Second	Bottoming
Cutting direction	right-hand	right-hand	right-hand	right-hand
Tolerance	ISO 2 / 6H	ISO 2 / 6H	ISO 2 / 6H	ISO 2 / 6H



FIRST AND SECOND TAP IS UNDERSIZE | UNDERSIZE | UNDERSIZE

d1	P	d2	SW	dk	l1	l2	AVAILABILITY			
mm	mm	mm	mm	mm	mm	mm				
M3	0.50	3.50	2.70	2.50	40.00	10.00	•	•	•	•
M4	0.70	4.50	3.40	3.30	45.00	12.00	•	•	•	•
M5	0.80	6.00	4.90	4.20	50.00	14.00	•	•	•	•
M6	1.00	6.00	4.90	5.00	56.00	16.00	•	•	•	•
M8	1.25	6.00	4.90	6.80	63.00	17.00	•	•	•	•
M10	1.50	7.00	5.50	8.50	70.00	20.00	•	•	•	•
M12	1.75	9.00	7.00	10.20	75.00	24.00	•	•	•	•
M14	2.00	11.00	9.00	12.00	80.00	26.00	•	•	•	•
M16	2.00	12.00	9.00	14.00	80.00	26.00	•	•	•	•
M18	2.50	14.00	11.00	15.50	95.00	30.00	•	•	•	•
M20	2.50	16.00	12.00	17.50	95.00	32.00	•	•	•	•
M24	3.00	18.00	14.50	21.00	110.00	36.00	•	•	•	•

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo

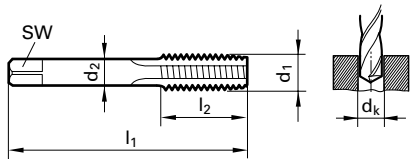
● ● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

HAND TAPS FOR UNC THREADS
(SERIES TAPS)

THROUGH HOLE | BLIND HOLE

Guhring no.	981	984
Standard	DIN 352	
Tool material	HSS	
Surface	○	○
Type	N	N
Description	Set of taps	Bottoming
Cutting direction	right-hand	right-hand
Tolerance	2B	2B

FIRST AND SECOND TAP IS UNDERSIZE



d1 inch	P inch	d2 mm	SW mm	dk mm	l1 mm	l2 mm	Code no.	AVAILABILITY 981	AVAILABILITY 984
No.4	40	3.50	2.70	2.35	40.00	11.00	**2.845**		•
No.5	40	4.00	3.00	2.65	40.00	11.00	**3.175**		•
No.6	32	4.00	3.00	2.85	45.00	12.00	**3.505**	•	•
No.8	32	4.50	3.40	3.50	45.00	13.00	**4.166**	•	•
No.10	24	6.00	4.90	3.90	50.00	14.00	**4.826**	•	•
1/4	20	6.00	4.90	5.10	56.00	16.00	**6.350**	•	•
5/16	18	6.00	4.90	6.60	63.00	18.00	**7.938**	•	•
3/8	16	7.00	5.50	8.00	70.00	20.00	**9.525**	•	•
7/16	14	8.00	6.20	9.40	70.00	22.00	**11.113**	•	•
1/2	13	9.00	7.00	10.80	75.00	25.00	**12.700**	•	•
9/16	12	11.00	9.00	12.20	80.00	30.00	**14.288**	•	•
5/8	11	12.00	9.00	13.50	80.00	30.00	**15.875**	•	•
3/4	10	16.00	12.00	16.50	95.00	33.00	**19.050**	•	•
7/8	9	18.00	14.50	19.50	100.00	25.00	**22.225**		•
1	8	18.00	14.50	22.25	110.00	38.00	**25.400**	•	
1 1/8	7	22.00	18.00	25.00	125.00	44.00	**28.575**		•
2	4.5	40.00	32.00	45.00	180.00	65.00	**50.800**		•

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo

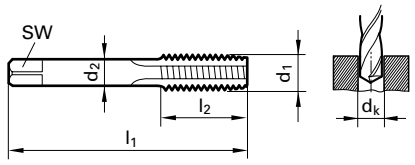
● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

HAND TAPS FOR UNF THREADS
(SERIES TAPS)

THROUGH HOLE | BLIND HOLE

Guhring no.	985	987
Standard	DIN 2181	
Tool material	HSS	
Surface	○	○
Type	N	N
Description	Set of taps	Bottoming
Cutting direction	right-hand	right-hand
Tolerance	2B	2B

FIRST TAP IS UNDERSIZE



d1 inch	P inch	d2 mm	SW mm	dk mm	l1 mm	l2 mm	Code no.	AVAILABILITY	
No.10	32	6.00	4.90	4.10	50.00	14.00	**4.826**	•	•
1/4	28	6.00	4.90	5.50	56.00	17.00	**6.350**	•	•
5/16	24	6.00	4.90	6.90	63.00	17.00	**7.938**	•	•
3/8	24	7.00	5.50	8.50	63.00	18.00	**9.525**	•	•
7/16	20	8.00	6.20	9.90	70.00	20.00	**11.113**	•	•
1/2	20	9.00	7.00	11.50	70.00	20.00	**12.700**	•	•
5/8	18	12.00	9.00	14.50	70.00	20.00	**15.875**	•	•

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo

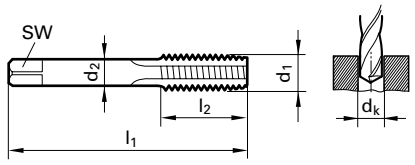
● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

HAND TAPS FOR BSW THREADS
(SERIES TAPS)

THROUGH HOLE | BLIND HOLE

Guhring no.	954	957
Standard	DIN 352	
Tool material	HSS	
Surface	○	○
Type	N	N
Description	Set of taps	Bottoming
Cutting direction	right-hand	right-hand
Tolerance		

FIRST AND SECOND TAP IS UNDERSIZE



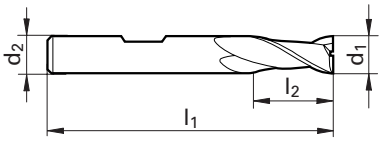
d1 inch	P inch	d2 mm	SW mm	dk mm	l1 mm	l2 mm	Code no.	AVAILABILITY	
W3/16	24	6.00	4.90	3.60	50.00	14.00	**4.762**		•
W1/4	20	6.00	4.90	5.10	56.00	16.00	**6.350**	•	•
W5/16	18	6.00	4.90	6.50	63.00	18.00	**7.938**	•	•
W3/8	16	7.00	5.50	7.90	70.00	20.00	**9.525**	•	•
W1/2	12	9.00	7.00	10.50	75.00	25.00	**12.700**	•	•

○ bright ● steam tempered ● nitrided (P) AlCrN (S) TiN (C) TiCN (Cb) Carbo

● universal ● general steel ● tool steel ● stainless steel ● Aluminium ● cast materials

MILLING

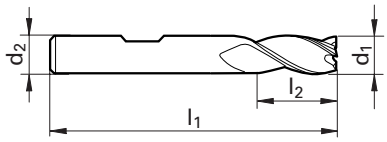
Guhring no.	3451	3453
Standard	DIN 327 D	DIN 844 L
Tool material	M 42	
Surface	○	○
Type	N	N
Length	standard	long
Helix angle	30°	30°
Tolerance	e8/h10	h10



d1	d2	l1	l2	z	AVAILABILITY	
mm	mm	mm	mm			
1.000	6.000	47.00	2.00	2	•	
1.500	6.000	47.00	3.00	2	•	
2.000	6.000	48.00	4.00	2	•	
2.500	6.000	49.00	5.00	2	•	
3.000	6.000	49.00	5.00	2	•	
3.500	6.000	50.00	6.00	2	•	
4.000	6.000	51.00	7.00	2	•	
5.000	6.000	52.00	8.00	2	•	
6.000	6.000	52.00	8.00	2	•	
7.000	10.000	60.00	10.00	2	•	
8.000	10.000	61.00	11.00	2	•	
9.000	10.000	61.00	11.00	2	•	
10.000	10.000	63.00	13.00	2	•	
11.000	12.000	70.00	13.00	2	•	
12.000	12.000	73.00	16.00	2	•	
14.000	12.000	73.00	16.00	2	•	
15.000	12.000	73.00	16.00	2	•	
16.000	16.000	79.00	19.00	2	•	
18.000	16.000	79.00	19.00	2	•	
20.000	20.000	88.00	22.00	2	•	
25.000	25.000	102.00	26.00	2	•	
3.00	6.000	56.00	12.00	2		•
4.00	6.000	63.00	19.00	2		•
5.00	6.000	68.00	24.00	2		•
6.00	6.000	68.00	24.00	2		•
8.00	10.000	88.00	38.00	2		•
10.00	10.000	95.00	45.00	2		•
12.00	12.000	110.00	53.00	2		•
14.00	12.000	110.00	53.00	2		•
16.00	16.000	123.00	63.00	2		•
18.00	16.000	123.00	63.00	2		•
20.00	20.000	141.00	75.00	2		•

• *Australian stock item* ○ *German stock item*

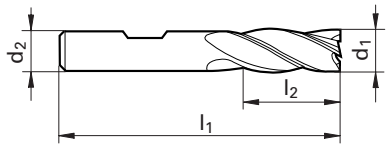
Guhring no.	3459	3460
Standard	DIN 844 K	DIN 844 L
Tool material	M 42	
Surface	○	○
Type	N	N
Length	standard	long
Helix angle	30°	30°
Tolerance	e8/h10	h10



d1	d2	l1	l2	z	AVAILABILITY	
mm	mm	mm	mm			
3.000	6.000	52.00	8.00	3	•	
4.000	6.000	55.00	11.00	3	•	
5.000	6.000	57.00	13.00	3	•	
6.000	6.000	57.00	13.00	3	•	
7.000	10.000	66.00	16.00	3	•	
8.000	10.000	69.00	19.00	3	•	
9.000	10.000	69.00	19.00	3	•	
10.000	10.000	72.00	22.00	3	•	
12.000	12.000	83.00	26.00	3	•	
14.000	12.000	83.00	26.00	3	•	
16.000	16.000	92.00	32.00	3	•	
18.000	16.000	92.00	32.00	3	•	
20.000	20.000	104.00	38.00	3	•	
3.000	6.000	56.00	12.00	3		•
4.000	6.000	63.00	19.00	3		•
5.000	6.000	68.00	24.00	3		•
6.000	6.000	68.00	24.00	3		•
8.000	10.000	88.00	38.00	3		•
10.000	10.000	95.00	45.00	3		•
12.000	12.000	110.00	53.00	3		•
14.000	12.000	110.00	53.00	3		•
16.000	16.000	123.00	63.00	3		•
18.000	16.000	123.00	63.00	3		•
20.000	20.000	141.00	75.00	3		•

• *Australian stock item* ○ *German stock item*

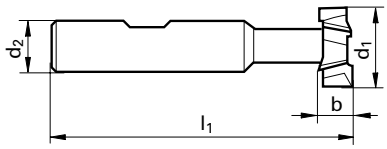
Guhring no.	3428	3431	3433
Standard	DIN 844 K	DIN 844 L	Guhring std.
Tool material	M 42		
Surface	○	○	○
Type	N	N	N
Length	standard	long	extra long
Helix angle	30°	30°	30°
Tolerance	k10	k10	k10



d1	d2	l1	l2	z	AVAILABILITY		
mm	mm	mm	mm				
2.000	6.000	51.00	7.00	4	•		
2.500	6.000	52.00	8.00	4	•		
3.000	6.000	52.00	8.00	4	•		
4.000	6.000	55.00	11.00	4	•		
5.000	6.000	57.00	13.00	4	•		
6.000	6.000	57.00	13.00	4	•		
7.000	10.000	66.00	16.00	4	•		
8.000	10.000	69.00	19.00	4	•		
10.000	10.000	72.00	22.00	4	•		
11.000	12.000	79.00	22.00	4	•		
12.000	12.000	83.00	26.00	4	•		
13.000	12.000	83.00	26.00	4	•		
14.000	12.000	83.00	26.00	4	•		
16.000	16.000	92.00	32.00	4	•		
18.000	16.000	92.00	32.00	4	•		
20.000	20.000	104.00	38.00	4	•		
25.000	25.000	121.00	45.00	6	•		
30.000	25.000	121.00	45.00	6	•		
32.000	32.000	133.00	53.00	6	•		
3.000	6.000	56.00	12.00	4		•	
4.000	6.000	63.00	19.00	4		•	
5.000	6.000	68.00	24.00	4		•	
6.000	6.000	68.00	24.00	4		•	
8.000	10.000	88.00	38.00	4		•	
9.000	10.000	88.00	38.00	4		•	
10.000	10.000	95.00	45.00	4		•	
12.000	12.000	110.00	53.00	4		•	
14.000	12.000	110.00	53.00	4		•	
16.000	16.000	123.00	63.00	4		•	
18.000	16.000	123.00	63.00	4		•	
20.000	20.000	141.00	75.00	4		•	
25.000	25.000	166.00	90.00	6		•	
30.000	25.000	166.00	90.00	6		•	
40.000	40.000	217.00	125.00	6		•	
6.000	6.000	79.00	40.00	4			•
8.000	10.000	105.00	56.00	4			•
10.000	10.000	112.00	63.00	4			•
12.000	12.000	125.00	71.00	4			•

• *Australian stock item* ○ *German stock item*

Guhring no.	3570
Standard	DIN 851
Tool material	HSCO
Surface	○
Type	N
Helix angle	10°
Tolerance	d11

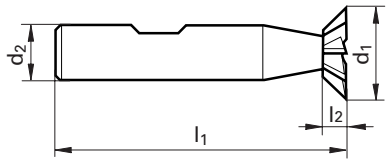


Code no.	for keyseats	d1 mm	d2 mm	l1 mm	b mm	z	AVAILABILITY
12.500	6	12.500	10.000	57.00	6.00	6	•
16.000	8	16.000	10.000	62.00	8.00	6	•
18.000	10	18.000	12.000	70.00	8.00	6	•
19.000	10	19.000	12.000	71.00	9.00	6	•
21.000	12	21.000	12.000	74.00	9.00	8	•
22.000	12	22.000	12.000	75.00	10.00	8	•
25.000	14	25.000	16.000	82.00	11.00	8	•
28.000	16	28.000	16.000	85.00	12.00	8	•
32.000	18	32.000	16.000	90.00	14.00	8	•

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

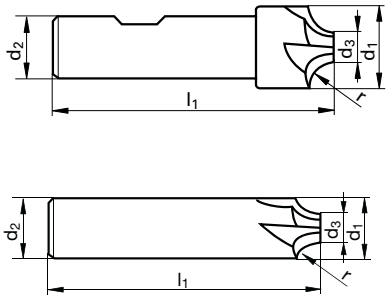
Guhring no.	3572	3574
Standard	DIN 1833	
Tool material	HSCO	
Surface	○	○
Type	H	H
Profile angle	45º	60º
Tolerance	js16	js16



Code no.	d1 mm	d2 mm	l1 mm	l2 mm	z	AVAILABILITY	
16.000	16.000	12.00	60.00	4.00	8	•	
20.000	20.000	12.00	63.00	5.00	10	•	
25.000	25.000	12.00	67.00	6.30	10	•	
32.000	32.000	16.00	71.00	8.00	12	•	
16.000	16.000	12.00	60.00	6.30	8		•
20.000	20.000	12.00	63.00	8.00	10		•
25.000	25.000	12.00	67.00	10.00	10		•
32.000	32.000	16.00	71.00	12.50	12		•

• *Australian stock item* ○ *German stock item*

Guhring no.	3176	6788
Standard	DIN 6518	
Tool material	M42	Solid Carbide
Surface	○	F
Type	N	N
Helix angle	5°	7°
Shank Form		HA

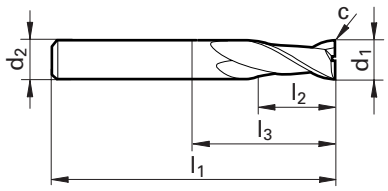


Code no.	r mm	d1 mm	d2 mm	d3 mm	l1 mm	z	AVAILABILITY
2.000	2.00	10.000	10.000	6.000	60.00	4	•
2.500	2.50	11.000	10.000	6.000	60.00	4	•
3.000	3.00	12.000	12.000	6.000	60.00	4	•
4.000	4.00	14.000	12.000	6.000	60.00	4	•
5.000	5.00	16.000	12.000	6.000	60.00	4	•
6.000	6.00	20.000	16.000	8.000	67.00	4	•
8.000	8.00	24.000	16.000	8.000	71.00	4	•
10.000	10.00	28.000	25.000	8.000	85.00	4	•
12.000	12.00	34.000	25.000	10.000	90.00	4	•
16.000	16.00	48.000	25.000	16.000	100.00	6	•
20.000	20.00	56.000	32.000	16.000	112.00	6	•
6.005	0.50	6.000	6.00	5.000	50.00	4	•
6.010	1.00	6.000	6.00	4.000	50.00	4	•
8.015	1.50	8.000	8.00	5.000	58.00	4	•
10.020	2.00	10.000	10.00	6.000	66.00	4	•
10.025	2.50	10.000	10.00	5.000	66.00	4	•
12.030	3.00	12.000	12.00	6.000	73.00	4	•
14.035	3.50	14.000	14.00	7.000	75.00	4	•
14.040	4.00	14.000	14.00	6.000	75.00	4	•
16.045	4.50	16.000	16.00	7.000	76.00	4	•
16.050	5.00	16.000	16.00	6.000	76.00	4	•
20.055	5.50	20.000	20.00	9.000	92.00	4	•
20.060	6.00	20.000	20.00	8.000	92.00	4	•

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands S TiN A TiAlN C TiCN F FIRE/nanoFIRE a TiAlN SuperA

Guhring no.	3676	5549
Standard	DIN 6528	Guhring std.
Tool material	Solid carbide	
Surface	F	F
Type	N	N
Length	standard	long
Helix angle	30°	30°
Tolerance	h10	h10

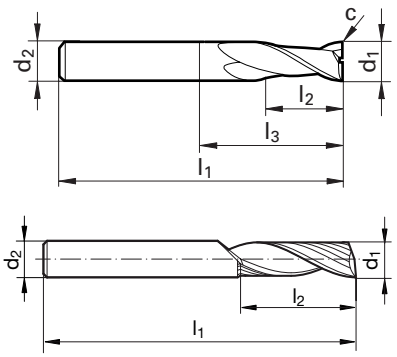


d1	d2	l1	l2	l3	c	AVAILABILITY	
mm	mm	mm	mm	mm	mm x 45°		
3.000	3.000	38.00	7.00	11.00	0.05	•	
4.000	4.000	50.00	8.00	22.00	0.05	•	
5.000	5.000	50.00	10.00	22.00	0.05	•	
6.000	6.000	57.00	10.00	21.00	0.05	•	
8.000	8.000	63.00	16.00	27.00	0.10	•	
10.000	10.000	72.00	19.00	32.00	0.10	•	
12.000	12.000	83.00	22.00	38.00	0.10	•	
16.000	16.000	92.00	26.00	44.00	0.15	•	
20.000	20.000	104.00	32.00	54.00	0.15	•	
3.000	3.000	75.00	20.00	47.00	0.05		•
4.000	4.000	75.00	25.00	47.00	0.05		•
5.000	5.000	75.00	30.00	47.00	0.05		•
6.000	6.000	75.00	30.00	39.00	0.05		•
8.000	8.000	100.00	40.00	64.00	0.10		•
10.000	10.000	100.00	40.00	60.00	0.10		•
12.000	12.000	150.00	45.00	105.00	0.10		•
16.000	16.000	150.00	65.00	102.00	0.15		•
20.000	20.000	150.00	65.00	100.00	0.15		•

• *Australian stock item* ○ *German stock item*

SLOT DRILLS FOR ALUMINIUM (1 AND 2-FLUTED)

Guhring no.	5743	3358	6793
Standard	DIN 6527 L	Guhring std.	Guhring std.
Tool material	Solid Carbide		
Surface	○	○	○
Type	W	W	W
Length	standard	long	standard
Helix angle	45°	45°	30°
Tolerance	e8	h10	h10

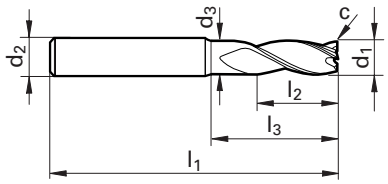


d1	d2	l1	l2	l3	c	z	AVAILABILITY		
mm	mm	mm	mm	mm	mm x 45°				
3.000	6.000	57.00	7.00	10.90	0.03	2	•		
4.000	6.000	57.00	8.00	11.90	0.03	2	•		
5.000	6.000	57.00	10.00	15.40	0.03	2	•		
6.000	6.000	57.00	10.00	21.00	0.03	2	•		
8.000	8.000	63.00	16.00	27.00	0.05	2	•		
10.000	10.000	72.00	19.00	32.00	0.05	2	•		
12.000	12.000	83.00	22.00	38.00	0.10	2	•		
14.000	14.000	83.00	22.00	38.00	0.10	2	•		
16.000	16.000	92.00	26.00	44.00	0.10	2	•		
20.000	20.000	104.00	32.00	54.00	0.10	2	•		
5.00	5.000	75.00	30.00	47.00	0.03	2		•	
6.00	6.000	75.00	30.00	39.00	0.03	2		•	
8.00	8.000	100.00	40.00	64.00	0.05	2		•	
10.00	10.000	100.00	40.00	60.00	0.05	2		•	
12.00	12.000	150.00	45.00	105.00	0.10	2		•	
16.00	16.000	150.00	65.00	102.00	0.10	2		•	
2.00	2.00	38	10.0			1			○
3.00	3.00	39	12.0			1			○
4.00	4.00	40	15.0			1			•
5.00	5.00	50	16.0			1			•
6.00	6.00	57	20.0			1			•
8.00	8.00	63	22.0			1			•
10.00	10.00	73	25.0			1			•
12.00	12.00	83	30.0			1			•
16.00	16.00	92	35.0			1			○

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	3472	6978	3473	6734
Standard	Guhring std.			
Tool material	Solid carbide			
Surface	○	Cb	○	○
Type	W	W	W	W
Length	standard	standard	standard	long
Helix angle	39° / 40° / 41°	39° / 40° / 41°	39° / 40° / 41°	39° / 40° / 41°
Tolerance	h10	h10	h10	h10
	RF 100 A	RF 100 A	RF 100 A	RF 100 A



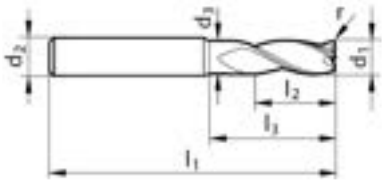
d1	d2	d3	l1	l2	l3	c	AVAILABILITY			
mm	mm	mm	mm	mm	mm	mm x 45°				
3.000	6.000	2.800	57.00	8.00	15.00	0.03	•	•		
4.000	6.000	3.800	57.00	11.00	18.00	0.04	•	•		
5.000	6.000	4.800	57.00	13.00	18.00	0.05	•	•		
6.000	6.000	5.700	57.00	13.00	21.00	0.06	•	•		
8.000	8.000	7.700	63.00	19.00	27.00	0.08	•	•		
10.000	10.000	9.500	72.00	22.00	32.00	0.10	•	•		
12.000	12.000	11.500	83.00	26.00	38.00	0.12	•	•		
16.000	16.000	15.500	92.00	32.00	44.00	0.16	•	•		
20.000	20.000	19.500	104.00	38.00	54.00	0.20	•	•		
6.000	6.000	5.700	65.00	13.00	29.00	0.06			•	
8.000	8.000	7.700	75.00	19.00	39.00	0.08			•	
10.000	10.000	9.500	80.00	22.00	40.00	0.10			•	
12.000	12.000	11.500	93.00	26.00	48.00	0.12			•	
16.000	16.000	15.500	108.00	32.00	60.00	0.16			•	
20.000	20.000	19.500	126.00	38.00	76.00	0.20			•	
6.000	6.000		75.00	30.00	39.0	0.06				•
8.000	8.000		86.00	40.00	50.0	0.08				•
10.000	10.000		100.00	50.00	60.0	0.10				•
12.000	12.000		120.00	60.00	75.0	0.12				•
16.000	16.000		150.00	80.00	102.0	0.16				•
20.000	20.000		175.00	100.00	125.0	0.20				•

• *Australian stock item* ○ *German stock item*

Guhring no.	**3599**
Standard	**Guhring std.**
Tool material	**Solid carbide**
Surface	◯
Type	**W**
Length	**long**
Helix angle	**39° / 40° / 41°**
Tolerance	**e8**
Form	**HA**

RF 100 A

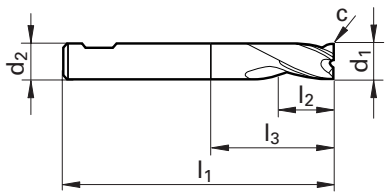
NEW



d1	d2	d3	l1	l2	l3	r	code no.	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm		
6.000	6.000	5.70	57.00	13.00	20.00	0.5	6.005	○
6.000	6.000	5.70	57.00	13.00	20.00	1.0	6.010	•
8.000	8.000	7.70	63.00	19.00	26.00	0.5	8.005	○
8.000	8.000	7.70	63.00	19.00	26.00	1.0	8.010	•
10.000	10.000	9.50	72.00	22.00	30.00	0,.5	10.005	○
10.000	10.000	9.50	72.00	22.00	30.00	1.0	10.010	•
10.000	10.000	9.50	72.00	22.00	30.00	1.5	10.015	○
12.000	12.000	11.50	83.00	26.00	36.00	0.5	12.005	○
12.000	12.000	11.50	83.00	26.00	36.00	1.0	12.010	•
12.000	12.000	11.50	83.00	26.00	36.00	1.5	12.015	○
12.000	12.000	11.50	83.00	26.00	36.00	2.0	12.020	•
12.000	12.000	11.50	83.00	26.00	36.00	2.5	12.025	○
12.000	12.000	11.50	83.00	26.00	36.00	3.0	12.030	○
12.000	12.000	11.50	83.00	26.00	36.00	4.0	12.040	○
16.000	16.000	15.50	83.00	32.00	42.00	1.0	16.010	•
16.000	16.000	15.50	92.00	32.00	42.00	2.0	16.020	•
16.000	16.000	15.50	92.00	32.00	42.00	2.5	16.025	○
16.000	16.000	15.50	92.00	32.00	42.00	3.0	16.030	○
16.000	16.000	15.50	104.00	32.00	42.00	4.0	16.040	○
20.000	20.000	19.50	104.00	38.00	52.00	1.0	20.010	○
20.000	20.000	19.50	104.00	38.00	52.00	2.0	20.020	○
20.000	20.000	19.50	104.00	38.00	52.00	2.5	20.025	○
20.000	20.000	19.50	104.00	38.00	52.00	3.0	20.030	○
20.000	20.000	19.50	104.00	38.00	52.00	4.0	20.040	○
25.000	25.000	24.00	121.00	45.00	63.00	2.0	25.020	○
25.000	25.000	24.00	121.00	45.00	63.00	3.0	25.030	○
25.000	25.000	24.00	121.00	45.00	63.00	4.0	25.040	○

• *Australian stock item* ○ *German stock item*

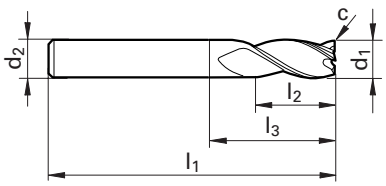
Guhring no.	5573	5574
Standard	Guhring std.	
Tool material	Solid carbide	
Surface	F	F
Type	N	NH
Length	standard	standard
Helix angle	30°	45°
Tolerance	e8	e8



d1	d2	l1	l2	l3	c	AVAILABILITY	
mm	mm	mm	mm	mm	mm x 45°		
0.500	3.000	38.00	1.50	3.40	0.03	•	
0.600	3.000	38.00	1.50	3.40	0.03	•	
0.800	3.000	38.00	2.00	3.90	0.03	•	
1.000	3.000	38.00	2.00	3.90	0.03		•
1.100	3.000	38.00	2.00	4.10	0.03		• 303180781
1.200	3.000	38.00	2.00	3.90	0.03		•
1.300	3.000	38.00	2.00	4.40	0.03		• 303180877
1.400	3.000	38.00	3.00	5.90	0.03		• 303180879
1.500	3.000	38.00	3.00	5.90	0.03		•
1.600	3.000	38.00	3.00	5.90	0.03		• 303180880
1.700	3.000	38.00	3.00	5.90	0.03		• 303180887
1.800	3.000	38.00	3.00	5.90	0.03		•
1.900	3.000	38.00	3.00	5.90	0.03		• 303335616
2.000	6.000	45.00	4.00	6.90	0.03		•
2.100	6.000	45.00	4.00	6.90	0.03		• 303180888
2.200	6.000	45.00	4.00	7.10	0.03		• 303180889
2.500	6.000	45.00	5.00	7.90	0.05		○
3.000	6.000	45.00	6.00	9.90	0.05		•
3.500	6.000	45.00	6.00	9.90	0.05		○
4.500	6.000	45.00	8.00	13.40	0.05		•
5.000	6.000	45.00	8.00	13.40	0.05		○
5.500	6.000	45.00	8.00	14.40	0.05		•
6.000	6.000	45.00	10.00	15.00	0.05		○
6.750	8.000	45.00	10.00	18.40	0.10		○
7.000	8.000	55.00	12.00	12.00	0.10		•
7.750	8.000	55.00	12.00	12.00	0.10		○
8.000	8.000	55.00	13.00	19.00	0.10		•
8.700	10.000	55.00	14.00	23.40	0.10		○
9.000	10.000	55.00	14.00	23.40	0.10		•
9.700	10.000	55.00	16.00	16.30	0.10		○
10.000	10.000	55.00	16.00	25.00	0.10		○

• *Australian stock item* ○ *German stock item*

Guhring no.	5506	3680	3173
Standard	DIN 6527 L	Guhring std.	Guhring std.
Tool material	Solid carbide		
Surface	F	F	F
Type	NH	N	NH
Length	standard	long	standard
Helix angle	45º	30º	45º
Tolerance	h10	h10	h10

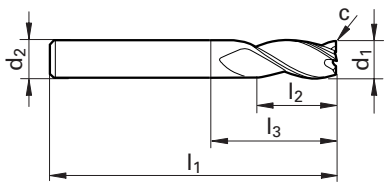


d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	c mm x 45º	AVAILABILITY		
3.000	6.000	57.00	7.00	10.90	0.03	•		
3.500	6.000	57.00	7.00	10.90	0.05	•		
4.000	6.000	57.00	8.00	11.90	0.06	•		
5.000	6.000	57.00	10.00	15.40	0.08	•		
6.000	6.000	57.00	10.00	21.00	0.09	•		
7.000	8.000	63.00	13.00	21.40	0.11	•		
8.000	8.000	63.00	16.00	27.00	0.12	•		
10.000	10.000	72.00	19.00	32.00	0.15	•		
12.000	12.000	83.00	22.00	38.00	0.18	•		
14.000	14.000	83.00	22.00	38.00	0.21	•		
16.000	16.000	92.00	26.00	44.00	0.19	•		
18.000	18.000	92.00	26.00	44.00	0.22	•		
20.000	20.000	104.00	32.00	54.00	0.24	•		
3.000	3.000	75.00	20.00	47.00	0.05		•	
4.000	4.000	75.00	25.00	47.00	0.05		•	
5.000	5.000	75.00	30.00	47.00	0.05		•	
6.000	6.000	75.00	30.00	39.00	0.05		•	
8.000	8.000	100.00	40.00	64.00	0.10		•	
10.000	10.000	100.00	40.00	60.00	0.10		•	
12.000	12.000	150.00	45.00	105.00	0.10		•	
16.000	16.000	150.00	65.00	102.00	0.15		•	
20.000	20.000	150.00	65.00	100.00	0.15		•	

d1 inch	d2 inch	l1 inch	l2 inch	Code no.			
1/8	1/8	1 1/2	3/8	**3.170**			•
3/16	3/16	2	5/8	**4.760**			•
1/4	1/4	2 1/2	3/4	**6.350**			•
5/16	5/16	2 1/2	13/16	**7.940**			•
3/8	3/8	3	1	**9.520**			•
7/16	7/16	2 3/4	1	**11.110**			•
1/2	1/2	3	1	**12.700**			•
5/8	5/8	3 1/2	1 1/4	**15.870**			•
3/4	3/4	4	1 1/2	**19.050**			•
1	1	4	1 1/2	**25.400**			•

• *Australian stock item* ○ *German stock item*

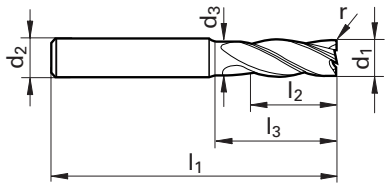
Guhring no.	19978	5556
Standard	Guhring std.	Guhring std.
Tool material	Solid carbide	
Surface	F	F
Type	N	N
Length	standard	long
Helix angle	30°	30°
Tolerance	h10	h10



d1	d2	l1	l2	l3	c	AVAILABILITY
mm	mm	mm	mm	mm	mm x 45°	
2.000	2.000	32.000	8.000	10.000	0.025	•
3.000	3.000	38.000	12.000	15.000	0.050	•
4.000	4.000	40.000	12.000	16.000	0.050	•
5.000	5.000	50.000	15.000	20.000	0.050	•
6.000	6.000	57.000	16.000	21.000	0.050	•
7.000	8.000	60.000	16.000	23.900	0.100	•
8.000	8.000	68.000	22.000	32.000	0.050	•
9.000	10.000	72.000	22.000	28.400	0.100	•
10.000	10.000	72.000	25.000	32.000	0.100	•
11.000	12.000	83.000	26.000	27.600	0.100	•
12.000	12.000	83.000	28.000	38.000	0.100	•
14.000	14.000	83.000	28.000	38.000	0.150	•
16.000	16.000	92.000	35.000	44.000	0.100	•
18.000	18.000	92.000	35.000	44.000	0.150	•
20.000	20.000	104.000	40.000	54.000	0.150	•
3.000	3.000	75.00	20.00		0.05	•
4.000	4.000	75.00	25.00		0.05	•
5.000	5.000	75.00	30.00		0.05	•
6.000	6.000	75.00	30.00		0.05	•
8.000	8.000	100.00	40.00		0.10	•
10.000	10.000	100.00	40.00		0.10	•
12.000	12.000	150.00	45.00		0.10	•
14.000	14.000	150.00	45.00		0.15	•
16.000	16.000	150.00	65.00		0.15	•
18.000	18.000	150.00	65.00		0.15	•
20.000	20.000	150.00	65.00		0.15	•

• *Australian stock item* ○ *German stock item*

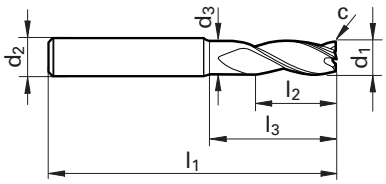
Guhring no.	3872
Standard	DIN 6527 L
Tool material	Solid carbide
Surface	F
Type	N
Length	standard
Helix angle	35°/38°
Tolerance	h10



d1	d2	d3	l1	l2	l3	r	Code	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm	no.	
6.00	6.00	5.73	57	13.00	20.00	0.50	**6.005**	•
6.00	6.00	5.70	57	13.00	20.00	1.00	**6.010**	•
6.00	6.00	5.70	57	13.00	20.00	2.00	**6.020**	○
8.00	8.00	7.70	63	19.00	26.00	0.50	**8.005**	•
8.00	8.00	7.70	63	19.00	26.00	1.00	**8.010**	•
8.00	8.00	7.70	63	19.00	26.00	2.00	**8.020**	•
10.00	10.00	9.50	72	22.00	30.00	0.50	**10.005**	•
10.00	10.00	9.50	72	22.00	30.00	1.00	**10.010**	•
10.00	10.00	9.50	72	22.00	30.00	2.00	**10.020**	•
12.00	12.00	11.50	83	26.00	36.00	0.50	**12.005**	•
12.00	12.00	11.50	83	26.00	36.00	1.00	**12.010**	•
12.00	12.00	11.50	83	26.00	36.00	2.00	**12.020**	•
16.00	16.00	15.50	92	32.00	42.00	0.50	**16.005**	•
16.00	16.00	15.50	92	32.00	42.00	1.00	**16.010**	•
16.00	16.00	15.50	92	32.00	42.00	2.00	**16.020**	•
16.00	16.00	15.50	92	32.00	42.00	3.00	**16.030**	•
20.00	20.00	19.50	104	38.00	52.00	0.50	**20.005**	○
20.00	20.00	19.50	104	38.00	52.00	1.00	**20.010**	○
20.00	20.00	19.50	104	38.00	52.00	2.00	**20.020**	○
20.00	20.00	19.50	104	38.00	52.00	3.00	**20.030**	○
25.00	25.00	24.00	121	45.00	63.00	2.00	**25.020**	○
25.00	25.00	24.00	121	45.00	63.00	3.00	**25.030**	○

• *Australian stock item* ○ *German stock item*

Guhring no.	3892	5735	5535	5582	3114
Standard	Guhring std.	DIN 6527 L	DIN 6527 L	Guhring std.	Guhring std.
Tool material	Solid carbide				
Surface	F	F	F	F	F
Type	NH	N	N	N	N
Length	standard	standard	standard	long	standard
Helix angle	41° / 43° / 45°	35° / 38°	35° / 38°	35° / 38°	35° / 38°
Tolerance	h10	h10	h10	h10	h10
	RF 100 U	RF 100 U	RF 100 U	RF 100 U	RF 100 U



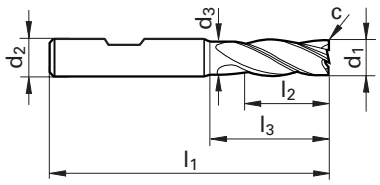
d1	d2	d3	l1	l2	l3	c	z	3892	5735	5535	5582	3114
mm	mm	mm	mm	mm	mm	mm x 45°		AVAILABILITY				
6.000	6.000	5.70	57.00	13.00	20.00	0.09	3	•				
8.000	8.000	7.70	63.00	19.00	26.00	0.12	3	•				
10.000	10.000	9.50	72.00	22.00	30.00	0.15	3	•				
12.000	12.000	11.50	83.00	26.00	36.00	0.18	3	•				
16.000	16.000	15.50	92.00	32.00	42.00	0.19	3	•				
20.000	20.000	19.50	104.00	38.00	52.00	0.24	3	•				
4.000	6.000	3.80	57.00	11.00	18.00	0.10	4		•	•		
5.000	6.000	4.80	57.00	13.00	18.00	0.10	4		•	•		
6.000	6.000	5.70	57.00	13.00	20.00	0.15	4		•	•		
8.000	8.000	7.70	63.00	19.00	26.00	0.15	4		•	•		
10.000	10.000	9.50	72.00	22.00	30.00	0.20	4		•	•		
12.000	12.000	11.50	83.00	26.00	36.00	0.20	4		•	•		
14.000	14.000	13.50	83.00	26.00	36.00	0.25	4		•	•		
16.000	16.000	15.50	92.00	32.00	42.00	0.35	4		•	•		
18.000	18.000	17.50	92.00	32.00	42.00	0.40	4		•	○		
20.000	20.000	19.50	104.00	38.00	52.00	0.45	4		•	•		
25.000	25.000	24.00	121.00	45.00	63.00	0.60	4		•	•		
10.000	10.000	9.500	100.00	40.00	48.00	0.20	4				•	
12.000	12.000	11.500	150.00	45.00	58.00	0.20	4				•	
16.000	16.000	15.500	150.00	65.00	78.00	0.35	4				•	
20.000	20.000	19.500	150.00	65.00	78.00	0.45	4				•	
25.000	25.000	24.000	150.00	75.00	92.00	0.60	4				•	

d1	d2	l1	l2	z	Code	3892	5735	5535	5582	3114
inch	inch	inch	inch		no.					
3/16	3/16	2	3/8	4	**4.760**					•
1/4	1/4	2 1/2	3/4	4	**6.350**					•
5/16	5/16	2 1/2	13/16	4	**7.940**					•
3/8	3/8	2 1/2	1	4	**9.520**					•
7/16	7/16	2 3/4	1	4	**11.110**					•
1/2	1/2	3	1	4	**12.700**					•
5/8	5/8	3 1/2	1 1/4	4	**15.870**					•
3/4	3/4	4	1 1/2	4	**19.050**					•
1	1	4	1 1/2	4	**25.400**					•

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	5654	6736	6737
Standard	DIN 6527 L	DIN 6527 L	DIN 6527 L
Tool material	Solid carbide		
Surface	A	Y	Y
Type	N	N	A
Length	standard	standard	standard
Helix angle	36°/38°	36°/38°/37°	36°/38°/37°
Tolerance	h10	h10	h10
	RF 100 VA	RF100 diver END MILLS	RF100 diver END MILLS

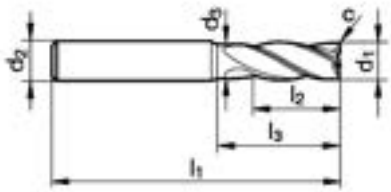


d1	d2	d3	l1	l2	l3	c	AVAILABILITY		
mm	mm	mm	mm	mm	mm	mm x 45°			
3.000	6.000	2.800	57.00	8.00	15.00	0.10	•		
4.000	6.000	3.800	57.00	11.00	18.00	0.15	•		
5.000	6.000	4.800	57.00	13.00	18.00	0.15	•		
6.000	6.000	5.700	57.00	13.00	20.00	0.20	•		
8.000	8.000	7.700	63.00	19.00	26.00	0.25	•		
10.000	10.000	9.500	72.00	22.00	30.00	0.30	•		
12.000	12.000	11.500	83.00	26.00	36.00	0.35	•		
16.000	16.000	15.500	92.00	32.00	42.00	0.50	•		
20.000	20.000	19.500	104.00	38.00	52.00	0.60	•		
4.000	6.000	3.800	57.00	11.00	18.00	0.04		•	•
5.000	6.000	4.800	57.00	13.00	18.00	0.05		•	○
5.700	6.000	5.500	57.00	13.00	19.60	0.06		•	○
6.000	6.000	5.700	57.00	13.00	20.00	0.06		•	•
7.700	8.000	7.400	63.00	19.00	25.50	0.08		•	○
8.000	8.000	7.700	63.00	19.00	26.00	0.08		•	•
9.700	10.000	9.400	72.00	22.00	30.50	0.10		•	○
10.000	10.000	9.500	72.00	22.00	30.00	0.10		•	•
11.700	12.000	11.200	83.00	26.00	35.30	0.12		•	○
12.000	12.000	11.500	83.00	26.00	36.00	0.12		•	•
13.700	14.000	13.200	83.00	26.00	35.30	0.14		•	○
14.000	14.000	13.500	83.00	26.00	36.00	0.14		•	○
15.600	16.000	15.100	92.00	32.00	41.20	0.16		•	○
16.000	16.000	15.500	92.00	32.00	42.00	0.16		•	•
19.500	20.000	19.000	104.00	38.00	51.10	0.20		•	○
20.000	20.000	19.500	104.00	38.00	52.00	0.20		•	○

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	6478	6480
Standard	Guhring std.	Guhring std.
Tool material	Solid carbide	
Surface	P	P
Type	N	N
Length	standard	long
Helix angle	38°/40°	38°/40°
Tolerance	h10	h10

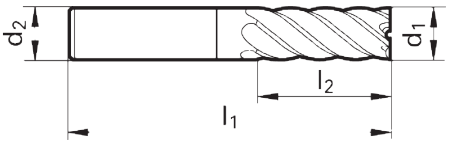


d1	d2	d3	l1	l2	l3	c	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm x 45°	
1.000	4.000	0.920	50.000	3.000	4.000	0.020	•
1.500	4.000	1.400	50.000	4.500	6.000	0.030	•
2.000	6.000	1.900	50.000	6.000	8.000	0.040	•
2.500	6.000	2.400	50.000	7.500	10.000	0.050	•
3.000	6.000	2.900	57.000	10.000	15.000	0.060	•
4.000	6.000	3.800	57.000	14.000	18.000	0.080	•
5.000	6.000	4.800	57.000	15.000	20.000	0.100	•
6.000	6.000	5.700	57.000	16.000	20.000	0.120	•
8.000	8.000	7.700	63.000	21.000	26.000	0.160	•
10.000	10.000	9.500	72.000	25.000	31.000	0.200	•
12.000	12.000	11.500	83.000	28.000	37.000	0.240	•
14.000	14.000	13.500	83.000	28.000	37.000	0.280	•
16.000	16.000	15.500	92.000	36.000	43.000	0.320	•
20.000	20.000	19.500	104.000	41.000	53.000	0.400	•

d1	d2	d3	l1	l2	l3	c	AVAILABILITY
1.000	4.000	0.920	50.000	3.000	5.500	0.020	•
1.500	4.000	1.400	50.000	4.500	8.500	0.030	•
2.000	6.000	1.900	57.000	6.000	11.500	0.040	•
2.500	6.000	2.400	65.000	7.500	14.500	0.050	•
3.000	6.000	2.900	65.000	10.000	20.000	0.060	•
4.000	6.000	3.800	65.000	14.000	27.000	0.080	•
5.000	6.000	4.800	65.000	15.000	28.000	0.100	•
6.000	6.000	5.700	75.000	19.000	38.000	0.120	•
8.000	8.000	7.700	80.000	21.000	43.000	0.160	•
10.000	10.000	9.500	93.000	26.000	52.000	0.200	•
12.000	12.000	11.500	100.000	28.000	54.000	0.240	•
14.000	14.000	13.500	100.000	28.000	54.000	0.280	•
16.000	16.000	15.500	123.000	38.000	74.000	0.320	•
20.000	20.000	19.500	126.000	41.000	74.000	0.400	•

• *Australian stock item* ○ *German stock item*

Guhring no.	**3715**
Standard	**Guhring std.**
Tool material	**Solid carbide**
Surface	Y
Type	**N**
Length	**standard**
Helix angle	**55º**
Tolerance	**h10**



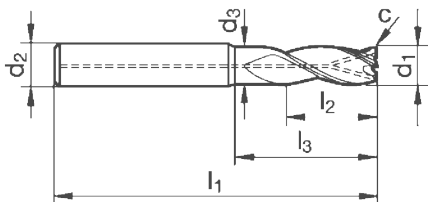
d1	d2	l1	l2	l3	c	z	AVAILABILITY
mm	mm	mm	mm	mm	mm x 45º		
3.000	6.000	57.00	8.00	11.40	0.05	6	•
4.000	6.000	57.00	11.00	15.90	0.05	6	•
5.000	6.000	57.00	13.00	17.90	0.05	6	•
6.000	6.000	57.00	13.00	21.0	0.05	6	•
8.000	8.000	63.00	19.00	27.0	0.10	6	•
10.000	10.000	72.00	22.00	32.0	0.10	6	•
12.000	12.000	83.00	26.00	38.0	0.10	6	•
14.000	14.000	83.00	26.00	38.0	0.15	6	○
16.000	16.000	92.00	32.00	44.0	0.15	6	•
18.000	18.000	92.00	32.00	44.0	0.15	8	○
20.000	20.000	104.00	38.00	54.0	0.15	8	•

ISO	Hardness	VC	fz (mm/z) / Ø							VC	fz (mm/z) / Ø						
			3	6	8	10	12	16	20		3	6	8	10	12	16	20
			ap = 12		HPC	HSC		ae max = 0,05 x D			ap = 12				ae max = 0,01 x D		
P	≥ 1000 N/mm²	**180**	0,029	0,057	0,076	0,105	0,13	0,17	0,21	180	0,013	0,025	0,033	0,046	0,06	0,07	0,09
K	≥ 300 HB	**180**	0,029	0,057	0,076	0,105	0,13	0,17	0,21	180	0,013	0,025	0,033	0,046	0,06	0,07	0,09
H	≤ 55 HRC	**100**	0,024	0,048	0,064	0,088	0,11	0,14	0,18	110	0,010	0,019	0,026	0,035	0,04	0,06	0,07
	≥ 55 HRC	**70**	0,019	0,038	0,050	0,070	0,08	0,11	0,14	80	0,007	0,014	0,018	0,025	0,03	0,04	0,05

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands S TiN A TiAlN C TiCN F FIRE/nanoFIRE Y Signum

Guhring no.	6799	6801
Standard	Guhring std.	Guhring std.
Tool material	Solid carbide	
Surface	Y	Y
Type	N	N
Length	standard	long
Helix angle	41°/43°/45°	36°/ 38°/37°
Tolerance	h10	h10



RF100 DIVER

d1	d2	d3	l1	l2	l3	c	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm x 45°	
6.000	6.000	5.70	57.00	13.00	20.00	0.090	•
8.000	8.000	7.70	63.00	19.00	26.00	0.120	•
10.000	10.000	9.50	72.00	22.00	30.00	0.150	•
12.000	12.000	11.50	83.00	26.00	36.00	0.180	•
16.000	16.000	15.50	92.00	32.00	42.00	0.190	•
6.000	6.000	5.70	57.00	13.00	20.00	0.060	•
8.000	8.000	7.70	63.00	19.00	26.00	0.080	•
10.000	10.000	9.50	72.00	22.00	30.00	0.100	•
12.000	12.000	11.50	83.00	26.00	36.00	0.120	•
16.000	16.000	15.50	92.00	32.00	42.00	0.160	•
20.000	20.000	19.50	104.00	38.00	52.00	0.200	○
25.000	25.000	24.00	121.00	45.00	63.00	0.250	○

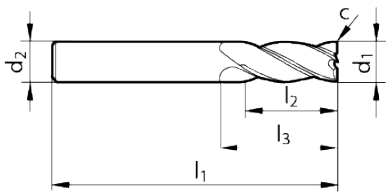
ISO	Hardness	VC	fz (mm/z) / Ø						
			4	6	8	10	12	16	20
			ap = 1,0 x D					ae = 1,0 x D	
P	≤ 850 N/mm²	**270**	0.017	0.025	0.034	0.050	0.060	0.080	0.100
	≥ 850 N/mm²	**180**	0.014	0.021	0.028	0.045	0.054	0.072	0.090
M	≤ 750 N/mm²	**120**	0.014	0.021	0.028	0.045	0.054	0.072	0.090
	≥ 750 N/mm²	**80**	0.013	0.019	0.026	0.040	0.048	0.064	0.080
S	Ti-based	**60**	0.013	0.019	0.026	0.040	0.048	0.064	0.080
K	≤ 240 HB	**150**	0.017	0.025	0.034	0.050	0.060	0.080	0.100
N	≥ 7% Si	**340**	0.018	0.027	0.036	0.055	0.066	0.088	0.110

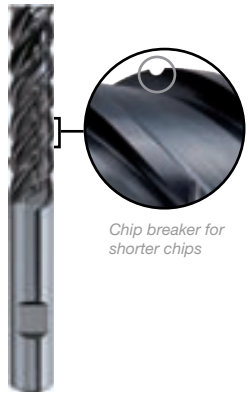
VC	fz (mm/z) / Ø						
	4	6	8	10	12	16	20
	ap = 1,0 x D					ae = 1,0 x D	
270	0.014	0.021	0.028	0.040	0.048	0.064	0.080
180	0.008	0.012	0.016	0.025	0.030	0.040	0.050
90	0.007	0.011	0.014	0.023	0.027	0.036	0.045
60	0.006	0.010	0.013	0.020	0.024	0.032	0.040
50	0.006	0.010	0.013	0.020	0.024	0.032	0.040
150	0.014	0.021	0.028	0.040	0.048	0.064	0.080
340	0.014	0.021	0.028	0.040	0.048	0.064	0.080

• *Australian stock item* ○ *German stock item*

RATIO END MILLS RF 100 SPEED (4 - FLUTED)

Guhring no.	6765	6761
Standard	DIN 6527	
Tool material	Solid carbide	
Surface	A	A
Type	RF 100 Speed	RF 100 Speed
Length	Standard	Long
Helix angle	48°	48°
Tolerance	h10	h10





Chip breaker for shorter chips

d1	d2	l1	l2	l3	z	Code	AVAILABILITY
mm	mm	mm	mm	mm		no.	
3.000	6.000	57.00	8.00	21.00	4	3.000	•
4.000	6.000	57.00	11.00	21.00	4	4.000	•
5.000	6.000	57.00	13.00	21.00	4	5.000	•
6.000	6.000	57.00	15.00	21.00	4	6.000	•
8.000	8.000	63.00	20.00	27.00	4	8.000	•
10.000	10.000	72.00	24.00	32.00	4	10.000	•
12.000	12.000	83.00	28.00	38.00	4	12.000	•
16.000	16.000	92.00	36.00	44.00	4	16.000	•
20.000	20.000	104.00	45.00	54.00	4	20.000	•
3.000	6.000	57.00	12.00	21.00	4	3.000	•
4.000	6.000	65.00	16.00	29.00	4	4.000	•
5.000	6.000	65.00	20.00	29.00	4	5.000	•
6.000	6.000	65.00	24.00	29.00	4	6.000	•
8.000	8.000	75.00	32.00	39.00	4	8.000	•
10.000	10.000	90.00	40.00	50.00	4	10.000	•
12.000	12.000	100.00	46.00	55.00	4	12.000	•
16.000	16.000	108.00	55.00	60.00	4	16.000	•
20.000	20.000	126.00	65.00	76.00	4	20.000	•

GTC milling strategies

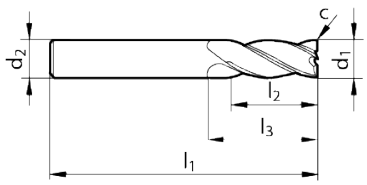
These milling strategies belong to the state-of-the-art and most effective application methods for current solid carbide milling tools. When applied, an enormously high metal removal rate ensures a considerable increase in productivity. Very high cutting parameters can be achieved even with less powerful machines or unstable machining conditions. With difficult-to-machine materials or unfavourable diameter-length-ratios of the tools a massive increase of process reliability can be achieved.

GTC GÜHRING TROCHOIDAL CUTTING

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands S TiN A TiAlN C TiCN F FIRE/nanoFIRE a TiAlN SuperA

Guhring no.	6856	6864
Standard	Guhring std.	
Tool material	Solid carbide	
Surface	A	A
Type	N	N
Length	standard	3 x d
Helix angle	45°	45°
Tolerance	h10	h10

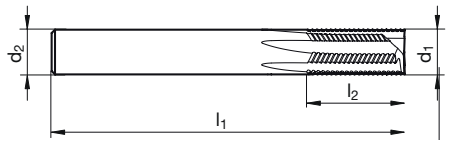


d1	d2	d3	l1	l2	l3	c	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm x 45°	
6.000	6.000	5.700	57.00	13.00	20.00	0.12	•
8.000	8.000	7.700	63.00	19.00	26.00	0.16	•
10.000	10.000	9.500	72.00	22.00	30.00	0.20	•
12.000	12.000	11.500	83.00	26.00	36.00	0.24	•
16.000	16.000	15.500	92.00	32.00	42.00	0.32	•
20.000	20.000	19.500	104.00	38.00	52.00	0.40	•
6.000	6.000	5.700	65.00	20.00	28.00	0.12	•
8.000	8.000	7.700	75.00	26.00	38.00	0.16	•
10.000	10.000	9.500	80.00	32.00	38.00	0.20	•
12.000	12.000	11.500	93.00	40.00	46.00	0.24	•
16.000	16.000	15.500	108.00	50.00	58.00	0.32	•
20.000	20.000	19.500	126.00	62.00	74.00	0.40	•

● *Australian stock Item* ○ *German stock Item*

ISO	Härte	v_c	f_z (mm/z) / Ø							v_c	f_z (mm/z) / Ø						
			3	6	8	10	12	16	20		3	6	8	10	12	16	20
			a_p = l2		HPC	HSC		a_e max = 0,10xD			a_p = l2				a_e max = 0,02xD		
P	≤ 850 N/mm²	**340**	0,036	0,072	0,096	0,138	0,17	0,22	0,28	**360**	0,017	0,034	0,046	0,066	0,08	0,11	0,13
	≥ 850 N/mm²	**250**	0,031	0,062	0,083	0,115	0,14	0,18	0,23	**270**	0,015	0,030	0,040	0,055	0,07	0,09	0,11
M	≤ 750 N/mm²	**220**	0,031	0,062	0,083	0,115	0,14	0,18	0,23	**240**	0,015	0,030	0,040	0,055	0,07	0,09	0,11
	≥ 750 N/mm²	**110**	0,024	0,048	0,064	0,092	0,11	0,15	0,18	**120**	0,011	0,021	0,028	0,040	0,05	0,06	0,08
S	Ni-Basis	**60**	0,019	0,039	0,052	0,074	0,09	0,12	0,15	**60**	0,008	0,017	0,022	0,032	0,04	0,05	0,06
	Ti-Basis	**110**	0,028	0,055	0,074	0,104	0,12	0,17	0,21	**120**	0,013	0,026	0,035	0,050	0,06	0,08	0,10

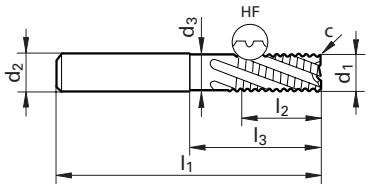
Guhring no.	6769
Standard	Guhring std.
Tool material	Solid carbide
Surface	D
Type	FR 100
Length	Standard
Helix angle	0°
Tolerance	h10



d1	d2	l1	l2	z	Code no.	AVAILABILITY
mm	mm	mm	mm			
4.00	6.00	66	15.0	4	4.000	○
4.76	4.76	63	15.0	4	4.762	○
6.00	6.00	70	20.0	4	6.000	•
6.35	6.35	63	15.0	4	6.350	○
8.00	8.00	75	25.0	6	8.000	•
9.52	9.52	76	18.0	6	9.525	•
12.70	12.70	88	25.4	8	12.700	○

• *Australian stock item* ○ *German stock item*

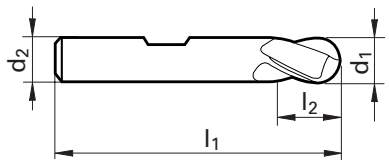
Guhring no.	6882
Standard	Guhring std.
Tool material	Solid Carbide
Surface	F
Type	HF
Length	standard
Helix angle	30° / 32°
Tolerance	h10
	RF 100 U



d1	d2	d3	l1	l2	l3	c	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm x 45°	
6.000	6.000	5.700	57.00	13.00	20.00	0.120	•
8.000	8.000	7.700	63.00	19.00	26.00	0.160	•
10.000	10.000	9.500	72.00	22.00	30.00	0.200	•
12.000	12.000	11.500	83.00	26.00	36.00	0.240	•
16.000	16.000	15.500	92.00	32.00	42.00	0.320	•
20.000	20.000	19.500	104.00	38.00	52.00	0.400	•
25.000	25.000	24.000	121.00	45.00	63.00	0.500	•

• *Australian stock item* ○ *German stock item*

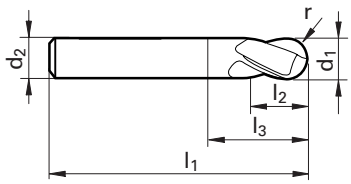
Guhring no.	3466
Standard	DIN 327 D
Tool material	M 42
Surface	○
Type	N
Length	short
Helix angle	30°
Tolerance	e8/h10



d1 mm	d1 tolerance	d2 mm	l1 mm	l2 mm	AVAILABILITY
2.000	e8	6.000	48.00	4.00	○
3.000	e8	6.000	49.00	5.00	○
4.000	e8	6.000	51.00	7.00	•
5.000	e8	6.000	52.00	8.00	○
6.000	e8	6.000	52.00	8.00	•
7.000	e8	10.000	60.00	10.00	○
8.000	e8	10.000	61.00	11.00	•
9.000	h10	10.000	61.00	11.00	○
10.000	e8	10.000	63.00	13.00	•
12.000	e8	12.000	73.00	16.00	•
13.000	h10	12.000	73.00	16.00	○
14.000	e8	12.000	73.00	16.00	○
16.000	e8	16.000	79.00	19.00	•
19.000	h10	16.000	79.00	19.00	○
20.000	e8	20.000	88.00	22.00	•
22.000	e8	20.000	88.00	22.00	
25.000	e8	25.000	102.00	26.00	○
28.000	e8	25.000	102.00	26.00	○

• *Australian stock item* ○ *German stock item*

Guhring no.	3308	6984	3679
Standard	DIN 6527	Guhring std.	Guhring std.
Tool material	Solid carbide		
Surface	○	Cb	F
Type	N	W	N
Length	standard	standard	standard
Helix angle	30°	35°	30°
Tolerance	h10	h10	h10
	Aluminium	*Aluminium*	



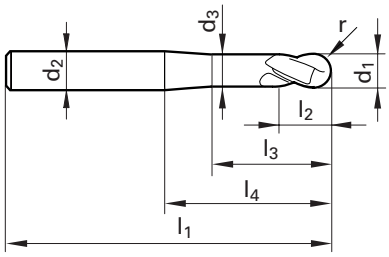
d1	d2	l1	l2	l3	r	AVAILABILITY	
mm	mm	mm	mm	mm	mm		
0.500	3.000	38.00	1.00	2.10	0.25	•	•
0.800	3.000	38.00	1.00	2.10	0.40	•	•
1.000	3.000	38.00	2.00	3.90	0.50	•	•
1.500	3.000	38.00	3.00	6.40	0.75	•	•
2.000	6.000	57.00	6.00	9.40	1.00	•	•
3.000	6.000	57.00	7.00	11.90	1.50	•	•
4.000	6.000	57.00	8.00	13.40	2.00	•	•
5.000	6.000	57.00	10.00	16.90	2.50	•	•
6.000	6.000	57.00	10.00	21.00	3.00	•	•
8.000	8.000	63.00	16.00	27.00	4.00	•	•
10.000	10.000	72.00	19.00	32.00	5.00	•	•
12.000	12.000	83.00	22.00	38.00	6.00	•	•
14.000	14.000	83.00	22.00	38.00	7.00	•	•
16.000	16.000	92.00	26.00	44.00	8.00	•	•
18.000	18.000	92.00	26.00	44.00	9.00	•	•
20.000	20.000	104.00	32.00	54.00	10.00	•	•
3.000	6.000	57.00	4.00	15.00	1.50		•
4.000	6.000	57.00	5.00	18.00	2.00		•
5.000	6.000	57.00	6.00	18.00	2.50		•
6.000	6.000	57.00	7.00	20.00	3.00		•
8.000	8.000	63.00	9.00	26.00	4.00		•
10.000	10.000	72.00	11.00	30.00	5.00		•
12.000	12.000	83.00	12.00	36.00	6.00		•
16.000	16.000	92.00	16.00	42.00	8.00		•

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands S TiN A TiAlN C TiCN F FIRE/nanoFIRE Cb Carbo

BALL NOSE HARD PROFILE <62 HRC CUTTERS (2-FLUTED)

Guhring no.	3359	3360
Standard	Guhring std.	
Tool material	Solid carbide	
Surface	Signum	Signum
Type	H	H
Length	standard	long
Helix angle	30°	30°
Tolerance	h8	h8

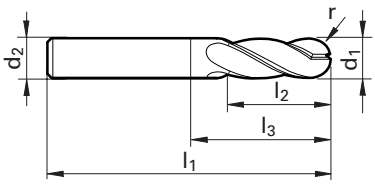


d1	d2	d3	l1	l2	l3	l4	r	AVAILABILITY	
mm	mm	mm	mm	mm	mm	mm	mm		
0.500	3.000	0.400	38.00	0.75	2.60	10.00	0.25	•	
0.800	3.000	0.700	38.00	1.20	3.50	10.00	0.40	•	
1.000	3.000	0.900	38.00	1.50	4.00	10.00	0.50	•	
1.500	3.000	1.400	38.00	2.25	5.50	10.00	0.75	•	
2.000	6.000	1.900	57.00	3.00	9.40	21.00	1.00	•	
3.000	6.000	2.700	57.00	5.00	11.60	21.00	1.50	•	
4.000	6.000	3.700	57.00	6.00	14.50	21.00	2.00	•	
5.000	6.000	4.700	57.00	8.00	17.30	21.00	2.50	•	
6.000	6.000	5.700	57.00	9.00	20.00	21.00	3.00	•	
8.000	8.000	7.700	63.00	12.00	26.00	27.00	4.00	•	
10.000	10.000	9.500	72.00	15.00	30.00	32.00	5.00	•	
12.000	12.000	11.500	83.00	18.00	36.00	38.00	6.00	•	
16.000	16.000	15.500	92.00	24.00	42.00	44.00	8.00	•	
3.000	6.000	2.700	75.00	5.00	20.00	39.00	1.50		•
4.000	6.000	3.700	75.00	6.00	20.00	39.00	2.00		•
5.000	6.000	4.700	75.00	8.00	20.00	39.00	2.50		•
6.000	6.000	5.700	75.00	9.00	38.00	39.00	3.00		•
8.000	8.000	7.700	100.00	12.00	63.00	64.00	4.00		•
10.000	10.000	9.500	100.00	15.00	58.00	60.00	5.00		•
12.000	12.000	11.500	150.00	18.00	103.00	105.00	6.00		•
16.000	16.000	15.500	150.00	24.00	100.00	102.00	8.00		•

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

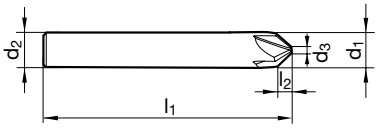
Guhring no.	5584	3043
Standard	DIN 6527 L	Guhring std.
Tool material	Carbide	Carbide
Surface	F	F
Type	N	N
Length	long	extra long
Helix angle	30°	30°
Tolerance	h10	h10



d1	d2	l1	l2	l3	r	AVAILABILITY	
mm	mm	mm	mm	mm	mm		
3.000	6.000	57.00	8.00	12.40	1.50	•	
4.000	6.000	50.00	11.00	15.90	2.00	•	
5.000	6.000	50.00	13.00	19.40	2.50	•	
6.000	6.000	57.00	13.00	21.00	3.00	•	
8.000	8.000	63.00	19.00	27.00	4.00	•	
10.000	10.000	72.00	22.00	32.00	5.00	•	
12.000	12.000	83.00	26.00	38.00	6.00	•	
16.000	16.000	92.00	44.00	32.00	8.00	•	
20.000	20.000	104.00	38.00	54.00	10.00	•	
3.000	3.000	75.00	20.00	47.00	1.50		•
4.000	4.000	75.00	25.00	47.00	2.00		•
5.000	5.000	75.00	30.00	47.00	2.50		•
6.000	6.000	75.00	30.00	39.00	3.00		•
8.000	8.000	100.00	40.00	64.00	4.00		•
10.000	10.000	100.00	40.00	60.00	5.00		•
12.000	12.000	150.00	45.00	105.00	6.00		•

• *Australian stock item* ○ *German stock item*

Guhring no.	6810	6713	6992	6812
Standard	Guhring Std.			
Tool material	Solid Carbide			
Surface	F	F	A	F
Type	N	N	N	N
Length	standard	standard	standard	standard
Angle	60°	90°	90°	120°
Tolerance	js9	h10	h10	h10

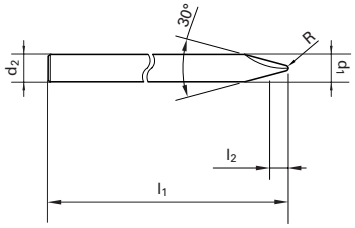


d1	d2	d3	l1	l2	z	AVAILABILITY
mm	mm	mm	mm	mm		
6.000	6.000	1.500	57.00	3.90	5	○
8.000	8.000	2.000	63.00	5.20	5	○
10.000	10.000	2.500	72.00	6.50	5	○
12.000	12.000	3.000	83.00	7.80	5	○
16.000	16.000	4.000	92.00	10.40	5	○
20.000	20.000	5.000	104.00	13.00	5	○
4.000	4.000		50.00	2.00	4	•
6.000	6.000		57.00	3.00	4	•
8.000	8.000		63.00	4.00	4	•
10.000	10.000		72.00	5.00	4	•
12.000	12.000		83.00	6.00	4	•
6.000	6.000	1.500	57.00	2.25	5	•
8.000	8.000	2.000	63.00	3.00	5	•
10.000	10.000	2.500	72.00	3.75	5	•
12.000	12.000	3.000	83.00	4.50	5	•
16.000	16.000	4.000	92.00	6.00	5	•
20.000	20.000	5.000	104.00	7.50	5	•
6.000	6.000	1.500	57.00	1.30	5	•
8.000	8.000	2.000	63.00	1.73	5	•
10.000	10.000	2.500	72.00	2.17	5	•
12.000	12.000	3.000	83.00	2.60	5	•
16.000	16.000	4.000	92.00	3.46	5	○
20.000	20.000	5.000	104.00	4.33	5	○

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands S TiN A TiAlN C TiCN F FIRE/nanoFIRE a TiAlN SuperA

Guhring no.	**5006**
Standard	**Guhring std.**
Tool material	**Solid carbide**
Surface	F
Type	**N**
Length	**standard**
Angle	**30°**
Tolerance	**h8**



d1	d2	l1	l2	r	AVAILABILITY
mm	mm	mm	mm	mm	
3.000	3.000	38.00	0.70	0.30	• 330050477

• *Australian stock item* ○ *German stock item*

Objectives: Higher efficiency through greater metal removal rate

HPC = High Performance Cutting:
max. machining volume / time; stable conditions; short chip creation; high performance; good cooling

Milling with a tool contact angle of less than 70° and cutting depths of 2-3 x tool diameter

imachining, roughing, trochoid

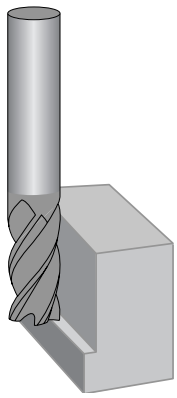
- low cutting width (a_e): <0.4 x d
- high depth of cut (a_p): up to 2-3 x d
- very high tooth feed rate (f_z)
- very high cutting speed (v_c)

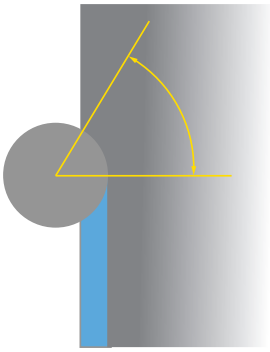
HSC = High Speed Cutting:
at higher cutting speed/ high feed; low power; low feed function

Milling with a tool contact angle of less than 37° and cutting depths up to 3x tool diameter

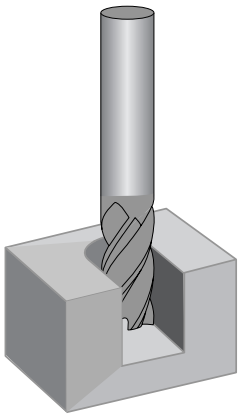
Semi roughing, finishing and fine-finishing

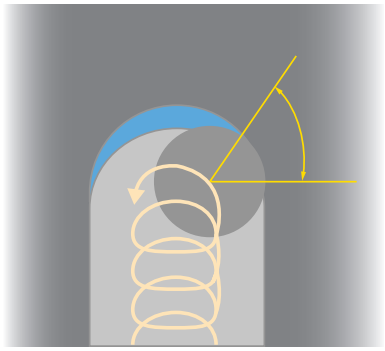
- minimum cutting width (a_e): 0.15 x d
- high depth of cut (a_p): up to 3 x d
- high tooth feed rate (f_z)
- maximum cutting speed (v_c)





Tool Contact Angle





Tool Contact Angle

HPC Linear Milling

Milling internal and external contours with high axial depth (a_p) and low radial widths (a_e). Increasing the cutting parameters due to the tool contact angle.

HPC Milling – Trochoid / imachining

Machining of grooves or complex contours with long lengths (a_p) and small radial depths (a_e). Increasing the cutting parameters due to the limited angle of contact. Programming cycles or CAM-program.

Operating Principals

- reducing the contact time of tool and workpiece results in less stress and greater thermal efficiency on the cutting edge
- the reduction of the pressure angle between the tool and workpiece reduces the average chip thickness
- less force on the tool, workpiece and machine

Benefits

- extreme increase in cutting speed
- significant increase in the feed rate per tooth
- significant increase in the removal rate
- process-reliable for difficult-to-machine materials
- increase in tool life
- machinery is conserved

Benchmarks for increasing the cutting values

Application	Radial feed in% from	* f_z Factor	* v_c Factor	Contact Angle
slotting	100%	1	1	180°
HPC roughing	33%	1,3	1,5	70°
HPC roughing	25%	1,5	1,6	60°
HPC roughing	20%	1,6	1,7	53°
HPC roughing	15%	1,9	1,7	46°
HSC roughing	10%	2,3	1,8	37°
HSC roughing	5%	3,3	1,9	26°
HSC finishing	3%	1,1	2,0	20°
HSC finishing	2%	1,4	2,0	18°
HSC finishing	1%	2,0	2,1	11°
Fine finishing	<1%	1	2	target: min R_z

* Basis for the calculation with the v_c and f_z factors is provided within the Guhring Navigator section for „grooves“ in the appropriate material group.

Example: steel C45

Tools: Milling cutter Ø12 mm

Feed: Radial feed (a_e) 3 mm

% Calculation : a_e 3 mm = 25% of Ø 12 mm

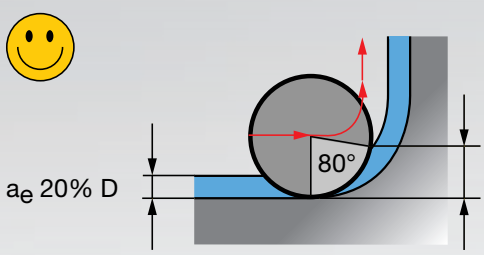
Standard values: v_c slotting = 180 m/min, f_z slotting = 0.07 mm

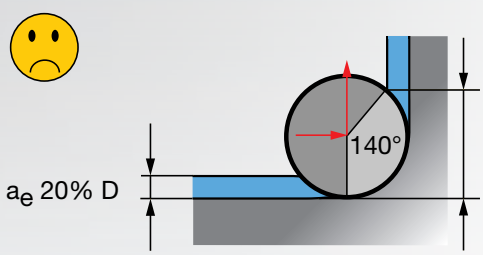
Conversion: v_c factor = 1.6 → v_c: 180 m/min x 1,6 = v_c 288 m/min
f_z factor = 1.5 → f_z: 0.07 mm x 1.5 = f_z 0.105

Increased Values: v_c 288 m/min / f_z 0.105 mm
S: 7640 min^{-1} / vf: 4580 mm/min
a_p: 24 mm a_e: 3 mm → Q: 330 cm^3/min

$$Q_{(cm^3/min)} = a_{p\ (mm)} \times a_{e\ (mm)} \times V_{f\ (m/min)}$$

The increase in the corner contact angle overloads the milling cutters. Solution: the pocket radius must be much larger than the milling cutter radius to keep the contact angle less than 80° (max load).





Guhring no. 3451, 3453, 3459, 3460, 3428, 3431, 3433

HSCO

Application	vc factor	fz factor	Feed width (ae)	Feed depth (ap)
Slotting	1	1 (0.7 for ap = 2xd)	1xd	0.5 up to 1xd
Roughing	1	1 (0.7 for ap = 2xd)	0.4 up to 0.9xd	0.5 up to 1xd
Finishing	1	1	0.01 up to 0.1xd	1 up to 2xd
HPC-roughing	1.3	1.5	0.15 up to 0.4xd	1 up to 2xd
HSC-roughing	1.5	2	0.05 up to 0.15xd	1 up to 2xd

Material	Hardness	Type of application	cut Vc	fz(mm/z) with nom. ø							
				3	6	8	10	12	16	20	25
Structural + free-cutting steels, unalloyed heat-treatable + case hardened steels S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate, E295, E360, P500NH	up to 850 N/mm2	Slotting	40	0.010	0.012	0.025	0.032	0.040	0.045	0.060	0.080
		Roughing	50	0.012	0.015	0.030	0.039	0.050	0.060	0.080	0.095
		Finishing	75	0.011	0.014	0.028	0.030	0.042	0.050	0.070	0.075
Free-cutting steels, unalloyed case hardened steels, nitriding steels 11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14, 46S20, 46SPb20	850-1,200 N/mm2	Slotting	35	0.009	0.012	0.020	0.030	0.035	0.040	0.045	0.060
		Roughing	45	0.011	0.015	0.025	0.035	0.045	0.050	0.060	0.080
		Finishing	60	0.010	0.014	0.021	0.028	0.039	0.042	0.050	0.070
Alloyed heat-treatable, tool and high speed steels 50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26, 36NiCr6, 41Cr4, 42CrMo4 Spring steel = 55Si7, 55Cr3, 51CrV4	850- 1,400 N/mm2	Slotting	25	0.008	0.010	0.015	0.025	0.032	0.040	0.045	0.060
		Roughing	35	0.010	0.012	0.020	0.030	0.039	0.050	0.060	0.080
		Finishing	50	0.009	0.011	0.015	0.028	0.030	0.042	0.050	0.070
Hardened steel Tool steel, heat-treatable steel, spring steel, high-speed steel, case hardened steel, etc. 10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620, 15NiCr13, 16MnCr5, 20CrMo5, N33, EN36A	up to 54 HRC	Slotting									
		Roughing									
		Finishing									
	54-60 HRC	Slotting									
		Roughing									
		Finishing									
Stainless steel X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	up to 750 N/mm2	Slotting	30	0.008	0.009	0.018	0.024	0.030	0.036	0.042	0.054
		Roughing	40	0.010	0.011	0.021	0.027	0.036	0.042	0.054	0.060
		Finishing	55	0.009	0.010	0.018	0.024	0.033	0.039	0.048	0.057
Stainless steel X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	750-850 N/mm2	Slotting	25	0.007	0.009	0.015	0.021	0.027	0.030	0.039	0.048
		Roughing	35	0.009	0.010	0.018	0.024	0.033	0.039	0.048	0.057
		Finishing	50	0.008	0.009	0.018	0.024	0.030	0.036	0.042	0.054
Stainless steel X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	above 850 N/mm2	Slotting	18	0.006	0.007	0.015	0.018	0.024	0.027	0.036	0.042
		Roughing	28	0.008	0.009	0.015	0.021	0.027	0.030	0.039	0.048
		Finishing	36	0.007	0.009	0.015	0.021	0.027	0.030	0.039	0.048
Special alloys (nickel based "Ni") Nimonic, Inconel, Monel, Hastelloy	up to 1,300 N/mm2	Slotting	8	0.006	0.009	0.012	0.015	0.018	0.024	0.030	0.036
		Roughing	10	0.006	0.012	0.018	0.021	0.024	0.033	0.039	0.048
		Finishing	15	0.009	0.015	0.021	0.027	0.030	0.039	0.048	0.072
Titanium alloys ("Ti") Ti99,5, TiAl5Sn2,5, TiCu2, TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2	up to 1,300 N/mm2	Slotting	18	0.009	0.015	0.021	0.027	0.030	0.039	0.048	0.072
		Roughing	25	0.010	0.018	0.024	0.033	0.039	0.048	0.057	0.084
		Finishing	45	0.010	0.018	0.024	0.033	0.039	0.048	0.057	0.084
Cast iron, grey cast iron, spheroidal graphite and malleable cast iron GG10, GG15, GG20, GG25, GG30, GG35 GG40 GGG40, GGG50, GGG60, 32510,GTW35	up to 240 HB 30	Slotting	40	0.009	0.012	0.024	0.030	0.039	0.048	0.057	0.066
		Roughing	50	0.011	0.012	0.024	0.033	0.042	0.051	0.060	0.072
		Finishing	60	0.010	0.011	0.021	0.027	0.036	0.042	0.054	0.060
Cast iron, grey cast iron, spheroidal graphite and malleable cast iron GG10, GG15, GG20, GG25, GG30, GG35 GG40 GGG40, GGG50, GGG60, 32510,GTW35	above 240 HB 30	Slotting	30	0.009	0.010	0.018	0.024	0.033	0.039	0.048	0.057
		Roughing	40	0.010	0.012	0.024	0.030	0.039	0.048	0.057	0.066
		Finishing	50	0.010	0.011	0.021	0.027	0.036	0.042	0.054	0.060
Aluminium, Al-wrought alloys, Al-alloys Al99,5, AlMgSi1, AlMg1 AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	up to 3% Si	Slotting	100	0.012	0.014	0.028	0.035	0.046	0.056	0.067	0.077
		Roughing	120	0.012	0.014	0.028	0.039	0.049	0.060	0.070	0.084
		Finishing	160	0.011	0.013	0.025	0.032	0.042	0.049	0.063	0.070
Aluminium-cast alloys G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9 G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	above 3% Si	Slotting	70	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098
		Roughing	90	0.014	0.028	0.035	0.046	0.056	0.067	0.077	0.112
		Finishing	130	0.013	0.025	0.032	0.042	0.049	0.063	0.070	0.105
Magnesium-alloys MgMn2, G-MgAl8Zn1, G-MgAl6Zn3 -	-	Slotting	65	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098
		Roughing	90	0.014	0.028	0.035	0.046	0.056	0.067	0.077	0.112
		Finishing	110	0.013	0.025	0.032	0.042	0.049	0.063	0.070	0.105
Non-ferrous metals (copper, short- or long-chipping brass or bronze) SE-Cu, CuSn6, G-CuSn5ZnPb, CuZn39Pb2, CuZn39Pb3, CuZn43Pb2, CuZn20, CuZn33, CuZn37Pb0,5, CuSn7ZnPb, CuPb5Sn5, CuPb10Sn, CuAl5, CuAl9Mn, CuSn10	up to 850 N/mm2	Slotting	60	0.011	0.018	0.025	0.032	0.035	0.046	0.056	0.084
		Roughing	80	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098
		Finishing	100	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098

All recommendations are valid for coated tools. For bright milling cutters please vc - 40% and fz -25%!

CUTTING SPEED RECOMMENDATION
(CARBIDE UNIVERSAL END MILLS 2-/3-/4- FLUTED TYPE N)

Guhring no. 3676, 5549, 5573, 3680, 3649, 5556, 3562

CARBIDE

Application	vc factor	fz factor	Feed width (ae)	Feed depth (ap)
Slotting	1	1 (0.7 for ap = 2xd)	1xd	0.5 up to 1xd
Roughing	1	1 (0.7 for ap = 2xd)	0.4 up to 0.9xd	0.5 up to 1xd
Finishing	1	1	0.01 up to 0.1xd	1 up to 2xd
HPC-roughing	1.3	1.5	0.15 up to 0.4xd	1 up to 2xd
HSC-roughing	1.5	2	0.05 up to 0.15xd	1 up to 2xd

Material	Hardness	Recommended RF100 type	Type of application	cut Vc	fz(mm/z) with nom. ø							
					3	6	8	10	12	16	20	25
Structural + free-cutting steels, unalloyed heat-treatable + case hardened steels S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate, E295, E360, P500NH	up to 850 N/mm2	2-fluted	Slotting	125	0.013	0.025	0.032	0.042	0.049	0.063	0.070	0.105
		2-/3-fluted	Roughing	140	0.014	0.028	0.039	0.049	0.060	0.070	0.084	0.119
		4-fluted	Finishing	190	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098
Free-cutting steels, unalloyed case hardened steels, nitriding steels 11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14, 46S20, 46SPb20	850-1,200 N/mm2	2-fluted	Slotting	110	0.013	0.025	0.032	0.042	0.049	0.063	0.070	0.105
		2-/3-fluted	Roughing	130	0.014	0.028	0.039	0.049	0.060	0.070	0.084	0.119
		4-fluted	Finishing	150	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098
Alloyed heat-treatable, tool and high speed steels 50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26, 36NiCr6, 41Cr4, 42CrMo4 Spring steel = 55Si7, 55Cr3, 51CrV4	850-1,400 N/mm2	2-fluted	Slotting	95	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098
		2-/3-fluted	Roughing	115	0.014	0.028	0.035	0.046	0.056	0.067	0.077	0.112
		4-fluted	Finishing	140	0.011	0.021	0.028	0.035	0.042	0.049	0.063	0.091
Hardened steel Tool steel, heat-treatable steel, spring steel, high-speed steel, case hardened steel, etc. 10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620, 15NiCr13, 16MnCr5, 20CrMo5, N33, EN36A	up to 54 HRC	2-fluted	Slotting	50	0.007	0.015	0.018	0.024	0.027	0.036	0.042	0.060
		2-/3-fluted	Roughing	75	0.009	0.015	0.021	0.027	0.030	0.039	0.048	0.072
		4-fluted	Finishing	105	0.009	0.018	0.024	0.030	0.036	0.042	0.054	0.078
	54-60 HRC											
Stainless steel X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	up to 750 N/mm2	2-fluted	Slotting	85	0.009	0.018	0.024	0.030	0.036	0.042	0.054	0.078
		2-/3-fluted	Roughing	100	0.011	0.021	0.027	0.036	0.042	0.054	0.060	0.090
		4-fluted	Finishing	125	0.010	0.018	0.024	0.033	0.039	0.048	0.057	0.084
Stainless steel X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	750-850 N/mm2	2-fluted	Slotting	55	0.009	0.015	0.021	0.027	0.030	0.039	0.048	0.072
		2-/3-fluted	Roughing	85	0.010	0.018	0.024	0.033	0.039	0.048	0.057	0.084
		4-fluted	Finishing	100	0.009	0.018	0.024	0.030	0.036	0.042	0.054	0.078
Stainless steel X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	above 850 N/mm2	2-fluted	Slotting	50	0.007	0.015	0.018	0.024	0.027	0.036	0.042	0.060
		2-/3-fluted	Roughing	70	0.009	0.015	0.021	0.027	0.030	0.039	0.048	0.072
		4-fluted	Finishing	85	0.009	0.015	0.021	0.027	0.030	0.039	0.048	0.072
Special alloys (nickel based "Ni") Nimonic, Inconel, Monel, Hastelloy	up to 1,300 N/mm2	2-fluted	Slotting	20	0.006	0.009	0.012	0.015	0.018	0.024	0.030	0.036
		2-/3-fluted	Roughing	25	0.006	0.012	0.018	0.021	0.024	0.033	0.039	0.048
		4-fluted	Finishing	30	0.009	0.015	0.021	0.027	0.030	0.039	0.048	0.072
Titanium alloys ("Ti") Ti99,5, TiAl5Sn2,5, TiCu2, TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2	up to 1,300 N/mm2	2-fluted	Slotting	40	0.009	0.015	0.021	0.027	0.030	0.039	0.048	0.072
		2-/3-fluted	Roughing	60	0.010	0.018	0.024	0.033	0.039	0.048	0.057	0.084
		4-fluted	Finishing	90	0.010	0.018	0.024	0.033	0.039	0.048	0.057	0.084
Cast iron, grey cast iron, spheroidal graphite and malleable cast iron GG10, GG15, GG20, GG25, GG30, GG35 GG40 GGG40, GGG50, GGG60, 32510,GTW35	up to 240 HB 30	2-fluted	Slotting	115	0.012	0.024	0.030	0.039	0.048	0.057	0.066	0.096
		2-/3-fluted	Roughing	125	0.012	0.024	0.033	0.042	0.051	0.060	0.072	0.102
		4-fluted	Finishing	155	0.011	0.021	0.027	0.036	0.042	0.054	0.060	0.090
Cast iron, grey cast iron, spheroidal graphite and malleable cast iron GG10, GG15, GG20, GG25, GG30, GG35 GG40 GGG40, GGG50, GGG60, 32510,GTW35	above 240 HB 30	2-fluted	Slotting	100	0.010	0.018	0.024	0.033	0.039	0.048	0.057	0.084
		2-/3-fluted	Roughing	115	0.012	0.024	0.030	0.039	0.048	0.057	0.066	0.096
		4-fluted	Finishing	140	0.011	0.021	0.027	0.036	0.042	0.054	0.060	0.090
Aluminium, Al-wrought alloys, Al-alloys Al99,5, AlMgSi1, AlMg1 AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	up to 3% Si	2-fluted	Slotting	350	0.014	0.028	0.035	0.046	0.056	0.067	0.077	0.112
		2-/3-fluted	Roughing	420	0.014	0.028	0.039	0.049	0.060	0.070	0.084	0.119
		4-fluted	Finishing	700	0.013	0.025	0.032	0.042	0.049	0.063	0.070	0.105
Aluminium-cast alloys G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9 G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	above 3% Si	2-fluted	Slotting	160	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098
		2-/3-fluted	Roughing	200	0.014	0.028	0.035	0.046	0.056	0.067	0.077	0.112
		4-fluted	Finishing	245	0.013	0.025	0.032	0.042	0.049	0.063	0.070	0.105
Magnesium-alloys MgMn2, G-MgAl8Zn1, G-MgAl6Zn3 -		2-fluted	Slotting	125	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098
		2-/3-fluted	Roughing	150	0.014	0.028	0.035	0.046	0.056	0.067	0.077	0.112
		4-fluted	Finishing	200	0.013	0.025	0.032	0.042	0.049	0.063	0.070	0.105
Non-ferrous metals (copper, short- or long-chipping brass or bronze) SE-Cu, CuSn6, G-CuSn5ZnPb, CuZn39Pb2, CuZn39Pb3, CuZn43Pb2, CuZn20, CuZn33, CuZn37Pb0,5, CuSn7ZnPb, CuPb5Sn5, CuPb10Sn, CuAl5, CuAl9Mn, CuSn10	up to 850 N/mm2	2-fluted	Slotting	175	0.011	0.018	0.025	0.032	0.035	0.046	0.056	0.084
		2-/3-fluted	Roughing	210	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098
		4-fluted	Finishing	280	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098

All recommendations are valid for coated tools. For bright milling cutters please vc - 40% and fz -25%!

CUTTING SPEED RECOMMENDATION
(CARBIDE SLOT DRILLS - 2 FLUTED TYPE W FOR ALUMINIUM)

Guhring no. 5743, 3358, 6793

CARBIDE

Application	vc factor	fz factor	Feed width (ae)	Feed depth (ap)
Slotting	1	1 (0.7 for ap = 2xd)	1xd	0.5 up to 1xd
Roughing	1	1 (0.7 for ap = 2xd)	0.4 up to 0.9xd	0.5 up to 1xd
Finishing	1	1	0.01 up to 0.1xd	1 up to 2xd
HPC-roughing	1.3	1.5	0.15 up to 0.4xd	1 up to 2xd
HSC-roughing	1.5	2	0.05 up to 0.15xd	1 up to 2xd

Material	Hardness	Recommended RF100 type	Type of application	cut Vc	fz(mm/z) with nom. ø							
					3	6	8	10	12	16	20	25
Structural + free-cutting steels, unalloyed heat-treatable + case hardened steels S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate, E295, E360, P500NH	up to 850 N/mm2											
Free-cutting steels, unalloyed case hardened steels, nitriding steels 11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14, 46S20, 46SPb20	850-1,200 N/mm2											
Alloyed heat-treatable, tool and high speed steels 50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26, 36NiCr6, 41Cr4, 42CrMo4 Spring steel = 55Si7, 55Cr3, 51CrV4	850-1,400 N/mm2											
Hardened steel Tool steel, heat-treatable steel, spring steel, high-speed steel, case hardened steel, etc. 10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620, 15NiCr13, 16MnCr5, 20CrMo5, N33, EN36A	up to 54 HRC											
	54-60 HRC											
Stainless steel X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	up to 750 N/mm2											
Stainless steel X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	750-850 N/mm2											
Stainless steel X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	above 850 N/mm2											
Special alloys (nickel based "Ni") Nimonic, Inconel, Monel, Hastelloy	up to 1,300 N/mm2											
Titanium alloys ("Ti") Ti99,5, TiAl5Sn2,5, TiCu2, TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2	up to 1,300 N/mm2											
Cast iron, grey cast iron, spheroidal graphite and malleable cast iron GG10, GG15, GG20, GG25, GG30, GG35 GG40 GGG40, GGG50, GGG60, 32510,GTW35	up to 240 HB 30											
Cast iron, grey cast iron, spheroidal graphite and malleable cast iron GG10, GG15, GG20, GG25, GG30, GG35 GG40 GGG40, GGG50, GGG60, 32510,GTW35	above 240 HB 30											
Aluminium, Al-wrought alloys, Al-alloys Al99,5, AlMgSi1, AlMg1 AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	up to 3% Si	2-fluted	Slotting	350	0.014	0.028	0.035	0.046	0.056	0.067	0.077	0.112
		2-fluted	Roughing	420	0.014	0.028	0.039	0.049	0.060	0.070	0.084	0.119
		2-fluted	Finishing	700	0.013	0.025	0.032	0.042	0.049	0.063	0.070	0.105
Aluminium-cast alloys G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9 G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	above 3% Si	2-fluted	Slotting	160	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098
		2-fluted	Roughing	200	0.014	0.028	0.035	0.046	0.056	0.067	0.077	0.112
		2-fluted	Finishing	245	0.013	0.025	0.032	0.042	0.049	0.063	0.070	0.105
Magnesium-alloys MgMn2, G-MgAl8Zn1, G-MgAl6Zn3 -		2-fluted	Slotting	125	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098
		2-fluted	Roughing	150	0.014	0.028	0.035	0.046	0.056	0.067	0.077	0.112
		2-fluted	Finishing	200	0.013	0.025	0.032	0.042	0.049	0.063	0.070	0.105
Non-ferrous metals (copper, short- or long-chipping brass or bronze) SE-Cu, CuSn6, G-CuSn5ZnPb, CuZn39Pb2, CuZn39Pb3, CuZn43Pb2, CuZn20, CuZn33, CuZn37Pb0,5, CuSn7ZnPb, CuPb5Sn5, CuPb10Sn, CuAl5, CuAl9Mn, CuSn10	up to 850 N/mm2	2-fluted	Slotting	175	0.011	0.018	0.025	0.032	0.035	0.046	0.056	0.084
		2-fluted	Roughing	210	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098
		2-fluted	Finishing	280	0.011	0.021	0.028	0.039	0.046	0.056	0.067	0.098

All recommendations are valid for coated tools. For bright milling cutters please vc - 40% and fz -25%!

CUTTING SPEED RECOMMENDATION

(RF 100 U, F, VA, A, TI, H, CARBIDE MILLING CUTTERS FOR STABLE CONDITIONS)

Guhring no. 3472, 3473, 3892, 5735, 5535, 5582, 3114, 3803, 3499, 6978, 6478, 6480

Stable conditions:
- good cooling
- sufficient performance
- short-chipping

Application	vc factor	fz factor	Feed width (ae)	Feed depth (ap)
Slotting	1	1 (0.7 for ap = 2xd)	1xd	0.5 up to 1xd
Roughing	1	1 (0.7 for ap = 2xd)	0.4 up to 0.9xd	0.5 up to 1xd
Finishing	1	1	0.01 up to 0.1xd	1 up to 2xd
HPC-roughing	1.3	1.5	0.15 up to 0.4xd	1 up to 2xd
HSC-roughing	1.5	2	0.05 up to 0.15xd	1 up to 2xd

Material	Hardness	Recom-mended RF100 type	Type of applica-tion	cut Vc	fz(mm/z) with nom. ø							
					3	6	8	10	12	16	20	25
Structural + free-cutting steels, unalloyed heat-treatable + case hardened steels S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate, E295, E360, P500NH	up to 850 N/mm2	F	Slotting	180	0.018	0.035	0.045	0.06	0.07	0.09	0.1	0.15
		F	Roughing	200	0.02	0.04	0.055	0.07	0.085	0.1	0.12	0.17
		SF	Finishing	280	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
Free-cutting steels, unalloyed case hardened steels, nitriding steels 11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14, 46S20, 46SPb20	850-1,200 N/mm2	F	Slotting	160	0.018	0.035	0.045	0.06	0.07	0.09	0.1	0.15
		F	Roughing	180	0.02	0.04	0.055	0.07	0.085	0.1	0.12	0.17
		SF	Finishing	220	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
Alloyed heat-treatable, tool and high speed steels 50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26, 36NiCr6, 41Cr4, 42CrMo4 Spring steel = 55Si7, 55Cr3, 51CrV4	850-1,400 N/mm2	U	Slotting	135	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
		U	Roughing	160	0.02	0.04	0.05	0.065	0.08	0.095	0.11	0.16
		SF	Finishing	200	0.015	0.03	0.04	0.05	0.06	0.07	0.09	0.13
Hardened steel Tool steel, heat-treatable steel, spring steel, high-speed steel, case hardened steel, etc. 10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620, 15NiCr13, 16MnCr5, 20CrMo5, N33, EN36A	up to 54 HRC	U	Slotting	70	0.012	0.025	0.03	0.04	0.045	0.06	0.07	0.1
		U	Roughing	110	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
		SF	Finishing	150	0.015	0.03	0.04	0.05	0.06	0.07	0.09	0.13
	54-60 HRC		Slotting									
		H	Roughing									
		H	Finishing	110	0,01	0,015	0,025	0,035	0,042	0,05	0,08	0,09
Stainless steel X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	up to 750 N/mm2	VA	Slotting	120	0.015	0.03	0.04	0.05	0.06	0.07	0.09	0.13
		VA	Roughing	140	0.018	0.035	0.045	0.06	0.07	0.09	0.1	0.15
		SF	Finishing	180	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
Stainless steel X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	750-850 N/mm2	VA	Slotting	80	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
		VA	Roughing	120	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
		SF	Finishing	140	0.015	0.03	0.04	0.05	0.06	0.07	0.09	0.13
Stainless steel X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	above 850 N/mm2	VA/F	Slotting	70	0.012	0.025	0.03	0.04	0.045	0.06	0.07	0.1
		VA/F	Roughing	100	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
		SF	Finishing	120	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
Special alloys (nickel based "Ni") Nimonic, Inconel, Monel, Hastelloy	up to 1,300 N/mm2	Ti/U	Slotting	30	0,01	0.015	0.02	0.025	0.03	0.04	0.05	0.06
		Ti/U	Roughing	35	0.01	0.02	0.03	0.035	0.04	0.055	0.065	0.08
		SF	Finishing	45	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
Titanium alloys ("Ti") Ti99,5, TiAl5Sn2,5, TiCu2, TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2	up to 1,300 N/mm2	Ti/U	Slotting	60	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
		Ti/U	Roughing	90	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
		SF	Finishing	130	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
Cast iron, grey cast iron, spheroidal graphite and malleable cast iron GG10, GG15, GG20, GG25, GG30, GG35 GG40 GGG40, GGG50, GGG60, 32510,GTW35	up to 240 HB 30	F	Slotting	160	0.02	0.04	0.05	0.065	0.08	0.095	0.11	0.16
		F	Roughing	180	0.02	0.04	0.055	0.07	0.085	0.1	0.12	0.17
		SF	Finishing	220	0.018	0.035	0.045	0.06	0.07	0.09	0.1	0.15
Cast iron, grey cast iron, spheroidal graphite and malleable cast iron GG10, GG15, GG20, GG25, GG30, GG35 GG40 GGG40, GGG50, GGG60, 32510,GTW35	above 240 HB 30	U	Slotting	140	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
		U	Roughing	160	0.02	0.04	0.05	0.065	0.08	0.095	0.11	0.16
		SF	Finishing	200	0.018	0.035	0.045	0.06	0.07	0.09	0.1	0.15
Aluminium, Al-wrought alloys, Al-alloys Al99,5, AlMgSi1, AlMg1 AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	up to 3% Si	A	Slotting	500	0.02	0.04	0.05	0.065	0.08	0.095	0.11	0.16
		A	Roughing	600	0.02	0.04	0.055	0.07	0.085	0.1	0.12	0.17
		A	Finishing	1000	0.018	0.035	0.045	0.06	0.07	0.09	0.1	0.15
Aluminium-cast alloys G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9 G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	above 3% Si	A	Slotting	230	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
		A	Roughing	280	0.02	0.04	0.05	0.065	0.08	0.095	0.11	0.16
		A	Finishing	350	0.018	0.035	0.045	0.06	0.07	0.09	0.1	0.15
Magnesium-alloys MgMn2, G-MgAl8Zn1, G-MgAl6Zn3 -		A	Slotting	180	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
		A	Roughing	220	0.02	0.04	0.05	0.065	0.08	0.095	0.11	0.16
		A	Finishing	280	0.018	0.035	0.045	0.06	0.07	0.09	0.1	0.15
Non-ferrous metals (copper, short- or long-chipping brass or bronze) SE-Cu, CuSn6, G-CuSn5ZnPb, CuZn39Pb2, CuZn39Pb3, CuZn-43Pb2, CuZn20, CuZn33, CuZn37Pb0,5, CuSn7ZnPb, CuPb5Sn5, CuPb10Sn, CuAl5, CuAl9Mn, CuSn10	up to 850 N/mm2	A	Slotting	250	0.015	0.025	0.035	0.045	0.05	0.065	0.08	0.12
		A	Roughing	300	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14
		SF	Finishing	400	0.016	0.03	0.04	0.055	0.065	0.08	0.095	0.14

All recommendations are valid for coated tools. For bright milling cutters please vc - 40% and fz -25%!

Guhring no. 6736, 6737

RF100 diver

PLUNGING* AND RAMPING*

Material/ISO material	Hardness	Ramping depth* (a_p max.)	Ramping max. angle in °	Cutting speed (vc)	fz(mm/z) with nom. ø					
					5.7	7.7	9.7	11.7	15.6	19.5
Struct./free-cutting steels, unall. heat-treat./case hard. steels	up to 850 N/mm²	1xd	45°	270	0.020	0.030	0.040	0.045	0.050	0.060
Free-cutting steels, unalloyed case hard. steels, nitr. steels	850 - 1200 N/mm²	1xd	45°	240	0.015	0.020	0.035	0.040	0.045	0.050
Alloyed heat-treatable, tool and high speed steels	850 - 1400 N/mm²	1xd	30°	200	0.010	0.015	0.025	0.030	0.035	0.040
Stainless steel - easy to machine / sulphured	up to 750 N/mm²	1xd	10°	60	0.010	0.015	0.025	0.030	0.035	0.040
Stainless steel - moderately difficult to machine	over 750 - 950 N/mm²	0.5xd	5°	50	0.010	0.015	0.020	0.025	0.030	0.035
Cast iron, grey cast iron, spher. graphite/malleable cast iron	over 240 HB 30	1xd	45°	150	0.020	0.030	0.040	0.045	0.050	0.060
Aluminium, Al-wrought alloys, Al-alloys	up to 3% Si	1xd	30°	180	0.015	0.020	0.035	0.040	0.045	0.050
Aluminium-cast alloys	over 3% Si	1xd	45°	140	0.020	0.030	0.040	0.045	0.050	0.060
Titanium, Titanium alloys	up to 1400 N/mm²	0.5xd	10°	45	0.010	0.015	0.020	0.025	0.030	0.035

* peripheral cooling „Guhrojet“ recommended for optimal chip evacuation and tool life

SLOTTING*

Material/ISO material	Hardness	Cutting depth* (ap)	Cutting width (ae)	Cutting speed (vc)	fz(mm/z) with nom. ø					
					5.7	7.7	9.7	11.7	15.6	19.5
Struct./free-cutting steels, unall. heat-treat./case hard. steels	up to 850 N/mm²	1xd	1xd	270	0.025	0.035	0.050	0.060	0.080	0.100
Free-cutting steels, unalloyed case hard. steels, nitr. steels	850 - 1200 N/mm²	1xd	1xd	240	0.025	0.035	0.050	0.060	0.080	0.100
Alloyed heat-treatable, tool and high speed steels	850 - 1400 N/mm²	1xd	1xd	200	0.025	0.030	0.045	0.050	0.070	0.085
Stainless steel - easy to machine / sulphured	up to 750 N/mm²	1xd	1xd	120	0.020	0.030	0.045	0.060	0.065	0.075
Stainless steel - moderately difficult to machine	over 750 - 950 N/mm²	1xd	1xd	80	0.020	0.030	0.040	0.045	0.060	0.070
Cast iron, grey cast iron, spher. graphite/malleable cast iron	over 240 HB 30	1xd	1xd	160	0.025	0.035	0.050	0.060	0.080	0.100
Aluminium, Al-wrought alloys, Al-alloys	up to 3% Si	1xd	1xd	500	0.030	0.040	0.065	0.080	0.095	0.110
Aluminium-cast alloys	over 3% Si	1xd	1xd	340	0.020	0.030	0.055	0.065	0.080	0.100
Titanium, Titanium alloys	up to 1400 N/mm²	1xd	1xd	60	0.020	0.030	0.040	0.045	0.060	0.070

* peripheral cooling „Guhrojet“ recommended for optimal chip evacuation and tool life

HPC-ROUGHING* AND HSC-FINISHING**

Material/ISO material	Hardness	Cutting depth* (ap)	Cutting width (ae)	Cutting speed (vc)	fz(mm/z) with nom. ø					
					5.7	7.7	9.7	11.7	15.6	19.5
Struct./free-cutting steels, unall. heat-treat./case hard. steels	up to 850 N/mm²	2xd	0.4xd	350	0.030	0.045	0.060	0.075	0.090	0.110
Free-cutting steels, unalloyed case hard. steels, nitr. steels	850 - 1200 N/mm²	2xd	0.4xd	290	0.030	0.045	0.060	0.075	0.090	0.110
Alloyed heat-treatable, tool and high speed steels	850 - 1400 N/mm²	2xd	0.3xd	240	0.025	0.030	0.055	0.070	0.085	0.100
Stainless steel - easy to machine / sulphured	up to 750 N/mm²	2xd	0.3xd	140	0.025	0.035	0.055	0.065	0.080	0.090
Stainless steel - moderately difficult to machine	over 750 - 950 N/mm²	2xd	0.25xd	120	0.020	0.030	0.045	0.050	0.065	0.075
Cast iron, grey cast iron, spher. graphite/malleable cast iron	over 240 HB 30	2xd	0.4xd	180	0.030	0.045	0.060	0.075	0.090	0.110
Aluminium, Al-wrought alloys, Al-alloys	up to 3% Si	2xd	0.5xd	600	0.040	0.060	0.080	0.100	0.120	0.150
Aluminium-cast alloys	over 3% Si	2xd	0.4xd	420	0.030	0.045	0.060	0.075	0.090	0.110
Titanium, Titanium alloys	up to 1400 N/mm²	2xd	0.4xd	120	0.020	0.030	0.045	0.050	0.065	0.075

* peripheral cooling „Guhrojet“ recommended for optimal chip evacuation and tool life
** for HSC machining the cutting speed can be increased by 50%, feed rate fz can be reduced depending on surface requirements.
*** for trochoidal milling and imachining with ae = 0.1-0.2xd the cutting speed vc and the feed rate can be increased by 50 %.

DRILLING*

Material/ISO material	Hardness	Cutting depth** (ap)	Cutting speed (vc)	fz(mm/z) with nom. ø					
				5.7	7.7	9.7	11.7	15.6	19.5
Struct./free-cutting steels, unall. heat-treat./case hard. steels	up to 850 N/mm²	2xd	270	0.020	0.030	0.040	0.045	0.050	0.060
Free-cutting steels, unalloyed case hard. steels, nitr. steels	850 - 1200 N/mm²	2xd	240	0.015	0.020	0.035	0.040	0.045	0.050
Alloyed heat-treatable, tool and high speed steels	850 - 1400 N/mm²	1xd	200	0.010	0.015	0.025	0.030	0.035	0.040
Cast iron, grey cast iron, spher. graphite/malleable cast iron	over 240 HB 30	2xd	150	0.020	0.030	0.040	0.045	0.050	0.060
Aluminium, Al-wrought alloys, Al-alloys	up to 3% Si	1xd	180	0.015	0.020	0.035	0.040	0.045	0.050
Aluminium-cast alloys	over 3% Si	1xd	140	0.020	0.030	0.040	0.045	0.050	0.060

* pecking recommended from drilling depth 1XD
* peripheral cooling „Guhrojet“ recommended for optimal chip evacuation and tool life

CUTTING SPEED RECOMMENDATION
(CARBIDE UNIVERSAL SLOT DRILLS AND END MILLS WITH BALL NOSE)

Tool length/reach	up to 3xD	Vc and fz	100%
Tool length/reach	3-5xD	Vc and fz	80%
Tool length/reach	> 5-10xD	Vc and fz	60%

Guhring no. 3679, 3359, 3360, 3050, 5584, 3043, 6984

Application	Width/depth		Nom. diameter (mm)							
			2	3	4	6	8	10	12	16
Roughing	ae	(mm)	0.1	0.15	0.2	0.4	0.6	0.75	1	1.2
	ap	(mm)	0.15	0.15	0.3	0.5	0.75	1	1.5	1.5
Finishing	ae	(mm)	0.05	0.07	0.1	0.14	0.16	0.18	0.2	0.3
	ap	(mm)	0.05	0.05	0.07	0.1	0.15	0.2	0.25	0.3

Material	Hard-ness	Recom-mended type	Type of application	cut Vc	fz(mm/z) with nom. ø							
					3	6	8	10	12	16	20	25
Structural + free-cutting steels, unalloyed heat-treatable + case hardened steels S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate, E295, E360, P500NH	up to 850 N/mm2	2-/4-fluted	Roughing	175	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
		2-/4-fluted	Finishing	350	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
Free-cutting steels, unalloyed case hardened steels, nitriding steels 11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14, 46S20, 46SPb20	850-1,200 N/mm2	2-/4-fluted	Roughing	175	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
		2-/4-fluted	Finishing	245	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
Alloyed heat-treatable, tool and high speed steels 50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26, 36NiCr6, 41Cr4, 42CrMo4 Spring steel = 55Si7, 55Cr3, 51CrV4	850-1,400 N/mm2	2-/4-fluted	Roughing	140	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
		2-/4-fluted	Finishing	210	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
Hardened steel Tool steel, heat-treatable steel, spring steel, high-speed steel, case hardened steel, etc. 10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620, 15NiCr13, 16MnCr5, 20CrMo5, N33, EN36A	up to 54 HRC	Roughing										
		Finishing										
	54-60 HRC	Roughing										
		Finishing										
Stainless steel X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	up to 750 N/mm2	2-/4-fluted	Roughing	126	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
		2-/4-fluted	Finishing	196	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
Stainless steel X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	750-850 N/mm2	2-/4-fluted	Roughing	91	0.014	0.021	0.025	0.028	0.035	0.049	0.056	0.070
		2-/4-fluted	Finishing	140	0.018	0.021	0.028	0.032	0.035	0.049	0.070	0.084
Stainless steel X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	above 850 N/mm2	2-/4-fluted	Roughing	56	0.014	0.021	0.025	0.028	0.035	0.049	0.056	0.070
		2-/4-fluted	Finishing	91	0.018	0.021	0.028	0.032	0.035	0.049	0.070	0.084
Special alloys (nickel based "Ni") Nimonic, Inconel, Monel, Hastelloy	up to 1,300 N/mm2	2-/4-fluted	Roughing	28	0.007	0.014	0.021	0.025	0.028	0.035	0.049	0.056
		2-/4-fluted	Finishing	42	0.014	0.018	0.021	0.028	0.032	0.042	0.056	0.063
Titanium alloys ("Ti") Ti99,5, TiAl5Sn2,5, TiCu2, TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2	up to 1,300 N/mm2	2-/4-fluted	Roughing	56	0.014	0.021	0.025	0.028	0.035	0.049	0.056	0.070
		2-/4-fluted	Finishing	105	0.018	0.021	0.028	0.032	0.035	0.049	0.070	0.084
Cast iron, grey cast iron, spheroidal graphite and malleable cast iron GG10, GG15, GG20, GG25, GG30, GG35 GG40 GGG40, GGG50, GGG60, 32510,GTW35	up to 240 HB 30	2-/4-fluted	Roughing	140	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
		2-/4-fluted	Finishing	210	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
Cast iron, grey cast iron, spheroidal graphite and malleable cast iron GG10, GG15, GG20, GG25, GG30, GG35 GG40 GGG40, GGG50, GGG60, 32510,GTW35	above 240 HB 30	2-/4-fluted	Roughing	105	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
		2-/4-fluted	Finishing	161	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
Aluminium, Al-wrought alloys, Al-alloys Al99,5, AlMgSi1, AlMg1 AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	up to 3% Si											
Aluminium-cast alloys G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9 G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	above 3% Si	2-/4-fluted	Roughing	196	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
		2-/4-fluted	Finishing	245	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
Magnesium-alloys MgMn2, G-MgAl8Zn1, G-MgAl6Zn3 -												
Non-ferrous metals (copper, short- or long-chipping brass or bronze) SE-Cu, CuSn6, G-CuSn5ZnPb, CuZn39Pb2, CuZn39Pb3, CuZn43Pb2, CuZn20, CuZn33, CuZn37Pb0,5, CuSn7ZnPb, CuPb5Sn5, CuPb10Sn, CuAl5, CuAl9Mn, CuSn10	up to 850 N/mm2	2-/4-fluted	Roughing	175	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105
		2-/4-fluted	Finishing	280	0.021	0.028	0.032	0.035	0.049	0.070	0.084	0.105

All recommendations are valid for coated tools. For bright milling cutters please vc - 40% and fz -25%!

GROOVING

SYSTEM OVERVIEW

SYSTEM 104

Micro-precision tools from Ø 0.7 mm
Broaching from Ø 1.5 mm

SYSTEM 106

Micro-precision tools from Ø 5 mm
Broaching from Ø 6 mm

SYSTEM 108

Micro-precision tools from Ø 7 mm
Broaching from Ø 9 mm

SYSTEM 110

Micro-precision tools for special solutions

SYSTEM 305

Indexable inserts and tool holders
for grooving and parting off

SYSTEM 222

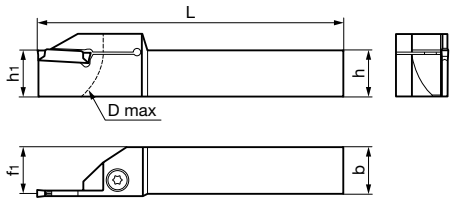
New system
for grooving and parting off

If you require further information ask your local rep for a full Grooving Catalogue

Square shank holders straight, external machining, without IC

- **tmax: maximum grooving depth before 2nd cutting edge engages**
- without internal coolant supply

Type GH222



D max = 52	
max Ø	t max
52	26
65	24
82	22
100	21
160	20

Right hand version shown
Left hand version mirror image

Article no. **26100**

Version right

Code no.	Description	t max	h	b	L	h1	f1	D max	Size
		mm	mm	mm	mm	mm	mm	mm	
22.020	GH222.1212.125.00.03.R.00.34	21.00	12.00	12.00	125.00	12.00	10.50	34.00	03
22.030	GH222.0500.500.00.03.R.00.34	21.00	12.70	12.70	127.00	12.70	11.20	34.00	03
22.040	GH222.0625.500.00.03.R.00.45	21.00	15.87	15.87	127.00	15.87	14.37	45.00	03
22.050	GH222.1616.125.00.03.R.00.45	21.00	16.00	16.00	125.00	16.00	14.50	45.00	03
22.060	GH222.0750.500.00.03.R.00.52	21.00	19.05	19.05	127.00	19.05	19.05	52.00	03
22.070	GH222.2020.125.00.03.R.00.52	21.00	20.00	20.00	125.00	20.00	20.00	52.00	03
22.080	GH222.2525.150.00.03.R.00.52	21.00	25.00	25.00	150.00	25.00	25.00	52.00	03
22.090	GH222.1000.600.00.03.R.00.52	21.00	25.40	25.40	152.40	25.40	25.40	52.00	03

Article no. **26101**

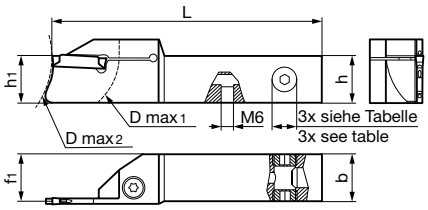
Version left

Code no.	Description	t max	h	b	L	h1	f1	D max	Size
		mm	mm	mm	mm	mm	mm	mm	
22.020	GH222.1212.125.00.03.L.00.34	21.00	12.00	12.00	125.00	12.00	10.50	34.00	03
22.030	GH222.0500.500.00.03.L.00.34	21.00	12.70	12.70	127.00	12.70	11.20	34.00	03
22.040	GH222.0625.500.00.03.L.00.45	21.00	15.87	15.87	127.00	15.87	14.37	45.00	03
22.050	GH222.1616.125.00.03.L.00.45	21.00	16.00	16.00	125.00	16.00	14.50	45.00	03
22.060	GH222.0750.500.00.03.L.00.52	21.00	19.05	19.05	127.00	19.05	19.05	52.00	03
22.070	GH222.2020.125.00.03.L.00.52	21.00	20.00	20.00	125.00	20.00	20.00	52.00	03
22.080	GH222.2525.150.00.03.L.00.52	21.00	25.00	25.00	150.00	25.00	25.00	52.00	03
22.090	GH222.1000.600.00.03.L.00.52	21.00	25.40	25.40	152.40	25.40	25.40	52.00	03

Square shank holders straight, external machining, with IC

- **tmax: maximum grooving depth before 2nd cutting edge engages**
- with internal coolant supply from above and below
- TL (tubeless): tubeless coolant supply from location face from shank size 19.05x19.05

Type GH222



□	⊘
12/12	M8x1
12,7/12,7	M8x1
15,87/15,87	G1/8
16/16	G1/8
19,05/19,05	G1/8
20/20	G1/8
25/25	G1/8
25,4/25,4	G1/8

D max 1 = 52	
max Ø	t max
52	26
65	24
82	22
100	21
120	20

Right hand version shown
Left hand version mirror image

Article no. **26102**

Version right

Code no.	Description	t max	h	b	L	h1	f1	TL	D max1	D max2	Size
		mm	mm	mm	mm	mm	mm		mm	mm	
22.020	GH222.1212.125.00.03.R.IK.34	21.00	12.00	12.00	125.00	12.00	10.50	-	34.00	65.00	03
22.030	GH222.0500.500.00.03.R.IK.34	21.00	12.70	12.70	127.00	12.70	11.20	-	34.00	65.00	03
22.040	GH222.0625.500.00.03.R.IK.45	21.00	15.87	15.87	127.00	15.87	14.37	-	45.00	82.00	03
22.050	GH222.1616.125.00.03.R.IK.45	21.00	16.00	16.00	125.00	16.00	14.50	-	45.00	82.00	03
22.060	GH222.0750.427.00.03.R.IK.52	21.00	19.05	19.05	108.50	19.05	19.05	M6	52.00	82.00	03
22.070	GH222.2020.109.00.03.R.IK.52	21.00	20.00	20.00	109.00	20.00	20.00	M6	52.00	82.00	03
22.080	GH222.2525.120.00.03.R.IK.52	21.00	25.00	25.00	120.50	25.00	25.00	M6	52.00	120.00	03
22.090	GH222.1000.474.00.03.R.IK.52	21.00	25.40	25.40	120.50	25.40	25.40	M6	52.00	120.00	03

Article no. **26103**

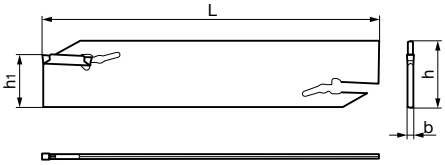
Version left

Code no.	Description	t max	h	b	L	h1	f1	TL	D max1	D max2	Size
		mm	mm	mm	mm	mm	mm		mm	mm	
22.020	GH222.1212.125.00.03.L.IK.34	21.00	12.00	12.00	125.00	12.00	10.50	-	34.00	65.00	03
22.030	GH222.0500.500.00.03.L.IK.34	21.00	12.70	12.70	127.00	12.70	11.20	-	34.00	65.00	03
22.040	GH222.0625.500.00.03.L.IK.45	21.00	15.87	15.87	127.00	15.87	14.37	-	45.00	82.00	03
22.050	GH222.1616.125.00.03.L.IK.45	21.00	16.00	16.00	125.00	16.00	14.50	-	45.00	82.00	03
22.060	GH222.0750.427.00.03.L.IK.52	21.00	19.05	19.05	108.50	19.05	19.05	M6	52.00	82.00	03
22.070	GH222.2020.109.00.03.L.IK.52	21.00	20.00	20.00	109.00	20.00	20.00	M6	52.00	82.00	03
22.080	GH222.2525.120.00.03.L.IK.52	21.00	25.00	25.00	120.50	25.00	25.00	M6	52.00	120.00	03
22.090	GH222.1000.474.00.03.L.IK.52	21.00	25.40	25.40	120.50	25.40	25.40	M6	52.00	120.00	03

Parting off blades, without IC

- without internal coolant supply

Type GS222



Article no. **26200**

Version neutral

Code no.	Description	t max	b	h	h1	L	Size
		mm	mm	mm	mm	mm	
22.002	GS222.0026.120.03.02.N	35.00	2.25	26.00	21.40	120.00	03
22.003	GS222.0032.150.03.02.N	45.00	2.25	32.00	25.00	150.00	03

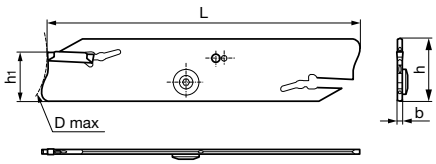
Spare parts

Article no.	Mounting key
25921	
Code 15.000	

Parting off blades, with IC

- with internal coolant supply from above and below

Type GS222



Article no. **26201**

Version neutral

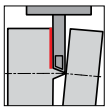
Code no.	Description	t max	b	h	h1	L	D max	Size
		mm	mm	mm	mm	mm	mm	
22.002	GS222.0026.118.03.02.N.IK	35.00	2.25	26.00	21.40	118.00	70.00	03
22.003	GS222.0032.147.03.02.N.IK	45.00	2.25	32.00	25.00	147.50	90.00	03

Spare parts

Article no.	Mounting key
25921	
Code 15.000	

Article no.	IC locking screw
25909	
Code 4.000	

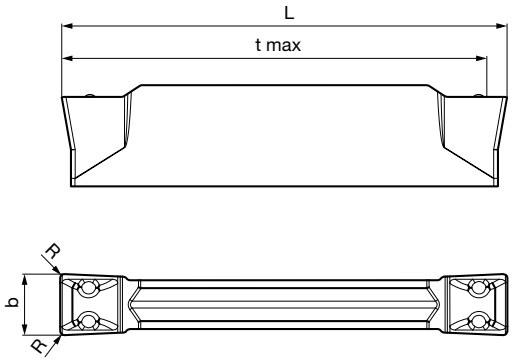
Indexable inserts for parting off



- with chip former

Tool material	**Solid carbide**
Type	GZ222
Surface	F
	FIRE

Scan for speeds and feeds

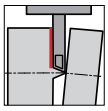


Article no. **26601**

Version neutral

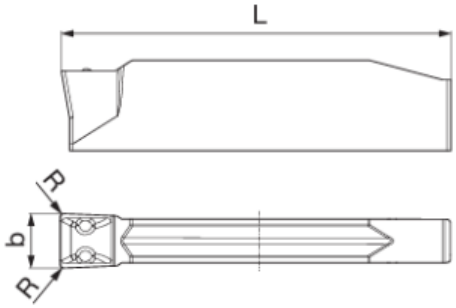
Code no.	Description	t max	b ±0.025	L ±0.1	R	W2
		mm	mm	mm	mm	°
22.030	GZ222.0300.020.PP.02.N	21.00	3.00	22.00	0.20	0
NEW 22.020	GZ222.0200.020.PP.02.N	21.00	2.00	22.00	0.20	0

Indexable inserts for parting off - Single Sided



- with chip former

Tool material	**Solid carbide**
Type	GZ122
Surface	F
	FIRE

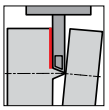


Article no. **26604**

Version neutral

Code no.	Description	t max	b ±0.025	L ±0.1	R	W2
		mm	mm	mm	mm	°
22.030	GZ222.0300.020.PP.02.N		3.00	21.54	0.20	

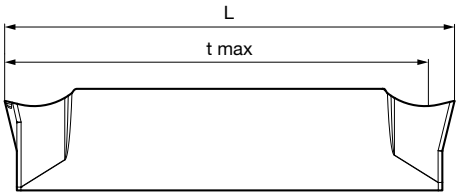
Indexable inserts for parting off

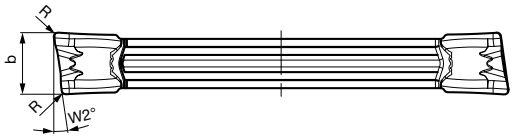


- with chip former

Tool material	**Solid carbide**
Type	GZ222
Surface	F
	FIRE

Scan for speeds and feeds





Right hand version shown
Left hand version mirror image

Article no. **26602**

Version right

Code no.	Description	t max	b ±0.025	L ±0.1	R	W2
		mm	mm	mm	mm	°
22.030	GZ222.0300.020.PM.01.R.08	21.00	3.00	22.00	0.20	8

Article no. **26603**

Version left

Code no.	Description	t max	b ±0.025	L ±0.1	R	W2
		mm	mm	mm	mm	°
22.030	GZ222.0300.020.PM.01.L.08	21.00	3.00	22.00	0.20	8

Article no. **26605**

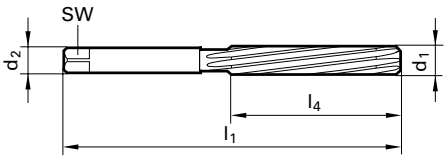
Version neutral

For Stainless Steel

Code no.	Description	t max	b ±0.025	L ±0.1	R	W2
		mm	mm	mm	mm	°
22.030	GZ222.0300.020.PP.02.N	21.00	3.00	22.00	0.20	8

REAMERS

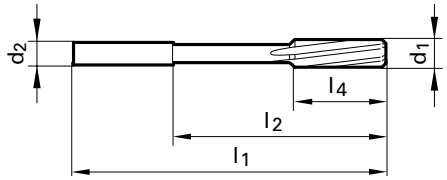
Guhring no.	**413**
Standard	**DIN 206**
Tool material	**HSS**
Surface	○
Form	**B**
Cutting direction	**right-hand**
Tolerance	**H7**
Helix angle	**8°**
Hole type	**through hole**



d1	d2	l1	l4	SW	z	AVAILABILITY
mm	mm	mm	mm	mm		
5.000	5.000	87.00	44.00	3.80	6	○
5.500	5.500	93.00	47.00	4.30	6	○
6.000	6.000	93.00	47.00	4.90	6	○
6.500	6.500	100.00	50.00	4.90	6	○
7.000	7.000	107.00	54.00	5.50	6	○
7.500	7.500	107.00	54.00	6.20	6	○
8.000	8.000	115.00	58.00	6.20	6	○
8.500	8.500	115.00	58.00	7.00	6	○
9.000	9.000	124.00	62.00	7.00	6	○
9.500	9.500	124.00	62.00	8.00	6	○
10.000	10.000	133.00	66.00	8.00	6	○
10.500	10.500	133.00	66.00	8.00	6	○
11.000	11.000	142.00	71.00	9.00	6	○
11.500	11.500	142.00	71.00	9.00	6	○
12.000	12.000	152.00	76.00	9.00	6	○
12.500	12.500	152.00	76.00	10.00	6	○
13.000	13.000	152.00	76.00	10.00	6	○
14.000	14.000	163.00	81.00	11.00	8	○
15.000	15.000	163.00	81.00	12.00	8	○
16.000	16.000	175.00	87.00	12.00	8	○
16.500	16.500	175.00	87.00	13.00	8	○
17.000	17.000	175.00	87.00	13.00	8	○
18.000	18.000	188.00	93.00	14.50	8	○
19.000	19.000	188.00	93.00	14.50	8	○
20.000	20.000	201.00	100.00	16.00	8	○
21.000	21.000	201.00	100.00	16.00	8	○
22.000	22.000	215.00	107.00	18.00	8	○
24.000	24.000	231.00	115.00	18.00	8	○
25.000	25.000	231.00	115.00	20.00	8	○
28.000	28.000	247.00	124.00	22.00	10	○
30.000	30.000	247.00	124.00	24.00	10	○
31.000	31.000	265.00	133.00	24.00	10	○
32.000	32.000	265.00	133.00	24.00	10	○
33.000	33.000	265.00	133.00	26.00	10	○
34.000	34.000	284.00	142.00	26.00	10	○
35.000	35.000	284.00	142.00	29.00	10	○
38.000	38.000	305.00	152.00	29.00	10	○
40.000	40.000	305.00	152.00	32.00	10	○
43.000	43.000	326.00	163.00	35.00	12	○

• *Australian stock item* ○ *German stock item*

Guhring no.	468	5004
Standard	DIN 212-2	DIN 212-2
Tool material	HSS-E	
Surface	○	○
Form	B	B
Cutting direction	right-hand	right-hand
Tolerance	H7	H7
Helix angle	8°	8°
Hole type	through hole	through hole



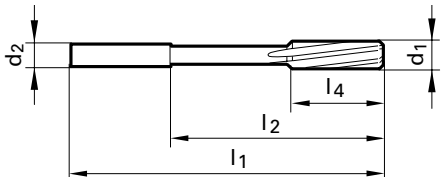
d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l4 mm	z	AVAILABILITY	
4.000		4.000	75.00	47.00	19.00	6	•	
4.500		4.500	80.00	52.00	21.00	6	•	
5.000		5.000	86.00	58.00	23.00	6	•	
5.500		5.600	93.00	57.00	26.00	6	•	
6.000		5.600	93.00	57.00	26.00	6	•	
6.500		6.300	101.00	65.00	28.00	6	•	
7.000		7.100	109.00	73.00	31.00	6	•	
8.000		8.000	117.00	81.00	33.00	6	•	
9.000		9.000	125.00	85.00	36.00	6	•	
10.000		10.000	133.00	93.00	38.00	6	•	
11.000		10.000	142.00	102.00	41.00	6	•	
12.000		10.000	151.00	111.00	44.00	6	•	
13.000		10.000	151.00	111.00	44.00	6	•	
14.000		12.500	160.00	115.00	47.00	8	•	
15.000		12.500	162.00	117.00	50.00	8	•	
16.000		12.500	170.00	125.00	52.00	8	•	
17.000		14.000	175.00	130.00	54.00	8	•	
18.000		14.000	182.00	137.00	56.00	8	•	
19.000		16.000	189.00	141.00	58.00	8	•	
20.000		16.000	195.00	147.00	60.00	8	•	
12.700	**1/2**	10.000	151.00	111.00	44.00	6		• 302676137
14.287	**9/16**	12.500	162.00	117.00	50.00	8		• 302676138
15.875	**5/8**	12.500	170.00	125.00	52.00	8		• 302676139
19.050	**3/4**	16.000	189.00	141.00	58.00	8		• 302676140
22.225	**7/8**	18.000	217.00	161.00	66.00	8		• 302676141
25.400	**1**	20.000	234.00	174.00	70.00	8		• 302676142

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	**496**
Standard	**DIN 212**
Tool material	**HSS-E**
Surface	○
Form	**B**
Cutting direction	**right-hand**
Tolerance	**+0.004/+0.005**
Helix angle	**8°**
Hole type	**through hole**

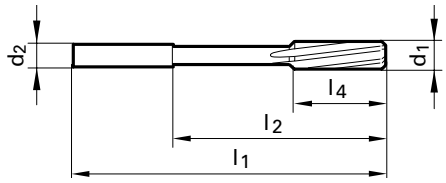
Available in 0.01mm increments on request



d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l4 mm	z	AVAILABILITY
1.000		1.00	34.00		5.50	3	•
1.020		1.10	34.00	15.00	5.50	3	•
1.100		1.10	36.00	15.50	6.50	3	•
1.200		1.20	38.00	16.50	7.50	3	•
1.300		1.20	38.00	16.50	7.50	3	•
1.320		1.20	38.00	16.50	7.50	3	•
1.400		1.40	40.00	18.00	8.00	3	•
1.500		1.50	40.00	18.00	8.00	3	•
1.520		1.60	43.00	20.00	9.00	3	•
1.590	**1/16**	1.60	43.00	20.00	9.00	3	•
1.600		1.60	43.00	20.00	9.00	3	•
1.700		1.60	43.00	20.00	9.00	3	•
1.780		1.80	46.00	22.00	10.00	4	•
1.800		1.80	46.00	22.00	10.00	4	•
1.870		1.80	46.00	22.00	10.00	4	•
1.900		1.80	46.00	22.00	10.00	4	•
1.990		2.00	49.00	24.00	11.00	4	•
2.000		2.00	49.00	24.00	11.00	4	•
2.010		2.00	49.00	24.00	11.00	4	•
2.020		2.00	49.00	24.00	11.00	4	•
2.100		2.00	49.00	24.00	11.00	4	•
2.200		2.20	53.00	25.00	12.00	4	•
2.300		2.20	53.00	25.00	12.00	4	•
2.380	**3/32**	2.50	57.00	29.00	14.00	4	•
2.400		2.50	57.00	29.00	14.00	4	•
2.490		2.50	57.00	29.00	14.00	4	•
2.500		2.50	57.00	29.00	14.00	4	•
2.520		2.50	57.00	29.00	14.00	4	•
2.530		2.50	57.00	29.00	14.00	4	•
2.600		2.50	57.00	29.00	14.00	4	•
2.700		2.80	61.00	33.00	15.00	6	•
2.800		2.80	61.00	33.00	15.00	6	•
2.900		3.00	61.00	33.00	15.00	6	•
2.960		3.00	61.00	33.00	15.00	6	•
2.980		3.00	61.00	33.00	15.00	6	•
2.990		3.00	61.00	33.00	15.00	6	•
3.000		3.00	61.00	33.00	15.00	6	•
3.010		3.20	65.00	37.00	16.00	6	•
3.020		3.20	65.00	37.00	16.00	6	•

• *Australian stock item* ○ *German stock item*

Guhring no.	**496**
Standard	**DIN 212**
Tool material	**HSS-E**
Surface	○
Form	**B**
Cutting direction	**right-hand**
Tolerance	**+0.004/+0.005**
Helix angle	**8°**
Hole type	**through hole**



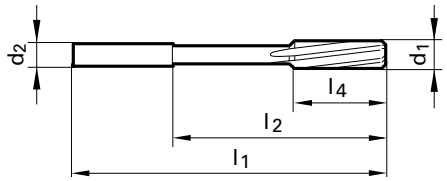
d1		d2	l1	l2	l4	z	AVAILABILITY
mm	inch	mm	mm	mm	mm		
3.100		3.20	65.00	37.00	16.00	6	•
3.170	**1/8**	3.20	65.00	37.00	16.00	6	•
3.180		3.20	65.00	37.00	16.00	6	•
3.200		3.20	65.00	37.00	16.00	6	•
3.300		3.20	65.00	37.00	16.00	6	•
3.370		3.50	70.00	42.00	18.00	6	•
3.380		3.50	70.00	42.00	18.00	6	•
3.400		3.50	70.00	42.00	18.00	6	•
3.480		3.50	70.00	42.00	18.00	6	•
3.500		3.50	70.00	42.00	18.00	6	•
3.520		3.50	70.00	42.00	18.00	6	•
3.570	**9/64**	3.50	70.00	42.00	18.00	6	•
3.600		3.50	70.00	42.00	18.00	6	•
3.700		3.50	70.00	42.00	18.00	6	•
3.730		3.50	70.00	42.00	18.00	6	•
3.760		4.00	75.00	47.00	19.00	6	•
3.800		4.00	75.00	47.00	19.00	6	•
3.900		4.00	75.00	47.00	19.00	6	•
3.970	**5/32**	4.00	75.00	47.00	19.00	6	•
3.980		4.00	75.00	47.00	19.00	6	•
3.990		4.00	75.00	47.00	19.00	6	•
4.010		4.00	75.00	47.00	19.00	6	•
4.020		4.00	75.00	47.00	19.00	6	•
4.030		4.00	75.00	47.00	19.00	6	•
4.100		4.00	75.00	47.00	19.00	6	•
4.150		4.00	75.00	47.00	19.00	6	•
4.200		4.00	75.00	47.00	19.00	6	•
4.300		4.50	80.00	52.00	21.00	6	•
4.370	**11/64**	4.50	80.00	52.00	21.00	6	•
4.400		4.50	80.00	52.00	21.00	6	•
4.600		4.50	80.00	52.00	21.00	6	•
4.700		4.50	80.00	52.00	21.00	6	•
4.750		4.50	80.00	52.00	21.00	6	•
4.760	**3/16**	5.00	86.00	58.00	23.00	6	•
4.800		5.00	86.00	58.00	23.00	6	•
4.900		5.00	86.00	58.00	23.00	6	•
4.980		5.00	86.00	58.00	23.00	6	•
4.990		5.00	86.00	58.00	23.00	6	•
5.010		5.00	86.00	58.00	23.00	6	•

Available in **0.01mm** increments on request

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	**496**
Standard	**DIN 212**
Tool material	**HSS-E**
Surface	○
Form	**B**
Cutting direction	**right-hand**
Tolerance	**+0.004/+0.005**
Helix angle	**8°**
Hole type	**through hole**

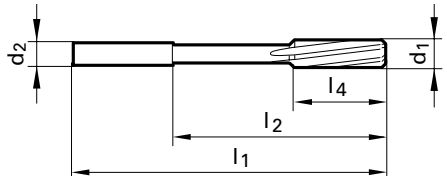


d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l4 mm	z	AVAILABILITY
5.020		5.00	86.00	58.00	23.00	6	•
5.040		5.00	86.00	58.00	23.00	6	•
5.100		5.00	86.00	58.00	23.00	6	•
5.200		5.00	86.00	58.00	23.00	6	•
5.300		5.00	86.00	58.00	23.00	6	•
5.400		5.60	93.00	57.00	26.00	6	•
5.500		5.60	93.00	57.00	26.00	6	•
5.600		5.60	93.00	57.00	26.00	6	•
5.700		5.60	93.00	57.00	26.00	6	•
5.800		5.60	93.00	57.00	26.00	6	•
5.900		5.60	93.00	57.00	26.00	6	•
5.980		5.60	93.00	57.00	26.00	6	•
5.990		5.60	93.00	57.00	26.00	6	•
6.010		6.30	101.00	65.00	28.00	6	•
6.020		6.30	101.00	65.00	28.00	6	•
6.100		6.30	101.00	65.00	28.00	6	•
6.200		6.30	101.00	65.00	28.00	6	•
6.300		6.30	101.00	65.00	28.00	6	•
6.340		6.30	101.00	65.00	28.00	6	•
6.350	**1/4**	6.30	101.00	65.00	28.00	6	•
6.370		6.30	101.00	65.00	28.00	6	•
6.400		6.30	101.00	65.00	28.00	6	•
6.500		6.30	101.00	65.00	28.00	6	•
6.600		6.30	101.00	65.00	28.00	6	•
6.700		6.30	101.00	65.00	28.00	6	•
6.800		7.10	109.00	73.00	31.00	6	•
6.900		7.10	109.00	73.00	31.00	6	•
7.020		7.10	109.00	73.00	31.00	6	•
7.100		7.10	109.00	73.00	31.00	6	•
7.140	**9/32**	7.10	109.00	73.00	31.00	6	•
7.200		7.10	109.00	73.00	31.00	6	•
7.300		7.10	109.00	73.00	31.00	6	•
7.400		7.10	109.00	73.00	31.00	6	•
7.500		7.10	109.00	73.00	31.00	6	•
7.600		8.00	117.00	81.00	33.00	6	•
7.700		8.00	117.00	81.00	33.00	6	•
7.800		8.00	117.00	81.00	33.00	6	•
7.900		8.00	117.00	81.00	33.00	6	•
7.930		8.00	117.00	81.00	33.00	6	•

Available in **0.01mm** increments on request

• *Australian stock item* ○ *German stock item*

Guhring no.	496
Standard	DIN 212
Tool material	HSS-E
Surface	○
Form	B
Cutting direction	right-hand
Tolerance	+0.004/+0.005
Helix angle	8°
Hole type	through hole



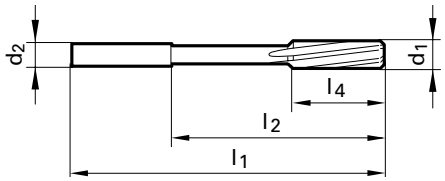
d1		d2	l1	l2	l4	z	AVAILABILITY
mm	inch	mm	mm	mm	mm		
7.940	5/16	8.00	117.00	81.00	33.00	6	•
7.980		8.00	117.00	81.00	33.00	6	•
8.010		8.00	117.00	81.00	33.00	6	•
8.020		8.00	117.00	81.00	33.00	6	•
8.030		8.00	117.00	81.00	33.00	6	•
8.100		8.00	117.00	81.00	33.00	6	•
8.200		8.00	117.00	81.00	33.00	6	•
8.300		8.00	117.00	81.00	33.00	6	•
8.400		8.00	117.00	81.00	33.00	6	•
8.500		8.00	117.00	81.00	33.00	6	•
8.600		9.00	125.00	85.00	36.00	6	•
8.700		9.00	125.00	85.00	36.00	6	•
8.730	11/32	9.00	125.00	85.00	36.00	6	•
8.800		9.00	125.00	85.00	36.00	6	•
8.900		9.00	125.00	85.00	36.00	6	•
8.960		9.00	125.00	85.00	36.00	6	•
8.980		9.00	125.00	85.00	36.00	6	•
9.100		9.00	125.00	85.00	36.00	6	•
9.200		9.00	125.00	85.00	36.00	6	•
9.300		9.00	125.00	85.00	36.00	6	•
9.400		9.00	125.00	85.00	36.00	6	•
9.500		9.00	125.00	85.00	36.00	6	•
9.520	3/8	10.00	133.00	93.00	38.00	6	•
9.530		10.00	133.00	93.00	38.00	6	•
9.540		10.00	133.00	93.00	38.00	6	•
9.600		10.00	133.00	93.00	38.00	6	•
9.700		10.00	133.00	93.00	38.00	6	•
9.800		10.00	133.00	93.00	38.00	6	•
9.900		10.00	133.00	93.00	38.00	6	•
9.980		10.00	133.00	93.00	38.00	6	•
9.990		10.00	133.00	93.00	38.00	6	•
10.010		10.00	133.00	93.00	38.00	6	•
10.020		10.00	133.00	93.00	38.00	6	•
10.030		10.00	133.00	93.00	38.00	6	•
10.100		10.00	133.00	93.00	38.00	6	•
10.200		10.00	133.00	93.00	38.00	6	•
10.300		10.00	133.00	93.00	38.00	6	•
10.320	13/32	10.00	133.00	93.00	38.00	6	•
10.400		10.00	133.00	93.00	38.00	6	•

Available in **0.01mm** increments on request

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	**496**
Standard	**DIN 212**
Tool material	**HSS-E**
Surface	○
Form	**B**
Cutting direction	**right-hand**
Tolerance	**+0.004/+0.005**
Helix angle	**8°**
Hole type	**through hole**

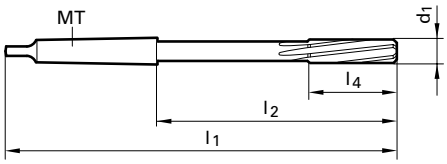


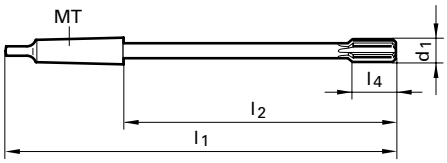
d1 mm	d1 inch	d2 mm	l1 mm	l2 mm	l4 mm	z	AVAILABILITY
10.500		10.00	133.00	93.00	38.00	6	•
10.530		10.00	133.00	93.00	38.00	6	•
10.600		10.00	133.00	93.00	38.00	6	•
10.700		10.00	142.00	102.00	41.00	6	•
10.800		10.00	142.00	102.00	41.00	6	•
10.900		10.00	142.00	102.00	41.00	6	•
11.020		10.00	142.00	102.00	41.00	6	•
11.100		10.00	142.00	102.00	41.00	6	•
11.110	**7/16**	10.00	142.00	102.00	41.00	6	•
11.200		10.00	142.00	102.00	41.00	6	•
11.300		10.00	142.00	102.00	41.00	6	•
11.400		10.00	142.00	102.00	41.00	6	•
11.500		10.00	142.00	102.00	41.00	6	•
11.600		10.00	142.00	102.00	41.00	6	•
11.700		10.00	142.00	102.00	41.00	6	•
11.800		10.00	142.00	102.00	41.00	6	•
11.900		10.00	151.00	111.00	44.00	6	•
11.980		10.00	151.00	111.00	44.00	6	•
11.990		10.00	151.00	111.00	44.00	6	•
12.020		10.00	151.00	74.50	44.00	6	•
12.040		10.00	151.00	74.50	44.00	6	•

Available in **0.01mm** increments on request

• *Australian stock item* ○ *German stock item*

Guhring no.	405	720
Standard	DIN 208	DIN 8051
Tool material	HSS-E	Carbide
Surface	◯	◯
Form	B	B
Cutting direction	right-hand	
Tolerance	H7	H7
Helix angle	8°	8°
Hole type	through hole	through hole

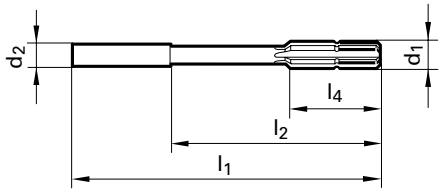




d1	MT	l1	l2	l4	z	AVAILABILITY
mm		mm	mm	mm		
13.000	1	182.00	120.00	44.00	6	•
14.000	1	189.00	127.00	47.00	8	•
15.000	2	204.00	129.00	50.00	8	•
16.000	2	210.00	135.00	52.00	8	•
17.000	2	214.00	139.00	54.00	8	•
18.000	2	219.00	144.00	56.00	8	•
19.000	2	223.00	148.00	58.00	8	•
20.000	2	228.00	153.00	60.00	8	•
21.000	2	232.00	157.00	62.00	8	•
22.000	2	237.00	162.00	64.00	8	•
23.000	2	241.00	166.00	66.00	8	•
24.000	3	268.00	174.00	68.00	8	•
25.000	3	268.00	174.00	68.00	8	•
26.000	3	273.00	179.00	70.00	8	•
28.000	3	277.00	183.00	71.00	10	•
30.000	3	281.00	187.00	73.00	10	•
32.000	4	317.00	199.50	77.00	10	•
34.000	4	321.00	203.50	78.00	10	•
35.000	4	321.00	203.50	78.00	10	•
36.000	4	325.00	207.50	79.00	10	•
38.000	4	329.00	211.50	81.00	10	•
40.000	4	329.00	211.50	81.00	10	•
50.000	4	344.00	226.50	86.00	12	•
6.000	1	138.00	76.00	12.00	6	○
8.000	1	156.00	94.00	16.00	6	○
10.000	1	168.00	108.00	12.00	6	○
11.000	1	175.00	113.00	12.00	6	○
12.000	1	182.00	120.00	12.00	6	○
13.000	1	182.00	120.00	12.00	6	○
14.000	1	189.00	127.00	16.00	6	○
15.000	2	204.00	129.00	16.00	6	•
16.000	2	210.00	135.00	19.00	6	•
18.000	2	219.00	144.00	19.00	6	•
20.000	2	228.00	153.00	19.00	6	•
22.000	2	237.00	162.00	22.00	6	•

• *Australian stock item* ○ *German stock item*

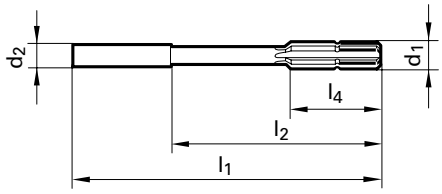
Guhring no.	**1409**
Standard	**DIN 8093**
Tool material	**Carbide**
Surface	○
Form	**B**
Cutting direction	**right-hand**
Tolerance	**H7**
Helix angle	**8°**
Hole type	**through hole**



d1	d2	l1	l2	l4	z	AVAILABILITY
mm	mm	mm	mm	mm		
1.000	1.000	34.00	15.50	5.50	3	•
1.500	1.500	40.00	18.80	8.00	3	○
2.000	2.000	49.00	25.00	11.00	4	•
2.500	2.500	57.00	30.30	14.00	4	○
3.000	3.000	61.00	34.50	15.00	6	•
3.500	3.500	70.00	43.80	18.00	6	○
4.000	4.000	75.00	43.00	19.00	6	•
4.500	4.500	80.00	47.00	21.00	6	○
5.000	5.000	86.00	52.00	23.00	6	•
5.500	5.600	93.00	57.00	26.00	6	○
6.000	5.600	93.00	57.00	26.00	6	•
6.500	6.300	101.00	63.00	28.00	6	○
7.000	7.100	109.00	69.00	31.00	6	•
7.500	7.100	109.00	69.00	31.00	6	○
8.000	8.000	117.00	75.00	33.00	6	•
8.500	8.000	117.00	75.00	33.00	6	○
9.000	9.000	125.00	81.00	36.00	6	•
9.500	9.000	125.00	81.00	36.00	6	○
10.000	10.000	133.00	87.00	38.00	6	•
10.500	10.000	133.00	87.00	38.00	6	○
11.000	10.000	142.00	96.00	41.00	6	•
12.000	10.000	151.00	105.00	44.00	6	•
13.000	10.000	151.00	105.00	44.00	6	○
14.000	12.000	160.00	110.00	47.00	6	•
15.000	12.000	162.00	112.00	50.00	6	○
16.000	12.000	170.00	120.00	52.00	6	•
18.000	14.000	182.00	130.00	56.00	6	○
19.000	16.000	189.00	131.00	58.00	6	○
20.000	16.000	195.00	137.00	60.00	6	•

• *Australian stock item* ○ *German stock item*

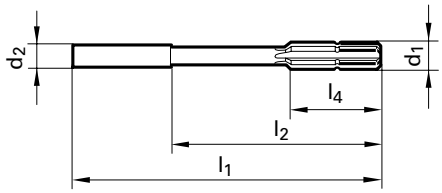
Guhring no.	5527
Standard	Guhring std.
Tool material	Carbide
Surface	○
Form	B
Cutting direction	right-hand
Tolerance	+0.004/+0.005
Helix angle	8°
Hole type	through hole



d1	d2	l1	l2	l4	z	AVAILABILITY
mm	mm	mm	mm	mm		
0.980	4.00	50.00	22.00	6.00	6	○
0.990	4.00	50.00	22.00	6.00	6	○
1.000	4.00	50.00	22.00	6.00	6	○
1.010	4.00	50.00	22.00	6.00	6	○
1.020	4.00	50.00	22.00	6.00	6	○
1.030	4.00	50.00	22.00	9.00	6	○
1.480	4.00	50.00	22.00	9.00	6	○
1.490	4.00	50.00	22.00	9.00	6	○
1.500	4.00	50.00	22.00	9.00	6	○
1.510	4.00	50.00	22.00	9.00	6	○
1.520	4.00	50.00	22.00	9.00	6	○
1.530	4.00	50.00	22.00	9.00	6	○
1.980	4.00	50.00	22.00	12.00	6	○
1.990	4.00	50.00	22.00	12.00	6	○
2.000	4.00	50.00	22.00	12.00	6	○
2.010	4.00	50.00	22.00	12.00	6	○
2.020	4.00	50.00	22.00	12.00	6	○
2.030	4.00	50.00	22.00	12.00	6	○
2.480	4.00	60.00	32.00	16.00	6	○
2.490	4.00	60.00	32.00	16.00	6	○
2.500	4.00	60.00	32.00	16.00	6	○
2.510	4.00	60.00	32.00	16.00	6	○
2.520	4.00	60.00	32.00	16.00	6	○
2.530	4.00	60.00	32.00	16.00	6	○
2.970	4.00	64.00	36.00	17.00	6	○
2.980	4.00	64.00	36.00	17.00	6	○
2.990	4.00	60.00	36.00	17.00	6	○
3.000	4.00	60.00	36.00	17.00	6	○
3.010	4.00	64.00	36.00	17.00	6	○
3.020	4.00	64.00	36.00	17.00	6	○
3.030	4.00	64.00	36.00	17.00	6	○
3.970	4.00	77.00	45.00	21.00	6	○
3.980	4.00	77.00	45.00	21.00	6	○
3.990	4.00	77.00	45.00	21.00	6	○
4.000	4.00	77.00	45.00	21.00	6	○
4.010	4.00	77.00	45.00	21.00	6	○
4.020	4.00	77.00	45.00	21.00	6	○
4.030	4.00	77.00	45.00	21.00	6	○
4.970	6.00	93.00	59.00	26.00	6	○

• *Australian stock item* ○ *German stock item*

Guhring no.	**5527**
Standard	**Guhring std.**
Tool material	**Carbide**
Surface	◯
Form	**B**
Cutting direction	**right-hand**
Tolerance	**+0.004/+0.005**
Helix angle	**8°**
Hole type	**through hole**



d1	d2	l1	l2	l4	z	AVAILABILITY
mm	mm	mm	mm	mm		
4.980	6.00	93.00	59.00	26.00	6	○
4.990	6.00	93.00	59.00	26.00	6	○
5.000	6.00	93.00	59.00	26.00	6	○
5.010	6.00	93.00	59.00	26.00	6	○
5.020	6.00	93.00	59.00	26.00	6	○
5.030	6.00	93.00	59.00	26.00	6	○
5.970	6.00	93.00	57.00	26.00	6	○
5.980	6.00	93.00	57.00	26.00	6	○
5.990	6.00	93.00	57.00	26.00	6	○
6.000	6.00	93.00	57.00	26.00	6	○
6.010	6.00	93.00	57.00	26.00	6	○
6.020	6.00	93.00	57.00	26.00	6	○
6.030	6.00	93.00	57.00	26.00	6	○
7.000	8.00	109.00	69.00	31.00	6	○
7.970	8.00	117.00	75.00	33.00	6	○
7.980	8.00	117.00	75.00	33.00	6	○
7.990	8.00	117.00	75.00	33.00	6	○
8.000	8.00	117.00	75.00	33.00	6	○
8.010	8.00	117.00	75.00	33.00	6	○
8.020	8.00	117.00	75.00	33.00	6	○
8.030	8.00	117.00	75.00	33.00	6	○
8.040	8.00	117.00	75.00	33.00	6	○
9.000	10.00	125.00	81.00	36.00	6	○
9.970	10.00	133.00	87.00	38.00	6	○
9.980	10.00	133.00	87.00	38.00	6	○
9.990	10.00	133.00	87.00	38.00	6	○
10.000	10.00	133.00	87.00	38.00	6	○
10.010	10.00	133.00	87.00	38.00	6	○
10.020	10.00	133.00	87.00	38.00	6	○
10.030	10.00	133.00	87.00	38.00	6	○
10.040	10.00	133.00	87.00	38.00	6	○
10.050	10.00	133.00	87.00	38.00	6	○
11.970	10.00	151.00	105.00	44.00	6	○
11.980	10.00	151.00	105.00	44.00	6	○
11.990	10.00	151.00	105.00	44.00	6	○
12.000	10.00	151.00	105.00	44.00	6	○
12.010	10.00	151.00	105.00	44.00	6	○
12.020	10.00	151.00	105.00	44.00	6	○
12.030	10.00	151.00	105.00	44.00	6	○

• *Australian stock item* ○ *German stock item*

Guhring no.	
Standard/DIN	
Tool material	
Surface finish	
Type	

Counter-sink Ø mm	Feed column no. 71	72	73	74	75	76	77
	f (mm/rev.)						
< 4.00	0.080	0.100	0.125	0.300	0.500	0.800	1.000
4.00	0.100	0.125	0.160	0.300	0.500	1.000	1.200
5.00	0.100	0.125	0.160	0.400	0.600	1.000	1.400
6.30	0.125	0.160	0.200	0.400	0.700	1.200	1.600
8.00	0.160	0.200	0.250	0.600	1.000	1.800	2.400
10.00	0.200	0.250	0.315	0.600	1.200	1.800	2.400
12.50	0.200	0.250	0.315	0.800	1.200	2.000	2.500
16.00	0.250	0.315	0.400	0.800	1.400	2.200	2.600
20.00	0.315	0.400	0.500	0.800	1.400	2.200	2.600
25.00	0.400	0.500	0.630	1.000	1.600	2.500	3.000
31.50	0.400	0.500	0.630	1.000	2.000	3.000	3.600
40.00	0.500	0.630	0.800	1.200	2.000	3.000	3.600
50.00	0.630	0.800	1.000	1.400	2.200	3.200	3.600
> 50.00	0.800	1.000	1.250	1.600	2.200	3.200	3.600

Coolant:
○ Air
● Neat oil
◍ Soluble oil

Material group	Material examples	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate	≤500		◍
	E295, E360, P500NH	≤1000		◍
Free-cutting steels	11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14	≤850		◍
	46S20, 46SPb20	≤1000		◍
Unalloyed heat-treatable steels	C22, C30E, 1035, 1045, 1055, 1060, 1025	≤700		◍
	C45, C45E	≤850		◍
	C60, C60E	≤1000		◍
Alloyed heat-treatable steels	50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26	≤1000		◍
	36NiCr6, 41Cr4, 42CrMo4	≤1400		◍
Unalloyed case hardened steels	C10E, 1010, 1015	≤850		◍
Alloyed case hardened steels	10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620	≤1000		●
	15NiCr13, 16MnCr5, 20CrMo5, N33, EN36A	≤1400		●
Nitriding steels	34CrAl6	≤1000		◍
	31CrMoV9, 34CrAlNi7	≤1400		●
Tool steels	C75W, 102Cr6, 29CrMoV9, H11, H13, P20, D2, D3	≤850		◍
	X210Cr12, X42Cr13, 105WCr6, X45NiCrMo4	≤1400		●
High speed steels	S 6-5-2-5, S 6-5-2, S 6-5-3, M2, M3, M35, M45	≤1400		●
Spring steels	55Si7, 55Cr3, 51CrV4, 5155, 6150, 9255		≤350 HB	●
Stainless steels, sulphured	X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	≤900		●
austenitic	X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	≤1100		●
martensitic	X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	≤1500		●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Special alloys	Nimonic, Inconel, Monel, Hastelloy, Bisalloy	≤2000		●
Cast iron	GG10, GG15, GG20		≤240 HB	◍ ○
	GG25, GG30, GG35 GG40		≤350 HB	◍ ○
Spheroidal graphite iron and	GGG40, GGG50, GGG60, 32510,GTW35		≤240 HB	◍
malleable cast iron	GGG70, GTS70, 50005, Nodular Iron		≤350 HB	◍
Chilled cast iron	–		≤350 HB	◍
Ti and Ti-alloys	Ti99,5, TiAl5Sn2,5, TiCu2	≤850		●
	TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al-alloys	Al99,5, AlMgSi1, AlMg1	≤400		◍
Al wrought alloys	AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	≤650		◍
Al cast alloys ≤ 10 % Si	G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9	≤600		◍
≤ 24 % Si	G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		◍
Magnesium alloys	MgMn2, G-MgAl8Zn1, G-MgAl6Zn1	≤400		○
Copper, low-alloyed	SE-Cu, CuSn6, G-CuSn5ZnPb	≤500		◍
Brass, short-chipping	CuZn39Pb2, CuZn39Pb3, CuZn43Pb2	≤600		◍
long-chipping	CuZn20, CuZn33, CuZn37Pb0,5	≤600		◍
Bronze, short-chipping	CuSn7ZnPb, CuPb5Sn5, CuPb10Sn	≤600		◍ ●
	CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	CuAl5, CuAl9Mn, CuSn10	≤850		●
	CuAl11Ni, CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglas, Hostalen, Novodur, Makralon	≤100		◍ ○
New cast materials CGI	GGV25, GGV35		≤220 HB	◍ ○
	GGV40, GGV50, SiMo 6		≤300 HB	◍ ○
New cast materials ADI	ADI800, ADI1000	≤1000		◍ ○
	ADI1200, ADI1400	≤1400		◍ ○
Kevlar	Kevlar	≤1000		○
Glass, carbon concent. plastics	GRP/CFRP	≤1000		○

MACHINE REAMERS				MACHINE REAMERS			
	496	468	405		1409	720	5527
	212	212-2	208		8093	8051	GS
	HSS-E				Carbide		
	○	○	○		○	○	○
	B	B	B		B	B	B

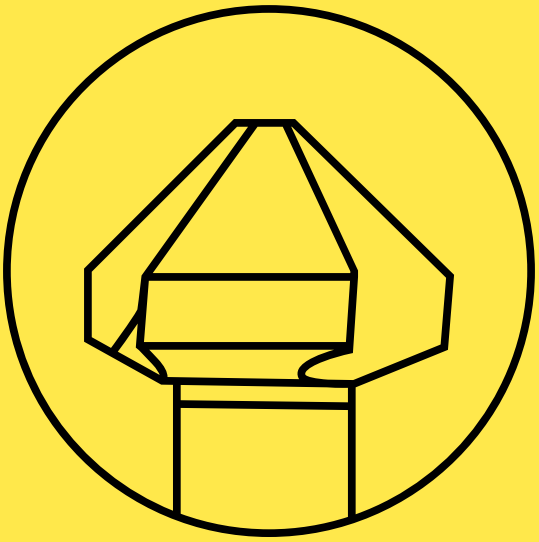
Vc m/min	Feed col. no.			Vc m/min	Feed col. no.		
16	72	72	72	18	72	72	72
12	72	72	72	16	72	72	72
12	72	72	72	18	72	72	72
10	71	71	71	16	72	72	72
14	72	72	72	18	71	71	71
12	71	71	71	16	72	72	72
10	71	71	71	14	71	71	71
10	71	71	71	14	71	71	71
8	71	71	71	12	71	71	71
16	72	72	72	18	71	71	71
10	71	71	71	14	71	71	71
8	71	71	71	12	71	71	71
10	71	71	71	14	71	71	71
8	71	71	71	12	71	71	71
14	72	72	72	12	71	71	71
10	71	71	71	10	71	71	71
10	71	71	71	10	71	71	71
6	72	72	72	8	71	71	71
6	72	72	72	6	71	71	71
4	72	72	72	6	71	71	71
4	71	71	71	6	71	71	71
14	71	71	71	20	71	71	71
12	71	71	71	18	71	71	71
12	71	71	71	20	71	71	71
10	71	71	71	18	71	71	71
6	71	71	71	10	71	71	73
4	71	71	71	10	71	71	73
18	73	73	73	30	73	73	72
18	73	73	73	30	73	73	72
20	72	72	72	40	72	72	72
18	72	72	72	30	72	72	72
20	72	72	72	25	72	72	72
18	72	72	72	25	72	72	72
18	72	72	72	35	72	72	72
16	72	72	72	30	72	72	72
20	72	72	72	35	72	72	72
18	72	72	72	30	72	72	72
18	72	72	72	30	72	72	72
14	72	72	72	25	72	72	72
12	73	73	73	20	73	73	72
14	73	73	73	20	73	73	72
8	71	71	71	16	71	71	73
8	71	71	71	16	71	71	73

PERFECT CLAMPING

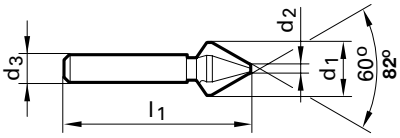
HMC 3000 Hydraulic chucks together with solid carbide micro-precision drills or HR 500 High-performance reamers

- ► Direct hydraulic clamping of shanks from ø 3 mm
- ► Quick, simple and accurate length setting
- ► Perfect concentricity R < 3 µm with 10 x d1

COUNTERSINKS



Guhring no.	472	5670	5674
Standard	DIN 334	DIN 334	DIN 334
Tool material	HSS	HSS	HSS
Surface	○	A	A
Cutting direction	right-hand	right-hand	right-hand
Form	C	C	C
	60°	60°	82°



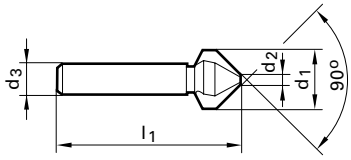
d1 mm	d3 mm	l1 mm	d2 mm	z	AVAILABILITY	
6.300	5.000	45.00	1.600	3	•	•
8.000	6.000	50.00	2.000	3	•	•
12.500	8.000	56.00	3.200	3	•	•
16.000	10.000	63.00	4.000	3	•	•
20.000	10.000	67.00	5.000	3	•	•
25.000	10.000	71.00	6.300	3	•	•
6.350	1.524	50.80	6.350	3		○
7.938	2.032	50.80	6.350	3		○
9.525	2.286	50.80	6.350	3		○
12.700	3.810	57.15	9.525	3		○
15.875	4.572	57.15	9.525	3		○
19.050	5.334	69.85	12.700	3		○
22.225	5.842	69.85	12.700	3		○
25.400	6.350	69.85	12.700	3		○
31.750	9.398	76.20	12.700	3		○

Coated also available on request.

• *Australian stock item* ○ *German stock item*

90° COUNTERSINKS (3-FLUTED)

Guhring no.	476	476F	5500
Standard	DIN 335		
Tool material	HSS		HSCO
Surface	○	F	A
Cutting direction	right-hand	right-hand	right-hand
Form	C	C	C



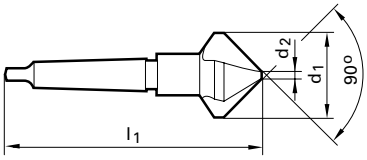
d1 mm	d3 mm	l1 mm	d2 mm	z	AVAILABILITY		
4.300	4.000	40.00	1.300	3	•		
5.000	4.000	40.00	1.500	3	•		
5.300	4.000	40.00	1.500	3	•		
5.800	5.000	45.00	1.500	3	○		
6.000	5.000	45.00	1.500	3	○		
6.300	5.000	45.00	1.500	3	•	• 377003325	•
7.000	6.000	50.00	1.800	3	○		
7.300	6.000	50.00	1.800	3	○		
8.000	6.000	50.00	2.000	3	•		•
8.300	6.000	50.00	2.000	3	•	• 377003326	•
9.400	6.000	50.00	2.200	3	○		
10.000	6.000	50.00	2.500	3	•		•
10.400	6.000	50.00	2.500	3	•	• 377003318	•
11.500	8.000	56.00	2.800	3	○		•
12.400	8.000	56.00	2.800	3	•	• 377003319	•
13.400	8.000	56.00	2.900	3	○		
15.000	10.000	60.00	3.200	3	•		•
16.500	10.000	60.00	3.200	3	•	• 377003320	•
19.000	10.000	63.00	3.500	3	•		•
20.500	10.000	63.00	3.500	3	•	• 377003321	•
23.000	10.000	67.00	3.800	3	○		•
25.000	10.000	67.00	3.800	3	•	• 377003322	•
26.000	10.000	67.00	3.800	3	•		
28.000	12.000	71.00	4.000	3	•		
30.000	12.000	71.00	4.200	3	•	○ 377003323	
31.000	12.000	71.00	4.200	3	•		•
40.000	12.000	75.00	10.00	3			•

Different coatings available on request.

• *Australian stock item* ○ *German stock item*

○ bright ● steam tempered ◓ nitrided lands S TiN A TiAlN C TiCN F FIRE/nanoFIRE a TiAlN SuperA

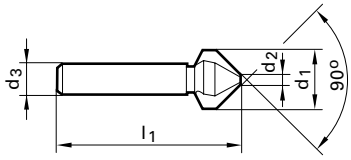
Guhring no.	**477**
Standard	**DIN 335**
Tool material	**HSS**
Surface	○
Cutting direction	**right-hand**
Form	**D**



d1	MT	l1	d2	z	AVAILABILITY
mm		mm	mm		
31.000	2	112.00	4.200	3	•
34.000	2	118.00	4.500	3	•
37.000	2	118.00	4.800	3	•
40.000	3	140.00	10.000	3	•
50.000	3	150.00	14.000	3	•
63.000	4	180.00	16.000	3	•
					Coated also available on request.

• *Australian stock item* ○ *German stock item*

Guhring no.	**5008**
Standard	**Guhring std.**
Tool material	**Carbide**
Surface	F
Angle	**90°**

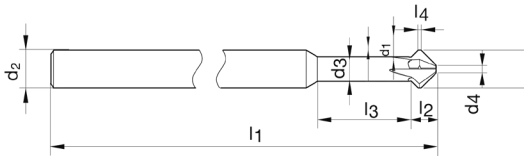


d1	d3	l1	d2	z	AVAILABILITY
mm	mm	mm	mm		
8.000	8.000	50.00	2.00	3	• 302648362
12.000	12.000	56.00	2.80	3	• 302648363
16.000	16.000	60.00	3.20	3	• 302648364
20.000	20.000	63.00	3.50	3	• 302648365
25.000	25.000	80.00	3.80	3	• 302648366
					82° also available on request

• *Australian stock item* ○ *German stock item*

90° FRONT/BACK DEBURRER (4-FLUTED)

Guhring no.	**495**
Standard	**Guhring std.**
Tool material	**Carbide**
Surface	a
Cutting direction	**right-hand**

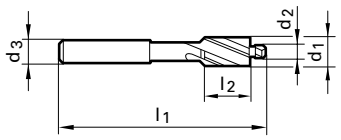


d1	d2	d3	d4	l1	l2	l3	l4	z	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm	mm		
3.00	4.00	2.20	0.60	75.00	2.10	9.30	2.10	4	•
4.00	4.00	2.90	0.80	75.00	2.70	12.30	2.70	4	•
5.00	5.00	3.90	1.00	75.00	3.00	15.00	3.00	4	•
6.00	6.00	3.90	1.20	100.0	3.95	14.30	3.50	4	•
8.00	6.00	3.90	1.60	100.0	4.70	-	4.70	4	•
10.00	6.00	6.00	2.00	100.0	6.50	-	6.50	4	•
12.00	6.00	6.00	2.40	100.0	8.30	-	8.30	4	•

ISO	Hardness	VC	fz (mm/U) / Ø						
			3	6	8	10	12	16	20
P	≤850 N/mm²	**180**	0,08	0,12	0,20	0,20	0,25	0,25	0,25
	≥850 N/mm²	**150**	0,06	0,10	0,15	0,15	0,20	0,20	0,20
M	≤750 N/mm²	**100**	0,06	0,10	0,15	0,15	0,20	0,20	0,20
	≥750 N/mm²	**80**	0,05	0,08	0,12	0,12	0,15	0,15	0,15
K	≤ 350 HB	**120**	0,08	0,12	0,20	0,20	0,25	0,25	0,25
N*	≤3% Si	**200**	0,10	0,15	0,25	0,25	0,30	0,30	0,30
	≥3% Si	**150**	0,08	0,12	0,20	0,20	0,25	0,25	0,25
S	≤850 N/mm²	**60**	0,05	0,08	0,12	0,12	0,15	0,15	0,15
	≥1400 N/mm²	**40**	0,04	0,06	0,10	0,10	0,12	0,12	0,12
H	≤55 HRC	**100**	0,06	0,10	0,15	0,15	0,20	0,20	0,20
	≥63 HRC	**40**	0,04	0,05	0,06	0,06	0,08	0,08	0,08

• *Australian stock item* ○ *German stock item*

Guhring no.	**482**
Standard	**DIN 373**
Tool material	**HSS**
Surface	○
Cutting direction	**right-hand**

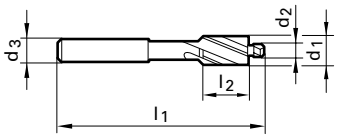


d1	d2	d3	l1	l2	for	z	AVAILABILITY
mm	mm	mm	mm	mm	thread		
2.200	1.100	2.200	45.00	7.00	M1	2	❍
2.500	1.300	2.500	45.00	7.00	M1,2	2	❍
3.800	1.800	3.800	56.00	10.00	M1,7	2	❍
4.300	2.200	4.300	56.00	10.00	M2	2	•
5.500	2.800	5.000	71.00	14.00	M2,6	3	❍
6.000	3.200	5.000	71.00	14.00	M3	3	•
6.500	3.700	5.000	71.00	14.00	M3,5	3	❍
8.000	4.300	5.000	71.00	14.00	M4	3	•
10.000	5.300	8.000	80.00	18.00	M5	3	•
11.000	6.400	8.000	80.00	18.00	M6	3	•
15.000	8.400	12.500	100.00	22.00	M8	3	•
18.000	10.500	12.500	100.00	22.00	M10	3	•
20.000	13.000	12.500	100.00	22.00	M12	3	•

• *Australian stock item* ❍ *German stock item*

○ bright ● steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

Guhring no.	**485**
Standard	**Guhring std.**
Tool material	**HSS**
Surface	○
Cutting direction	**right-hand**



d1	d2	MT	l1	l2	for	z	AVAILABILITY
mm	mm		mm	mm	thread		
26.000	17.00	3	192.00	35.00	M16	3	•
30.000	19.00	3	192.00	35.00	M18	3	•
33.000	21.00	3	204.00	40.00	M20	3	•
40.000	25.00	3	204.00	40.00	M24	3	•

• *Australian stock item* ○ *German stock item*

Guhring no.
Standard/DIN
Tool material
Surface finish
Angle of taper
Type/Form

Counter-sink Ø mm	Feed column no. 81	82	83	84	85	86
	f (mm/rev.)					
2.00	0.03	0.04	0.06	0.08	0.10	0.13
2.50	0.03	0.05	0.07	0.10	0.13	0.16
3.15	0.03	0.05	0.08	0.11	0.15	0.20
4.00	0.04	0.06	0.09	0.13	0.17	0.22
5.00	0.04	0.07	0.10	0.14	0.18	0.23
6.30	0.04	0.07	0.12	0.15	0.19	0.24
8.00	0.05	0.08	0.13	0.16	0.20	0.25
10.00	0.06	0.09	0.14	0.17	0.22	0.26
12.50	0.06	0.10	0.15	0.19	0.23	0.28
16.00	0.07	0.11	0.17	0.21	0.26	0.31
20.00	0.08	0.13	0.18	0.23	0.28	0.33
25.00	0.09	0.15	0.21	0.26	0.30	0.38
31.50	0.12	0.17	0.24	0.30	0.36	0.42
40.00	0.14	0.21	0.28	0.34	0.40	0.46
50.00	0.17	0.24	0.31	0.36	0.42	0.48
63.00	0.20	0.27	0.33	0.38	0.44	0.50
80.00	0.23	0.30	0.35	0.40	0.46	0.52
100.00	0.25	0.30	0.35	0.40	0.46	0.52

Coolant:
○ Air
● Neat oil
◍ Soluble oil

Material group	Material examples	Tensile strength MPa (N/mm²)	Hardness	Coolant
Common structural steels	S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate	≤500		◍
	E295, E360, P500NH	≤1000		◍
Free-cutting steels	11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14	≤850		◍
	46S20, 46SPb20	≤1000		◍
Unalloyed heat-treatable steels	C22, C30E, 1035, 1045, 1055, 1060, 1025	≤700		◍
	C45, C45E	≤850		◍
	C60, C60E	≤1000		◍
Alloyed heat-treatable steels	50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26	≤1000		◍
	36NiCr6, 41Cr4, 42CrMo4	≤1400		◍
Unalloyed case hardened steels	C10E, 1010, 1015	≤850		◍
Alloyed case hardened steels	10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620	≤1000		●
	15NiCr13, 16MnCr5, 20CrMo5, N33, EN36A	≤1400		●
Nitriding steels	34CrAl6	≤1000		◍
	31CrMoV9, 34CrAlNi7	≤1400		●
Tool steels	C75W, 102Cr6, 29CrMoV9, H11, H13, P20, D2, D3	≤850		◍
	X210Cr12, X42Cr13, 105WCr6, X45NiCrMo4	≤1400		●
High speed steels	S 6-5-2-5, S 6-5-2, S 6-5-3, M2, M3, M35, M45	≤1400		●
Spring steels	55Si7, 55Cr3, 51CrV4, 5155, 6150, 9255		≤350 HB	●
Stainless steels, sulphured	X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	≤900		●
austenitic	X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	≤1100		●
martensitic	X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	≤1500		●
Hardened steels	–		≤48 HRC	●
			≤66 HRC	●
Special alloys	Nimonic, Inconel, Monel, Hastelloy, Bisalloy	≤2000		●
Cast iron	GG10, GG15, GG20		≤240 HB	◍○
	GG25, GG30, GG35 GG40		≤350 HB	◍○
Spheroidal graphite iron and	GGG40, GGG50, GGG60, 32510,GTW35		≤240 HB	◍
malleable cast iron	GGG70, GTS70, 50005, Nodular Iron		≤350 HB	◍
Chilled cast iron	–		≤350 HB	◍
Ti and Ti-alloys	Ti99,5, TiAl5Sn2,5, TiCu2	≤850		●
	TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤1400		●
Aluminium and Al-alloys	Al99,5, AlMgSi1, AlMg1	≤400		◍
Al wrought alloys	AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	≤650		◍
Al cast alloys ≤ 10 % Si	G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9	≤600		◍
≤ 24 % Si	G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		◍
Magnesium alloys	MgMn2, G-MgAl8Zn1, G-MgAl6Zn1	≤400		○
Copper, low-alloyed	SE-Cu, CuSn6, G-CuSn5ZnPb	≤500		◍
Brass, short-chipping	CuZn39Pb2, CuZn39Pb3, CuZn43Pb2	≤600		◍
long-chipping	CuZn20, CuZn33, CuZn37Pb0,5	≤600		◍
Bronze, short-chipping	CuSn7ZnPb, CuPb5Sn5, CuPb10Sn	≤600		◍●
	CuNi18Zn19Pb	≤850		●
Bronze, long-chipping	CuAl5, CuAl9Mn, CuSn10	≤850		●
	CuAl11Ni, CuBe2	≤1000		●
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	≤150		○
Thermoplastics	Plexiglas, Hostalen, Novodur, Makralon	≤100		◍○
New cast materials CGI	GGV25, GGV35		≤220 HB	◍○
	GGV40, GGV50, SiMo 6		≤300 HB	◍○
New cast materials ADI	ADI800, ADI1000	≤1000		◍○
	ADI1200, ADI1400	≤1400		◍○
Kevlar	Kevlar	≤1000		○
Glass, carbon concent. plastics	GRP/CFRP	≤1000		○

○ bright ◍ steam tempered ◓ nitrided lands (S) TiN (A) TiAlN (C) TiCN (F) FIRE/nanoFIRE (a) TiAlN SuperA

COUNTERSINKS

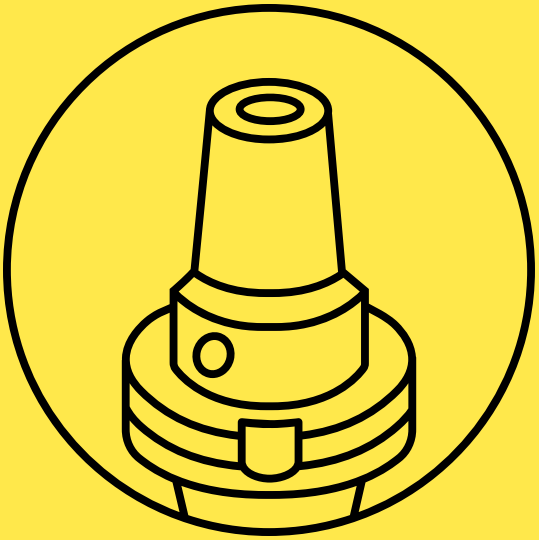
5670 / 5500		472 /476	477
334		334 /335	335
HSS	HSCO	HSS	HSS
A		○	○
60° / 90°		60° / 90°	90°
C		C	D

COUNTERBORES

482	485
373	G.S
HSS	HSS
○	●
with fixed pilot	
pilot	

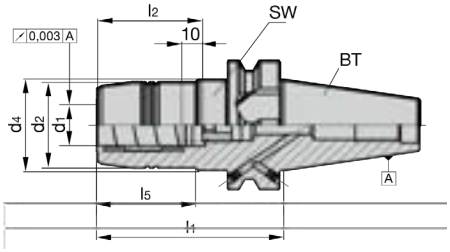
Vc m/min	Feed col. no.	Vc m/min	Feed col. no.		Vc m/min	Feed col. no.	
41	83	32	86	86	32	85	85
39	82	30	85	85	30	85	85
41	83	32	86	86	32	85	85
39	82	30	85	85	30	85	85
41	83	32	85	85	32	85	85
39	83	30	85	85	30	85	85
25	82	20	85	85	20	84	84
19	83	15	85	85	15	84	84
15	82	12	84	84	12	84	84
32	83	25	86	86	25	85	85
19	83	15	85	85	15	84	84
13	82	10	84	84	10	84	84
19	82	15	85	85	15	85	85
15	81	12	84	84	12	84	84
22	82	17	85	85	17	84	84
19	81	15	84	84	15	84	84
19	81	15	84	84	15	84	84
13	81	10	84	84	10	84	84
20	82	16	85	85	16	84	84
15	81	12	84	84	12	84	84
18	81	14	84	84	14	84	84
10	81	8	84	84	8	84	84
32	83	25	85	85	25	85	85
20	83	16	85	85	16	84	84
28	83	22	85	85	22	84	84
25	83	20	84	84	20	84	84
10	81	8	84	84	8	84	84
19	82	15	86	86	15	85	85
13	81	10	85	85	10	85	85
114	84	90	86	86	90	85	85
89	84	70	86	86	70	86	86
51	83	40	86	86	40	85	85
39	83	30	86	86	30	85	85
127	84	100	86	86	100	86	86
76	84	60	85	85	60	84	84
101	84	80	85	85	80	85	85
64	84	50	85	85	50	85	85
39	84	30	86	86	30	86	86
33	84	26	86	86	26	86	86
31	84	24	86	86	24	86	86
25	84	20	86	86	20	86	86
39	84	30	85	85	30	84	84
51	84	40	85	85	40	85	85
28	83	25	85	85	25	85	85
18	83	16	84	84	16	84	84
		70	85	85	70	84	84

TOOL HOLDERS



Guhring no. 4221

HYDRAULIC CHUCK

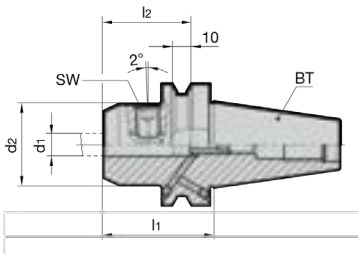


Balancing quality: G2.5 / 25,000 rev./min

Code No.	d1 h6	d2	d4	l1	l2	l5	BT	SW	AVAILABILITY
	mm	mm	mm	mm	mm	mm			
6.040	6	26.0	44.5	90.0	37	43.0	40	5	•
8.040	8	28.0	44.5	90.0	37	44.5	40	5	•
10.040	10	30.0	44.5	90.0	41	44.5	40	5	•
12.040	12	32.0	44.5	90.0	46	44.5	40	5	•
14.040	14	34.0	44.5	90.0	46	44.5	40	5	•
16.040	16	38.0	44.5	90.0	49	47.5	40	5	•
18.040	18	40.0	44.5	90.0	49	47.5	40	5	•
20.040	20	49.5	49.5	72.5	51	-	40	5	•
20.140	20	42.0	44.5	90.0	51	47.5	40	6	•
25.040	25	49.5	49.5	83.0	57	-	40	6	•
32.040	32	63.0	80.0	83.0	61	25.5	40	6	•

Guhring no. 4233

SIDE LOCK HOLDER



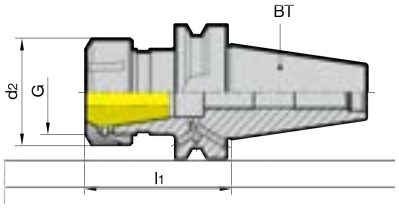
Balancing quality of G6.3 / 15,000 rev./min

Code No.	d1 h6	d2	l1	l2	BT	SW	AVAILABILITY
	mm	mm	mm	mm			
6.040	6	25	50	36	40	3	•
8.040	8	28	50	36	40	4	•
10.040	10	35	63	40	40	5	•
12.040	12	42	63	45	40	6	•
14.040	14	44	63	45	40	6	•
16.040	16	48	63	48	40	6	•
18.040	18	50	63	48	40	6	•
20.040	20	52	63	50	40	8	•
25.040	25	63	90	56	40	10	•
32.040	32	72	100	60	40	10	•

• *Australian stock item* ○ *German stock item*

Guhring no. 4245

BT40 ER COLLET HOLDER

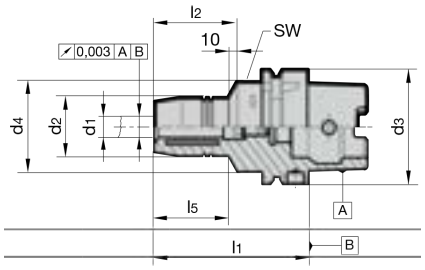


Balancing quality of G6.3 / 15,000 rev./min

Code No.	clamping range	d2	G	l1	BT	AVAILABILITY
		mm		mm		
16.040	ER16 1-10	32	M22X1.5	63	40	•
25.040	ER25 1-16	42	M32X1.5	60	40	•
32.040	ER32 2-20	50	M40X1.5	70	40	•
16.140	ER16 1-10	32	M22X1.5	160	40	•
25.140	ER25 1-16	42	M32X1.5	160	40	•
32.140	ER32 2-20	50	M40X1.5	160	40	•

Guhring no. 4299

HSK-63 HYDRAULIC HOLDER

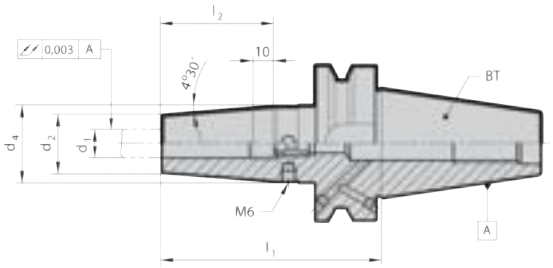


Balancing quality of G2.5/ 25,000 rev./min

Code No.	d1 h6	d2	d4	l1	l2	l5	HSK	SW	AVAILABILITY
	mm	mm	mm	mm	mm	mm			
6.063	6	26.0	50.0	70.0	37	24.5	63	5	•
8.063	8	28.0	50.0	70.0	37	24.5	63	5	•
10.063	10	30.0	50.0	80.0	41	35.5	63	5	•
12.063	12	32.0	50.0	85.0	46	41.5	63	5	•
14.063	14	34.0	50.0	85.0	46	41.5	63	5	•
16.063	16	38.0	50.0	90.0	49	45.5	63	5	•
18.063	18	40.0	50.0	90.0	49	48.5	63	5	•
20.063	20	42.0	50.0	90.0	51	47.5	63	5	•
25.063	25	57.0	63.0	120.0	57	55.3	63	6	•
32.063	32	64.0	75.0	125.0	61	63	63	6	•

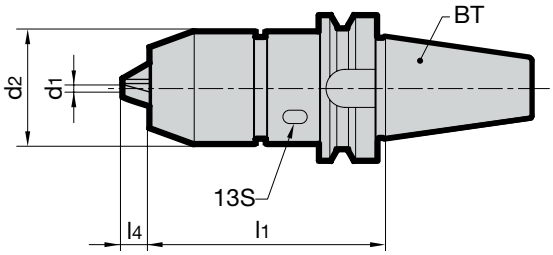
• *Australian stock item* ○ *German stock item*

Guhring no. 4739



Code No.	d1 h6	d2	d4	l1	l2	BT	AVAILABILITY
	mm	mm	mm	mm	mm		
3.040	3	10.0	18.0	80.0	30	40	•
4.040	4	10.0	18.0	80.0	35	40	•
5.040	5	10.0	18.0	80.0	40	40	•
6.040	6	21.0	27.0	80.0	36	40	•
9.040	8	21.0	27.0	80.0	36	40	•
10.040	10	24.0	32.0	80.0	41	40	•
12.040	12	24.0	32.0	80.0	46	40	•
14.040	14	27.5	34.0	80.0	46	40	•
16.040	16	27.0	34.0	80.0	49	40	•
18.040	18	33.5	42.0	90.0	49	40	•
20.040	20	33.0	42.0	90.0	51	40	•
25.040	25	44.0	53.0	100.0	57	40	•
32.040	32	44.0	53.0	100.0	61	40	•

Guhring no. 377025896



Code No.	d1	d2	l1	l4	AVAILABILITY
	mm	mm	mm	mm	
377025896	1-13	50.5	96.4	12.1	• 377025896

• *Australian stock item* ○ *German stock item*

GUHRING

HYDRAULIC CHUCK SETS 4666

HSK-A 63
Art. no. 4662

SK 40
Art. no. 4663

MAS / BT 40
Art. no. 4664

Ø 6 mm | Ø 8 mm | Ø 10 mm | Ø 12 mm | Ø 16 mm
Art. no. 4665

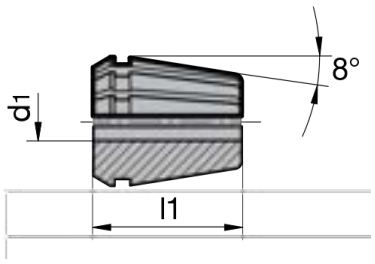
1 hydraulic chuck + 5 reduction bushes

HSK-A 63	4666 20.063
ISO taper 40	4666 20.040
MAS/BT 40	4666 20.140

1 hydraulic chuck
+ 5 reduction bushes

Guhring no.	4307	4175
Standard	Guhring std.	Guhring std.
Tool material	HSS	HSS

ER-32 COLLETS



Metallic Sealed

Code No.	nom. size	clamping range d1	l1	AVAILABILITY	
		mm	mm		
2.032	ER32 (470E)	2.0-1.0	40.0	•	
2.532	ER32 (470E)	2.5-1.5	40.0	•	
3.032	ER32 (470E)	3.0-2.0	40.0	•	
4.032	ER32 (470E)	4.0-3.0	40.0	•	
5.032	ER32 (470E)	5.0-4.0	40.0	•	
6.032	ER32 (470E)	6.0-5.0	40.0	•	❍
7.032	ER32 (470E)	7.0-6.0	40.0	•	
8.032	ER32 (470E)	8.0-7.0	40.0	•	❍
9.032	ER32 (470E)	9.0-8.0	40.0	•	
10.032	ER32 (470E)	10.0-9.0	40.0	•	❍
11.032	ER32 (470E)	11.0-10.0	40.0	•	
12.032	ER32 (470E)	12.0-11.0	40.0	•	❍
13.032	ER32 (470E)	13.0-12.0	40.0	•	
14.032	ER32 (470E)	14.0-13.0	40.0	•	❍
15.032	ER32 (470E)	15.0-14.0	40.0	•	
16.032	ER32 (470E)	16.0-15.0	40.0	•	❍
17.032	ER32 (470E)	17.0-16.0	40.0	•	
18.032	ER32 (470E)	18.0-17.0	40.0	•	❍
19.032	ER32 (470E)	19.0-18.0	40.0	•	
20.032	ER32 (470E)	20.0-19.0	40.0	•	❍

ER-16, ER-20, ER-25 available on request

• *Australian stock item* ❍ *German stock item*

DRILL SET

HSS JOBBER DRILL SET

Diameter 1.0 - 10.0 mm drill set in 0.1 mm increments
91pcs

JOBBER DRILLS: **Part No. 205 0,000**
377002081

TiN TIP COATED DRILLS: **Part No. 9651 0,005**
377005379

HSS JOBBER DRILL SET

Diameter 1.0 - 13.0 mm drill set in 0.5 mm increments
25pcs

JOBBER DRILLS: **Part No. 8901 0,014**

TiN TIP COATED DRILLS: **Part No. 234 6,014**

HSS JOBBER DRILL SET

Diameter 1/16 - 1/2 inch drill set in 1/64 inch increments
29pcs

JOBBER DRILLS: **Part No. 201 0,021**

TiN TIP COATED DRILLS: **Part No. 234 0,021**
322036485

HSS STEP DRILL SET

Diameter 1.0 - 10.0 mm & 1.0 - 13.0 mm drill set
in 0.5 mm increments
19pcs & 25pcs

STEP DRILL SET 1.0 - 10.0 mm : **Part No. 9501 0.013**

STEP DRILL SET 1.0 - 13.0 mm : **Part No. 9501 0.014**

MILLING CUTTER SET

RATIO END MILLS SET
Diameter 6.0 - 12.0 mm & 6.0 - 16.0 mm End mill set

4pc SET: **Part No. 5735 1,000**
377003387

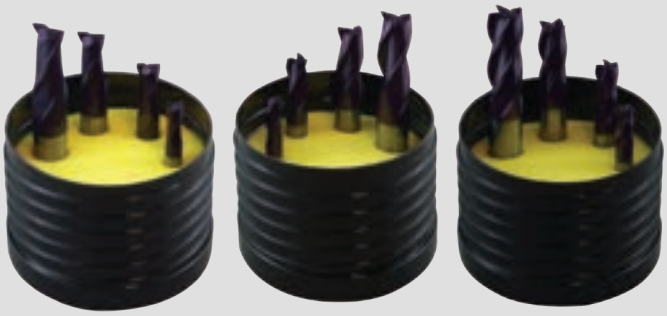
5pc SET: **Part No. 5635 1,000**

2,3 & 4 FLUTE END MILLS SET
Diameter 6.0 - 12.0 mm flute set

2 FLUTE SLOT DRILLS: **Part No. 3676 0,001**
377002907

3 FLUTE END MILLS: **Part No. 3560 0,001**
377002900

4 FLUTE END MILLS: **Part No. 3799 1,000**



3 FLUTE RF - 100A SET
Diameter 6.0 - 12.0 mm
4pc Set
For Aluminium

3 FLUTE RF 100A: **Part No. 3472 0,001**
377002897

DRILL AND TAP SETS

GUN TAPS, SPIRAL TAPS, TWIST DRILLS
M3 - M12 Taps 7pcs
Diameter 2.5 - 10.2 mm Drills 7pcs

GUN TAP: **Part No. 5696 17,100**

SPIRAL TAP: **Part No. 5698 17,100**

GUN TAPS, SPIRAL TAP, TWIST DRILLS, 90˚ COUNTERSINKS
M3 - M10 Taps 6pcs
Diameter 2.5 - 8.5 mm drills 6pcs
6.3 - 12.4 mm Countersinks 2pcs

GUN TAP: **Part No. 8903 2,000**
322036486

SPIRAL TAP: **Part No. 8903 1,000**

TAP SETS

HSS-E POWERTAPS, STEAM TEMPERED FINISH
Diameter M5, M6, M8, M10 & M12 5pcs

GUN NOSE TAP SET: **Part No. 5695 17,000**

SPIRAL FLUTE TAP SET: **Part No. 5697 17,000**

COUNTERBORE SET

COUNTERBORES SET
Straight shank HSS
Diameter M3 - M12 7pcs in plastic box

BRIGHT FINISH: **Part No. 482 0,200**
302425395

COUNTERSINK SETS

90° COUNTERSINK SET
Straight shank HSS
Diameter 6.3 - 20.5 mm (6 pcs) in plastic box

BRIGHT FINISH: **Part No. 498 7,000**

FIRE COATING FINISH: **Part No. 498 8,000**
377003332

82° & 90° SPYROTEC COUNTERSINK SET
Straight shank HSCO
Diameter 6.3 - 20.5 mm (6 pcs) in plastic box

82° TiAlN COATED: **Part No. 5676 1,000**

90° TiAlN COATED: **Part No. 5538 1,000**

MILLING SETS

RF 100 SPEED SET
Diameter 6 - 16 mm 5pcs P/N 6778 1,000
Diameter 6 - 12 mm 4pcs P/N 6778 2,000
Diameter 6 mm 5pcs P/N 6778 6,000
Diameter 8 mm 5pcs P/N 6778 8,000
Diameter 10 mm 3pcs P/N 6778 10,000
Diameter 12 mm 3pcs P/N 6778 12,000
Diameter 16mm 3pcs P/N 6778 16,000

RF 100 DIVER SET
Diameter 6 - 16mm (5 pcs) in plastic box

Part No. 6755 2,000

RF 100 SHARP SET

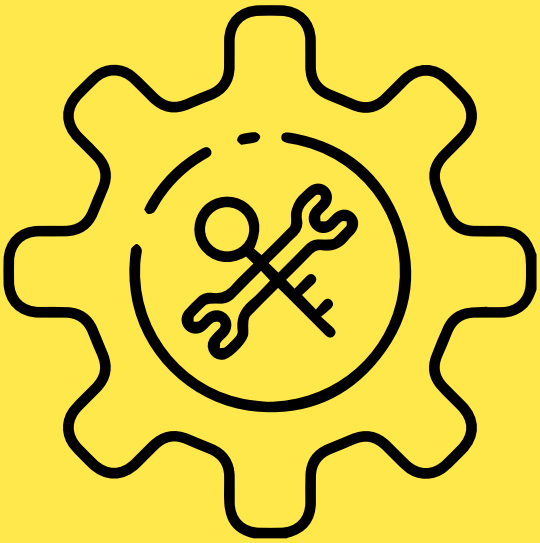
Diameter 6 - 16mm (5 pcs) in plastic box

Part No. 6482 1,000

Diameter 6 - 12mm (4pcs) in plastic box

Part No. 6482 2,000

SERVICE



Guhring Australia has become a one-stop shop for offering a range of high performance cutting tool solutions, including a local Production and Service Division that manufacturers solid carbide special tools in-house, from step drills and reamers to complex form tools and milling cutters. The local grinding division also offers a comprehensive resharpening service for both original Guhring tools as well as competitor products. The division is also equipped with its own in-house PVD coating centre for depositing a range of advanced ceramic coatings.

"THE SHORTEST DELIVERY TIMES FOR THE HIGHEST QUALITY SPECIAL TOOLS WITH PVD COATING!"

Guhring Australia draws on the wealth of knowledge and experience from our eleven years since setting up our special tools division. In addition, with support from our parent company in Germany, we are able to offer rapid delivery of custom-made special tools at highly competitive prices, complete with in-house coating facilities. If the need arises our highly experienced local team can deliver special coated carbide cutting tools within 48 hours. No other cutting tool company can offer such a rapid and complete solution in Australia.

High quality carbide

Guhring Australia uses only German-made Guhring carbide rods for the in-house production of special tools. A large range of carbide rods are kept in stock to meet the increasing demands from the machine-tool industry for the highest possible performance from specialist cutting tools.

Re-grinding

Worn tools don't belong on the scrap heap. Regrinding can offer a highly cost effective solution to reduce overall tooling costs by regrinding and recoating tools to near as-new condition. The service is not only for Guhring tools but also competitor products.

Get a quotation now

Quotation within 24 hours!
Tool delivery within 3 weeks!
Call us on 1800 639 991

For special applications it is desirable to increase the wear resistance of tools and improve the coefficient of friction between the tool and the workpiece material using special PVD coatings. Guhring offer a range of advanced wear-resistant coatings from an in-house PVD coating facility.

S S-coating or TiN coating (Titanium nitride)

Physical appearance: golden colour. Well proven, cost efficient all-round coating. Achieving performance increases. Surpassed in certain cases by other more advanced coatings.

A Super A-coating or AlTiN-coating (Aluminium titanium nitride)

Physical appearance: Black-violet colour. Guhring's well-proven A-coat has undergone continuous development by optimising the structural, chemical and mechanical properties of the coating. The result is the Super A-coating that has extremely high hot hardness, very good oxidisation resistance as well as excellent coating adhesion. This coating is suitable for the machining of difficult-to-machine materials such as titanium-alloys, Inconel and hardened steels as well as for hard machining (>52HRC) and HSC.

F FIRE coating

Physical appearance: violet-black colour. Multilayer TiAlN-coating with a graded structure. All-round coating achieveing at least twice the performance of TiN. Combines the advatages of TiN, TiAlN and TiCN. Excellent, near "fire resistant" heat resistance. High toughness.

C ICE coating (AlCrN-coat)

Physical appearance: metallic grey. The coating is specially adapted to satisfy the demands of high temperature and MQL machining applications. Our ICE-coat is based on aluminium chromium nitride (AlCrN) and possesses an extremely high oxidation resistance and hot hardness thanks to the high chromium content. The result is a high wear resistance and productivity in difficult to machine applications.

Z ZENIT coating

Physical appearance: pale yellow colour. The Zenit coating is specifically designed for non-ferrous applications, especially for milling of aerospace grade titanium alloys.

E Endurum coating

Physical appearance: copper. This coating is adapted for the drilling of low-alloyed steels such as carbon, free-cutting and managanese-alloyed steels.

Y Signum coating

Physical appearance: bronze. This signum coating has an extremely high hardness, that is retained even at high temperatures. The coating provides an especially high wear-resistance and at the same time, a high diffusion resistance.

	S-coating *TiN*	**Super-A Coating** *TiAlN*	**FIRE Coating** *TiN/TiAlN*	**ICE Coating** *TiAlCrN*	**Zenit Coating** *ZrN/AlTiN*	**Endurum Coating** *TiAl/TiSi*	**Signum Coating** *TiAlY/TiAlSiMoCr*
Colour	Gold	Grey Violet	Black Violet	Metallic Silver	Light Gold	Copper	Bronze Copper
Coating process	Physical Vapour Deposition	Physical Vapour Deposition	Physical Vapour Deposition	Physical Vapour Deposition	Physical Vapour Deposition	Physical Vapour Deposition	Physical Vapour Deposition
Layer structure	Monolayer	Monolayer	Graded Multilayer	Nanolayer	Nanolayer	Multilayered	Multilayered Nano Composite
Thickness [µm]	1.5 – 3.0	1.5 – 3.0	2.0 – 4.0	2.0 – 4.0	2.0 – 3.0	2.0 – 4.0	3.0 – 5.0
Hardness [HV 5g]	2300	3400	3300	3500	3000	4000	5500
Friction coefficient	0.4	0.6	0.6	0.5	0.3	0.6	0.5
Deposition temp. [°C]	400 – 500°C	400 – 500°C	400 – 500°C	400 – 500°C	400 – 500°C	400 – 500°C	400 – 500°C
Maximum operating temperature [°C]	600°C	900°C	800°C	1000°C	800°C	800°C	800°C+
Applications	General	High Performance	High Performance	High Performance	High Performance	High Performance	High performance
Workpiece materials	General	Hardened steels Cast irons AlSi alloys	Hardened steels Cast irons AlSi alloys	Hardened steels Cast irons, AlSi and Titanium alloys	Non ferrous, stainless steel	Carbon, free machining maganese, alloyed steel, low alloyed steel	Stainless steel, hardened high strength steels, cast iron

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Kg

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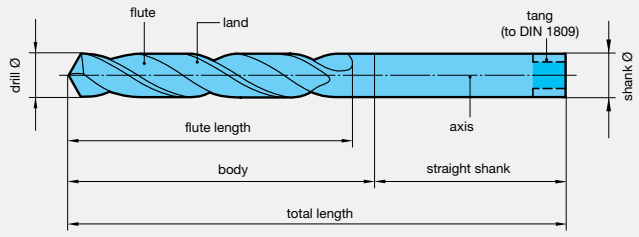
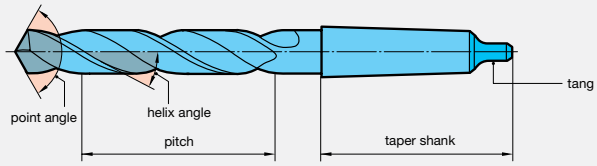
TECHNICAL INFORMATION

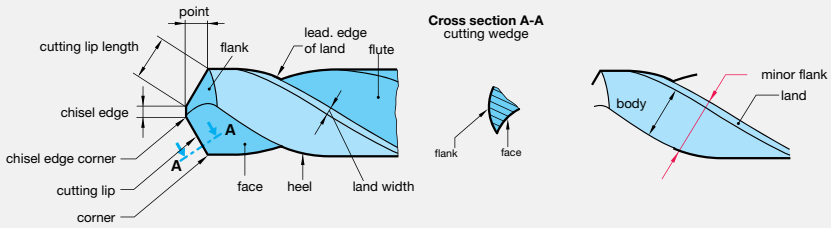
DEFINITIONS, DIMENSIONS AND ANGLES
(DIN ISO 5419, EDITION 06/98)

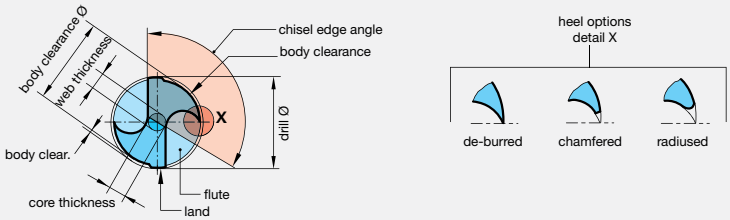
Twist drills with straight / Morse taper shank

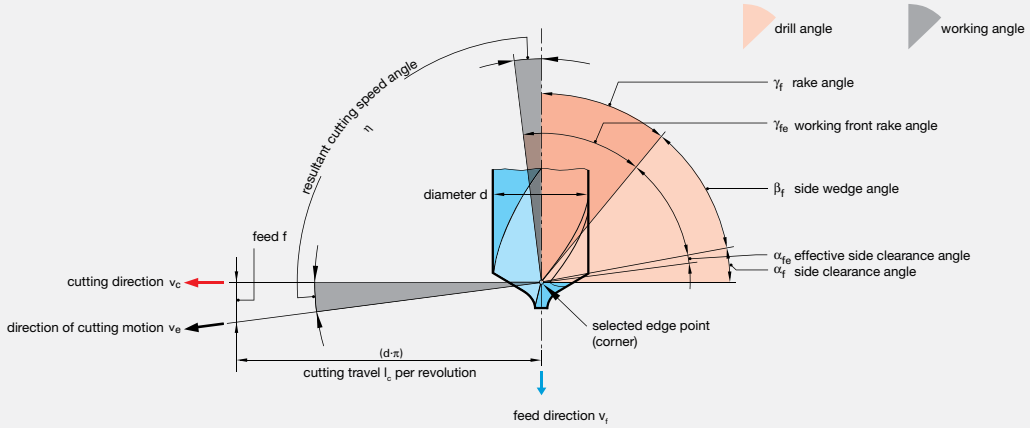




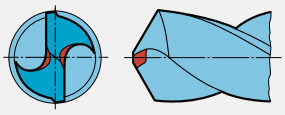
Cutting portion



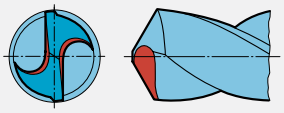




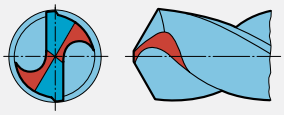
Special point geometry to DIN 1412 (extract; edition 03/01)



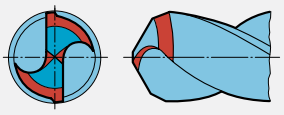
Form A
Thinned
chisel edge



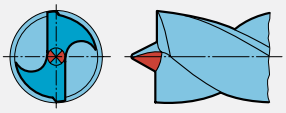
Form B
Thinned chisel edge with
corrected
cutting lips



Form C
Split point



Form D
Point ground
for cast iron



Form E
Brad point
(center point)

Twist drill manufacturing tolerances to DIN ISO 286, part 2

diameter (nominal size) up to and incl. mm	tolerance range mm h8	h7
0.38 … 0.60	10	7
0.95	12	8
3.00	14	10
6.00	18	12
10.00	22	15
18.00	27	18
30.00	33	21
50.00	39	25
80.00	46	30
120.00	54	35

* If you need tolerances other than ISO h8 please let us know. Additional charges for closer diameter tolerance see additional charges at the end of chapter Drilling Tools.

Reference to other relevant standards

DIN 228	Part 1 machine tapers; Morse tapers and metric tapers, taper shank
DIN 1414-1	Directions for design and use for high speed steel twist drills
DIN 6580	Definitions of the metal-cutting industry; motions and geometry of the cutting process
DIN 6581	Definitions of the metal-cutting industry; Cutting portion reference systems and angles

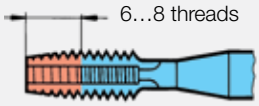
The standard descriptions above are given with the permission from the German Standards Institute (Deutsches Institut für Normung). The most recent editions of the standard sheets apply and are available in DIN A 4 format from Beuth-Verlag GmbH, D-10787 Berlin.

Conversion table inch - millimetre (From 1/64 to 11 63/64)

Fraction	mm	inch	Fraction	mm	inch	Fraction	mm	inch	Fraction	mm	inch	Fraction	mm	inch	Fraction	mm	inch
-	0.10	0.0039	66	0.84	0.0330	3/32	2.38	0.0938	10	4.91	0.1935	Q	8.43	0.3320	-	16.00	0.6299
97	0.15	0.0059	65	0.89	0.0350	41	2.44	0.0960	9	4.98	0.1960		8.50	0.3346	41/64	16.27	0.6406
96	0.16	0.0063	-	0.90	0.0354	40	2.50	0.0980	-	5.00	0.1968	R	8.61	0.3390		16.50	0.6496
95	0.17	0.0067	64	0.91	0.0360	39	2.53	0.0995	8	5.05	0.1990	11/32	8.73	0.3438	21/32	16.67	0.6562
94	0.18	0.0071	63	0.94	0.0370	38	2.58	0.1015	7	5.11	0.2010		8.75	0.3445	-	17.00	0.6693
93	0.19	0.0075	62	0.97	0.0380	37	2.64	0.1040	13/64	5.16	0.2031	S	8.84	0.3480	43/64	17.07	0.6719
92	0.20	0.0079	61	0.99	0.0390	36	2.71	0.1065	6	5.18	0.2040	-	9.00	0.3543	11/16	17.46	0.6875
91	0.21	0.0083	-	1.00	0.0394	7/64	2.78	0.1094	5	5.22	0.2055	T	9.09	0.3580		17.50	0.6890
90	0.22	0.0087	60	1.02	0.0400	35	2.79	0.1100		5.25	0.2067	23/64	9.13	0.3594	45/64	17.86	0.7031
89	0.23	0.0091	59	1.04	0.0410	34	2.82	0.1110	4	5.31	0.2090	U	9.35	0.3680	-	18.00	0.7087
88	0.24	0.0095	58	1.07	0.0420	33	2.87	0.1130	3	5.41	0.2130		9.50	0.3740	23/32	18.26	0.7188
-	0.25	0.0098	57	1.09	0.0430		2.90	0.1142		5.50	0.2165	3/8	9.53	0.3750		18.50	0.7283
87	0.25	0.0100	56	1.18	0.0465	32	2.95	0.1160	7/32	5.56	0.2188	V	9.56	0.3770	47/64	18.65	0.7344
	0.26	0.0102	3/64	1.19	0.0469	-	3.00	0.1181	2	5.61	0.2210	W	9.80	0.3860	-	19.00	0.7480
86	0.27	0.0105		1.20	0.0472	31	3.05	0.1200	1	5.79	0.2280	25/64	9.92	0.3906	3/4	19.05	0.7500
	0.27	0.0106		1.25	0.0492	1/8	3.18	0.1250	A	5.94	0.2340	-	10.00	0.3937	49/64	19.45	0.7656
85	0.28	0.0110		1.30	0.0512	30	3.26	0.1285	15/64	5.95	0.2344	X	10.08	0.3970		19.50	0.7677
	0.29	0.0114	55	1.32	0.0520		3.30	0.1299	-	6.00	0.2362	Y	10.26	0.4040	25/32	19.84	0.7812
84	0.29	0.0115	54	1.40	0.0550	29	3.45	0.1360	B	6.05	0.2380	13/32	10.32	0.4062	-	20.00	0.7874
-	0.30	0.0118		1.45	0.0571		3.50	0.1378	C	6.15	0.2420	Z	10.49	0.4130	51/64	20.24	0.7969
83	0.30	0.0120		1.50	0.0591	28	3.57	0.1405	D	6.25	0.2460		10.50	0.4134		20.50	0.8071
82	0.32	0.0125	53	1.51	0.0595	9/64	3.57	0.1406	1/4	6.35	0.2500	27/64	10.72	0.4219	13/16	20.64	0.8125
	0.32	0.0126		1.55	0.0610	27	3.66	0.1440	E	6.35	0.2500	-	11.00	0.4331	-	21.00	0.8268
81	0.33	0.0130	1/16	1.59	0.0625	26	3.73	0.1470		6.50	0.2559	7/16	11.11	0.4375	53/64	21.03	0.8281
80	0.34	0.0135		1.60	0.0630		3.75	0.1476	F	6.53	0.2570		11.50	0.4528	27/32	21.43	0.8438
79	0.37	0.0145	52	1.61	0.0635	25	3.80	0.1495	G	6.63	0.2610	29/64	11.51	0.4531		21.50	0.8465
1/64	0.40	0.0156		1.65	0.0650	24	3.86	0.1520	17/64	6.75	0.2656	15/32	11.91	0.4688	55/64	21.84	0.8594
78	0.41	0.0160	51	1.70	0.0670	23	3.91	0.1540		6.75	0.2657	-	12.00	0.4724	-	22.00	0.8661
77	0.46	0.0180		1.75	0.0689	5/32	3.97	0.1562	H	6.76	0.2660	31/64	12.30	0.4844	7/8	22.23	0.8750
-	0.50	0.0197	50	1.78	0.0700	22	3.99	0.1570	I	6.91	0.2720		12.50	0.4921		22.50	0.8858
76	0.51	0.0200		1.80	0.0709	-	4.00	0.1575	-	7.00	0.2756	1/2	12.70	0.5000	57/64	22.62	0.8906
75	0.53	0.0210	49	1.85	0.0730	21	4.04	0.1590	J	7.04	0.2772	-	13.00	0.5118	-	23.00	0.9055
74	0.57	0.0225		1.90	0.0748	20	4.09	0.1610	K	7.14	0.2810	33/64	13.10	0.5156	29/32	23.02	0.9062
-	0.60	0.0236	48	1.93	0.0760		4.20	0.1654	9/32	7.14	0.2812	17/32	13.49	0.5312	59/64	23.42	0.9219
73	0.61	0.0240		1.95	0.0768	19	4.22	0.1660	L	7.37	0.2900		13.50	0.5315		23.50	0.9252
72	0.64	0.0250	5/64	1.98	0.0781	18	4.31	0.1695	M	7.49	0.2949	35/64	13.89	0.5469	15/16	23.81	0.9375
71	0.66	0.0260	47	1.99	0.0785	11/64	4.37	0.1719		7.50	0.2953	-	14.00	0.5512	-	24.00	0.9449
-	0.70	0.0276	-	2.00	0.0787	17	4.39	0.1730	19/64	7.54	0.2969	9/16	14.29	0.5625	61/64	24.21	0.9531
70	0.71	0.0280		2.05	0.0807	16	4.50	0.1770	N	7.67	0.3020		14.50	0.5709		24.50	0.9646
69	0.74	0.0292	46	2.06	0.0810	15	4.57	0.1800		7.75	0.3051	37/64	14.68	0.5781	31/32	24.61	0.9688
-	0.75	0.0295	45	2.08	0.0820	14	4.62	0.1820	5/16	7.94	0.3125	-	15.00	0.5906	-	25.00	0.9843
68	0.79	0.0310		2.15	0.0846	13	4.70	0.1850	-	8.00	0.3150	19/32	15.08	0.5938	63/64	25.00	0.9844
1/32	0.79	0.0313	44	2.18	0.0860	3/16	4.76	0.1875	O	8.03	0.3160	39/64	15.48	0.6094	1	25.40	1.0000
-	0.80	0.0315	43	2.26	0.0890	12	4.80	0.1890	P	8.20	0.3230		15.50	0.6102			
67	0.81	0.0320	42	2.37	0.0935	11	4.85	0.1910	21/64	8.33	0.3281	5/8	15.88	0.6250			

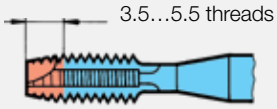
Chamfer forms to DIN 2197

Form A



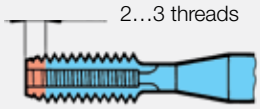
long, 6 - 8 threads
for short through holes

Form B



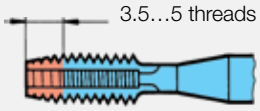
medium, 3.5 - 5.5 threads, with spiral point,
for all through holes and deep tapping holes in medium and long-chipping materials

Form C



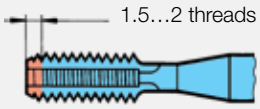
short, 2 - 3 threads
for blind holes and generally for aluminium, grey cast iron and brass

Form D



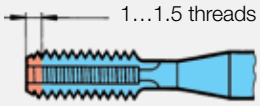
medium, 3.5 - 5 threads
for short through holes

Form E



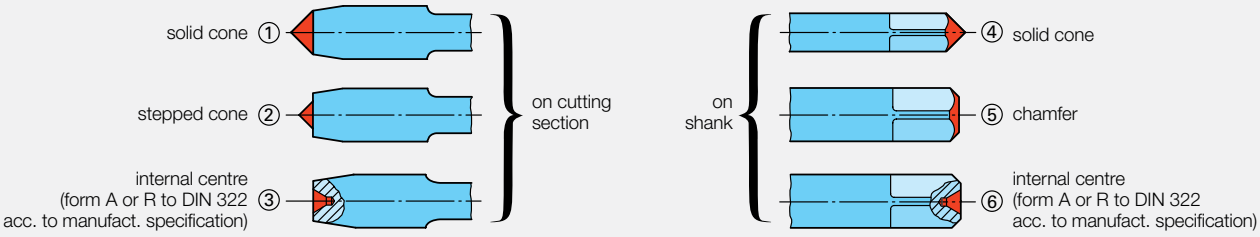
extremely short, 1.5-2 threads,
for blind holes with little run-out depth.

Form F



extremely short, 1-1.5 threads, for blind holes with little run-out depth.
Avoid use if possible.

Types of centres (standard, to DIN 2197/DIN 2175)



Thread dia. range mm	Centre on cutting section		Centre on shank
	with chamfer forms A, C, D, E	with chamfer form B	
≤ 4.2	1	1	5
> 4.2 … 5.6	2	1	5
> 5.6 … 10.0	3	2	5
> 10.0	3	3	6

Coolant duct geometries

axial coolant delivery
with axial coolant duct exit

axial coolant delivery with radial
coolant duct exit in the flutes
at the chamfer

TAPPING SIZE HOLES FOR THREAD CUTTING AND THREAD FORMING

For thread cutting

Std. ISO metric threads

nom. Ø	pitch P mm	tapping size hole Ø mm	nom. Ø	pitch P mm	tapping size hole Ø mm
M 1	0.25	**0.75**	M 11	1.50	**9.50**
M 1.1	0.25	**0.85**	M 12	1.75	**10.20**
M 1.2	0.25	**0.95**	M 14	2.00	**12.00**
M 1.4	0.30	**1.10**	M 16	2.00	**14.00**
M 1.6	0.35	**1.25**	M 18	2.50	**15.50**
M 1.8	0.35	**1.45**	M 20	2.50	**17.50**
M 2	0.40	**1.60**	M 22	2.50	**19.50**
M 2.2	0.45	**1.75**	M 24	3.00	**21.00**
M 2.5	0.45	**2.05**	M 27	3.00	**24.00**
M 3	0.50	**2.50**	M 30	3.50	**26.50**
M 3.5	0.60	**2.90**	M 33	3.50	**29.50**
M 4	0.70	**3.30**	M 36	4.00	**32.00**
M 4.5	0.75	**3.70**	M 39	4.00	**35.00**
M 5	0.80	**4.20**	M 42	4.50	**37.50**
M 6	1.00	**5.00**	M 45	4.50	**40.50**
M 7	1.00	**6.00**	M 48	5.00	**43.00**
M 8	1.25	**6.80**	M 52	5.00	**47.00**
M 9	1.25	**7.80**	M 56	5.50	**50.50**
M 10	1.50	**8.50**			

ISO metric fine threads

nom. x Ø	pitch P mm	tapping size hole Ø mm	nom. x Ø	pitch P mm	tapping size hole Ø mm
M 2.5 x	0.35	**2.15**	M 18 x	1.00	**17.00**
M 3.0 x	0.35	**2.65**	M 18 x	1.50	**16.50**
M 3.5 x	0.35	**3.15**	M 20 x	1.00	**19.00**
M 4.0 x	0.50	**3.50**	M 20 x	1.50	**18.50**
M 4.5 x	0.50	**4.00**	M 20 x	2.00	**18.00**
M 5.0 x	0.50	**4.50**	M 22 x	1.00	**21.00**
M 5.5 x	0.50	**5.00**	M 22 x	1.50	**20.50**
M 6.0 x	0.75	**5.20**	M 22 x	2.00	**20.00**
M 7.0 x	0.75	**6.20**	M 24 x	1.00	**23.00**
M 8.0 x	0.50	**7.50**	M 24 x	1.50	**22.50**
M 8.0 x	0.75	**7.20**	M 24 x	2.00	**22.00**
M 8.0 x	1.00	**7.00**	M 25 x	1.00	**24.00**
M 9.0 x	0.75	**8.20**	M 25 x	1.50	**23.50**
M 9.0 x	1.00	**8.00**	M 25 x	2.00	**23.00**
M 10 x	0.75	**9.20**	M 27 x	1.00	**26.00**
M 10 x	1.00	**9.00**	M 27 x	1.50	**25.50**
M 10 x	1.25	**8.80**	M 27 x	2.00	**25.00**
M 11 x	0.75	**10.20**	M 28 x	1.00	**27.00**
M 11 x	1.00	**10.00**	M 28 x	1.50	**26.50**
M 12 x	1.00	**11.00**	M 28 x	2.00	**26.00**
M 12 x	1.25	**10.80**	M 30 x	1.00	**29.00**
M 12 x	1.50	**10.50**	M 30 x	1.50	**28.50**
M 14 x	1.00	**13.00**	M 30 x	2.00	**28.00**
M 14 x	1.25	**12.80**	M 30 x	3.00	**27.00**
M 14 x	1.50	**12.50**	M 32 x	1.50	**30.50**
M 15 x	1.00	**14.00**	M 32 x	2.00	**30.00**
M 15 x	1.50	**13.50**	M 33 x	1.50	**31.50**
M 16 x	1.00	**15.00**	M 33 x	2.00	**31.00**
M 16 x	1.25	**14.80**	M 33 x	3.00	**30.00**
M 16 x	1.50	**14.50**	M 35 x	1.50	**33.50**
M 17 x	1.00	**16.00**	M 36 x	1.50	**34.50**
M 17 x	1.50	**15.50**			

UNC threads

nom. Ø	threads per inch	tapping size hole Ø mm
Nr.	1 - 64	**1.55**
Nr.	2 - 56	**1.85**
Nr.	3 - 48	**2.10**
Nr.	4 - 40	**2.35**
Nr.	5 - 40	**2.65**
Nr.	6 - 32	**2.85**
Nr.	8 - 32	**3.50**
Nr.	10 - 24	**3.90**
Nr.	12 - 24	**4.50**
1/4	- 20	**5.10**
5/16	- 18	**6.60**
3/8	- 16	**8.00**
7/16	- 14	**9.40**
1/2	- 13	**10.80**
9/16	- 12	**12.20**
5/8	- 11	**13.50**
3/4	- 10	**16.50**
7/8	- 9	**19.50**
1	- 8	**22.25**
1 1/8	- 7	**25.00**
1 1/4	- 7	**28.00**
1 3/8	- 6	**30.75**
1 1/2	- 6	**34.00**
1 3/4	- 5	**39.50**
2	- 4.5	**45.00**

UNF threads

nom. Ø	threads per inch	tapping size hole Ø mm
Nr.	1 - 72	**1.55**
Nr.	2 - 64	**1.85**
Nr.	3 - 56	**2.15**
Nr.	4 - 48	**2.40**
Nr.	5 - 44	**2.70**
Nr.	6 - 40	**2.95**
Nr.	8 - 36	**3.50**
Nr.	10 - 32	**4.10**
Nr.	12 - 28	**4.60**
1/4	- 28	**5.50**
5/16	- 24	**6.90**
3/8	- 24	**8.50**
7/16	- 20	**9.90**
1/2	- 20	**11.50**
9/16	- 18	**12.90**
5/8	- 18	**14.50**
3/4	- 16	**17.50**
7/8	- 14	**20.40**
1	- 12	**23.25**
1 1/8	- 12	**26.50**
1 1/4	- 12	**29.50**
1 3/8	- 12	**32.75**
1 1/2	- 12	**36.00**

BSP threads

nom. Ø inch	threads per inch	tapping size hole Ø mm	nom. Ø inch	threads per inch	tapping size hole Ø mm
G 1/16	28	**6.80**	G 7/8	14	**28.25**
G 1/8	28	**8.80**	G 1	11	**30.75**
G 1/4	19	**11.80**	G 1 1/8	11	**35.50**
G 3/8	19	**15.25**	G 1 1/4	11	**39.50**
G 1/2	14	**19.00**	G 1 1/2	11	**45.25**
G 5/8	14	**21.00**	G 1 3/4	11	**51.00**
G 3/4	14	**24.50**	G 2	11	**57.00**

BSW threads

nom. Ø inch	threads per inch	tapping size hole Ø mm	nom. Ø inch	threads per inch	tapping size hole Ø mm
W 1/16	60	**1.20**	W 5/8	11	**13.50**
W 3/32	48	**1.80**	W 3/4	10	**16.25**
W 1/8	40	**2.50**	W 7/8	9	**19.25**
W 5/32	32	**3.20**	W 1	8	**22.00**
W 3/16	24	**3.60**	W 1 1/8	7	**24.50**
W 7/32	24	**4.50**	W 1 1/4	7	**27.75**
W 1/4	20	**5.10**	W 1 3/8	6	**30.50**
W 5/16	18	**6.50**	W 1 1/2	6	**33.50**
W 3/8	16	**7.90**	W 1 5/8	5	**35.50**
W 7/16	14	**9.20**	W 1 3/4	5	**39.00**
W 1/2	12	**10.50**	W 2	4.5	**44.50**
W 9/16	12	**12.00**			

For thread forming

Std. ISO metric threads

nom. Ø mm	pitch	tapp. size hole Ø mm
M1	0.25	**0.90**
M1.2	0.25	**1.10**
M1.4	0.30	**1.28**
M1.6	0.35	**1.46**
M1.7	0.35	**1.56**
M1.8	0.35	**1.66**
M 2	0.40	**1.85**
M 2.2	0.45	**2.00**
M 2.5	0.45	**2.30**
M 3	0.50	**2.80**
M 3.5	0.60	**3.25**
M 4	0.70	**3.70**
M 4.5	0.75	**4.20**
M 5	0.80	**4.65**
M 6	1.00	**5.55**
M 7	1.00	**6.55**
M 8	1.25	**7.40**
M 9	1.25	**8.40**
M 10	1.50	**9.30**
M 11	1.50	**10.30**
M 12	1.75	**11.20**
M 14	2.00	**13.10**
M 16	2.00	**15.10**
M 18	2.50	**16.90**
M 20	2.50	**18.90**
M 22	2.50	**20.90**
M 24	3.00	**22.70**
M 27	3.00	**25.70**
M 30	3.50	**28.50**
M 33	3.50	**31.50**
M 36	4.00	**34.30**
M 39	4.00	**37.30**
M 42	4.50	**40.10**

ISO metric fine threads

nom. Ø mm	pitch	tapp. size hole Ø mm	nom. Ø mm	pitch	tapp. size hole Ø mm
M 2.5 x	0.35	**2.35**	M 14 x	1.50	**13.30**
M 3 x	0.35	**2.85**	M 15 x	1.00	**14.55**
M 4 x	0.35	**3.85**	M 15 x	1.50	**14.30**
M 4 x	0.50	**3.80**	M 16 x	1.00	**15.55**
M 5 x	0.50	**4.80**	M 16 x	1.50	**15.30**
M 5.5 x	0.50	**5.30**	M 17 x	1.00	**16.55**
M 6 x	0.75	**5.65**	M 17 x	1.50	**16.30**
M 7 x	0.75	**6.65**	M 18 x	1.00	**17.55**
M 8 x	0.75	**7.65**	M 18 x	1.50	**17.30**
M 8 x	1.00	**7.55**	M 18 x	2.00	**17.10**
M 9 x	0.75	**8.65**	M 20 x	1.00	**19.55**
M 9 x	1.00	**8.55**	M 20 x	1.50	**19.30**
M 10 x	0.75	**9.65**	M 24 x	1.00	**23.55**
M 10 x	1.00	**9.55**	M 24 x	1.50	**23.30**
M 10 x	1.25	**9.40**	M 24 x	2.00	**23.10**
M 11 x	0.75	**10.65**	M 27 x	1.50	**26.30**
M 11 x	1.00	**10.55**	M 30 x	1.50	**29.30**
M 12 x	1.00	**11.55**	M 33 x	1.50	**32.30**
M 12 x	1.25	**11.40**	M 36 x	1.50	**35.30**
M 12 x	1.50	**11.30**	M 39 x	1.50	**38.30**
M 14 x	1.00	**13.55**	M 42 x	1.50	**41.30**
M 14 x	1.25	**13.40**			

BSP-threads

nom. Ø inch	pitch per inch	tapp. size hole Ø mm
G 1/16	28	**7.30**
G 1/8	28	**9.30**
G 1/4	19	**12.50**
G 3/8	19	**16.00**
G 1/2	14	**20.00**
G 5/8	14	**22.00**
G 3/4	14	**25.50**
G 7/8	14	**29.25**
G 1	11	**32.00**
G 1 1/4	11	**40.75**

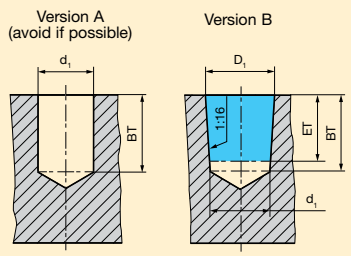
UNC-threads

nom. Ø	pitch per inch	tapp. size hole Ø mm
Nr. 1	- 64	**1.68**
Nr. 2	- 56	**1.98**
Nr. 3	- 48	**2.28**
Nr. 4	- 40	**2.55**
Nr. 5	- 40	**2.90**
Nr. 6	- 32	**3.15**
Nr. 8	- 32	**3.80**
Nr. 10	- 24	**4.35**
Nr. 12	- 24	**5.00**
1/4	- 20	**5.75**
5/16	- 18	**7.30**
3/8	- 16	**8.80**
7/16	- 14	**10.30**
1/2	- 13	**11.80**
9/16	- 12	**13.30**
5/8	- 11	**14.80**
3/4	- 10	**17.90**
7/8	- 9	**21.00**
1	- 8	**24.00**

UNF-threads

nom. Ø	pitch per inch	tapp. size hole Ø mm
Nr. 1	- 72	**1.70**
Nr. 2	- 64	**2.00**
Nr. 3	- 56	**2.30**
Nr. 4	- 48	**2.60**
Nr. 5	- 44	**2.90**
Nr. 6	- 40	**3.20**
Nr. 8	- 36	**3.85**
Nr. 10	- 32	**4.45**
Nr. 12	- 28	**5.10**
1/4	- 28	**5.95**
5/16	- 24	**7.45**
3/8	- 24	**9.05**
7/16	- 20	**10.55**
1/2	- 20	**12.10**
9/16	- 18	**13.65**
5/8	- 18	**15.25**
3/4	- 16	**18.35**
7/8	- 14	**21.40**
1	- 12	**24.45**

NPT ANSI B 2.1 American tapered pipe thread 1:16

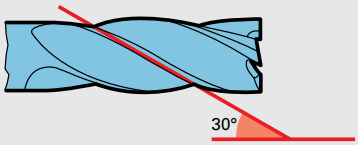


nom. Ø	threads per inch	tapp. size hole Ø cylindrical (A) d_1	tapp. size hole Ø conical (B) D_1	cutting depth ET mm	cutting depth BT (min) mm
1/16	- 27	**6.15**	6.39	9.29	10.7
1/8	- 27	**8.40**	8.74	9.32	10.8
1/4	- 18	**11.10**	**11.36**	13.52	15.6
3/8	- 18	**14.30**	**14.80**	13.83	16.0
1/2	- 14	**17.90**	**18.32**	18.07	20.8
3/4	- 14	**23.30**	**23.67**	18.55	21.3
1	- 11.5	**29.00**	**29.69**	22.29	25.6
1 1/4	- 11.5	**37.70**	**38.45**	22.80	26.1
1 1/2	- 11.5	**43.70**	**44.52**	22.80	26.1
2	- 11.5	**55.60**	**56.56**	23.20	26.5
2 1/2	- 8	**66.30**	**67.62**	31.75	36.3
3	- 8	**82.30**	**83.52**	33.74	38.5

Tapping size hole diameter tolerance zone for thread forming (to DIN 13, section 50)

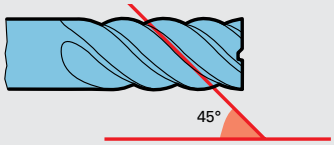
Due to the tensile strength it is not necessary to adhere to the tapping size hole diameter tolerance class 6H; tolerance class 7H satisfies the requirement that the flank coverage of external and internal threads should not fall below 0.32 x P. In addition, formed threads generally possess a higher tensile strength in comparison to cut threads thanks to an uninterrupted grain flow and subsequent work hardening.

TYPES OF MILLING CUTTERS AND THEIR BASIC APPLICATION RANGE



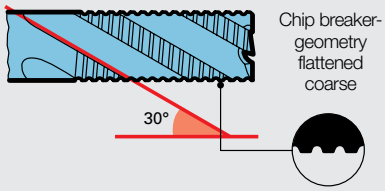
Type N

Quick spiral with 30° helical pitch, suitable for finish milling structural, case hardened and heat-treatable steels as well as short-chipping non-ferrous metals and materials up to
•·1200·N/mm²·tensile strength·applying high speed steel milling cutters
•·1600·N/mm²·tensile strength·applying solid carbide milling cutters



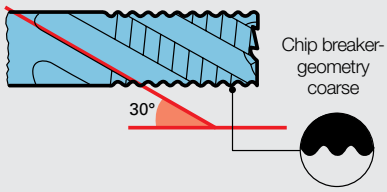
Type NH

Quick spiral with high 45° helical pitch, suitable for super fine finishing high-alloyed materials and grey cast iron up to appr.
•·1600·N/mm2·tensile strength



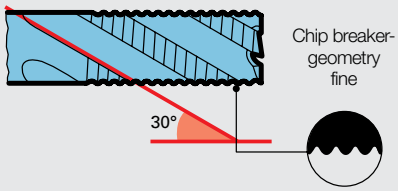
Type NF

Flat knuckle-type teeth/quick spiral, produces short chips and improved smoother surface quality in comparison to type NR or NRf. Suitable for milling standard materials up to appr.
•·1200·N/mm²·tensile strength·applying high speed steel milling cutters
•·1600·N/mm²·tensile strength applying solid carbide milling cutters



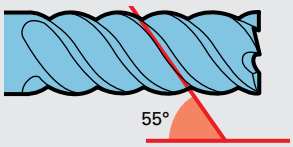
Type NR

Standard knuckle-type teeth, produces short chips and good chip evacuation. Suitable for milling standard materials up to appr.
•·1000·N/mm²·tensile strength·applying high speed steel milling cutters
•·1200·N/mm²·tensile strength·applying solid carbide milling cutters



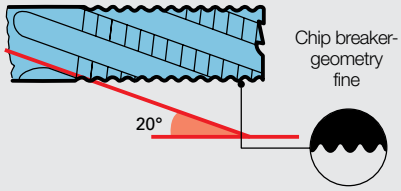
Type NRf

Fine knuckle-type teeth, produces short chips and good chip evacuation. Better feed rates possible than with type NR. Suitable for milling materials with a high tensile strength up to appr.
•·1400·N/mm²·tensile strength·applying high speed steel milling cutters
•·1600·N/mm²·tensile strength applying solid carbide milling cutters



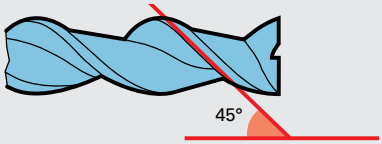
Type H

Quick spiral with high 55° helical pitch, suitable for super-fine finishing as well as HSC* machining of all hardened materials and chilled cast iron up to appr.
•·62·HRC·hardness



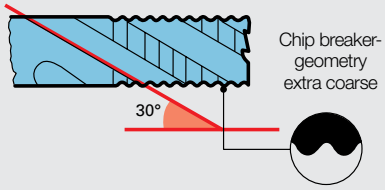
Type HR

Fine knuckle-type teeth, produces short chips with good chip evacuation. Suitable for milling hardened materials as well as grey and chilled cast iron with up to appr.
•·56 HRC hardness
* High Speed Cutting



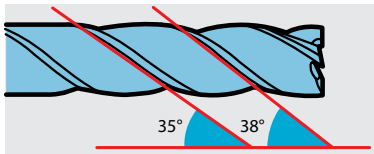
Type W

Quick spiral with 45° helical pitch, suitable for finish milling soft materials such as aluminium, Al-alloys and non-ferrous metals up to appr.
•·600·N/mm2 tensile strength



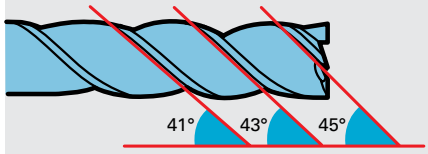
Type WR

Coarse knuckle-type teeth, produces short chips with good chip evacuation. Suitable for milling aluminium. non-ferrous metals as well as soft steels up to appr.
•·600·N/mm²·tensile strength.



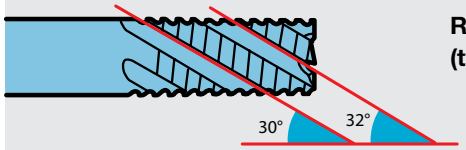
RF 100 U (type N)

35°/38° helix. Suitable for slotting, roughing and finishing steel, high-alloyed steel and hardened steel up to
• 1600 N/mm² tensile strength (48 HRC)



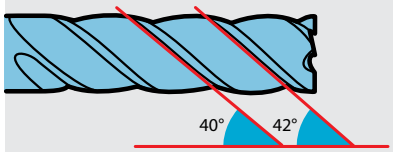
RF 100 U (type NH) 3-fluted

41°/43°/45° helix. Suitable for slotting, roughing and finishing steel, high-alloyed steel and stainless steel up to
• 1400 N/mm² tensile strength (44 HRC)
3-fluted suitable for extreme cutting depths



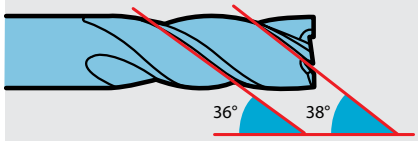
RF 100 U/HF (type HF)

30°/32° helix and roughing and finishing geometry. Suitable for slotting and roughing with large cutting widths and depths in steel, high-alloyed steel and hardened steel up to
• 1600 N/mm² tensile strength (48 HRC)



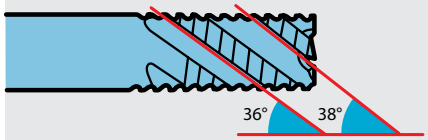
RF 100 F (type NH)

40°/42° helix. Suitable for slotting, roughing and finishing as well as HPC-milling/imachining tough steels as well as other long-chipping materials up to
• 850 N/mm² tensile strength (25 HRC)



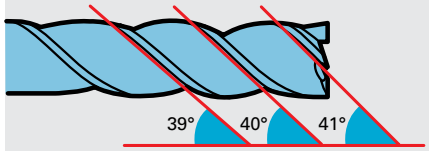
RF 100 VA (type N)

36°/38° helix. Suitable for slotting, roughing and finishing VA steels and stainless materials



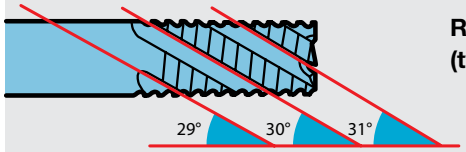
RF 100 VA/NF (type NF)

36°/38° helix and roughing and finishing geometry. Suitable for slotting and roughing VA steels and stainless materials



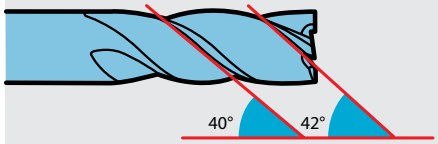
RF 100 A (type W)

39°/40°/41° helix. Suitable for slotting, roughing and finishing aluminium and Al-alloys as well as long-chipping materials and non-ferrous metals



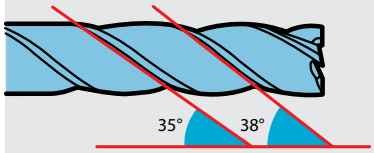
RF 100 A/WF (type WF)

29°/30°/31° helix and roughing and finishing geometry. Suitable for slotting and roughing aluminium and Al-alloys



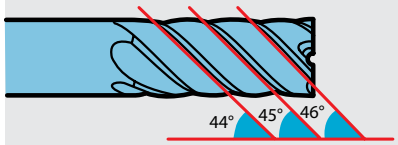
RF 100 H (type H)

40°/42° helix and progressive core diameter. Suitable for roughing up to 1xD in materials up to 54 HRC, for finishing over the entire cutting edge length in materials over 63 HRC. With HPC strategy suitable for roughing materials > 63 HRC.



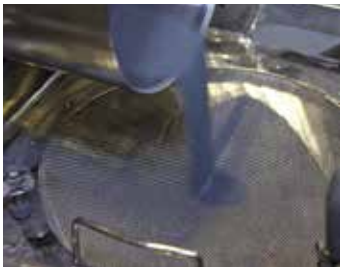
RF 100 Ti (type N)

35°/38° helix with corner radius. Suitable for slotting and roughing of titanium alloys as well as difficult-to-cut alloys



RF 100 SF (type NH)

44°/45°/46° helix. Suitable for HSC super fine finishing for semi-roughing with feed widths up to max. 0.3xD and HPC roughing over the entire cutting edge length for standard steels, c ast iron, non-ferrous metals and high-alloyed materials



With an annual production of in excess of 1500 tons Guhring Hard Material division is one of the leading carbide manufacturers. Grade variety, manufacturing possibilities and capacities as well as quality set market standards – the same as expert advice and the development support for our customers. Contact us and involve us with your task. We are sure we can offer you an efficient and cost-effective solution.

CARBIDE BLANKS

- for punches, core pullers, drawing dies and much more for the forming technology
- for cutting, punching, drilling, milling, shredding etc. for the machining technology
- for grooved bushes, nozzles, pressure and skid plates for the wear protection technology
- for impact knives, stirring staffs or strainers for the food and pharmaceutical industry
- for the manufacture of rotary tools

High Speed Steels

Only high quality tool materials are used to produce HSS tools. Systematic selection of alloying elements ensure the tool possesses the optimal characteristics for the individual tasks.

Tungsten, Molybdenum: Increase tempering and wearing resistance.
Vanadium: Increases wear-resistance of finishing tools.
Cobalt: Enables increased hardening temperatures and improves heat-resistance.

Guhring description	German steel description	Material No. (steel code)	Range of application
HSS	HS 6-5-2 (DMo5)	1.3343	standard tool material for most common applications
HSCO HSS-E	HS 6-5-2-5 (EMo5Co5)	1.3243	high heat-resistance, especially suited for roughing or when coolant insufficient
HSS-E	HS 6-5-3 (EMo5V3)	1.3344	high friction resistance and cutting edge stability, especially important for reaming operations
M42 **HSS-E**	HS 2-9-1-8	1.3247	increased heat resistance and hardness, suitable for difficult-to-machine materials
HSS-E-PM	10-2-5-8, PM52 HS 6-5-3-8, PM30	1.3253 1.3294	high hardness, heat-resistance and cutting edge stability, very dense structure

Individual Guhring carbide grades

The following table lists the most important carbides that are available from Guhring ex=stock for general applications. In more than 80% of applications known to Guhring, the results of DK460UF carbide grade tools together with a specially adapted coating could not be surpassed by any other carbide grades, including coated tools. This and the availability of the material ex-stock simplify tool selection immensely. For further information regrading the application of other carbide grades please contact to our technical engineers.

Guhring Description	Co-content [M-%]	Tungsten carbide grain size [µm]	Hardness [HV]	ISO classification [ISO 513]	Characteristics
DK460UF	10	0.5	1620	K20-K40 coated: P, M20-M40, H, S, N25	A carbide grade with wide range of application possibilities. It is applied, mostly coated, for the machining of steel, soft Al alloys, cast iron as well as “super alloys” such as Inconel 718. This grade is the backbone of our carbide production.
DK500UF	12	0.5	1680	K25 coated: P, M, H, S, N25	The grade has been especially developed for hard machining. It possesses a higher hardness and deformation tolerance in comparison to DK460UF. Due to the high Co-content, a coated application is strongly recommended.
DK255F	8	0.7	1720	K20 coated: P, M, H, S, N20	The grade is recommended for hard machining, the machining of high tensile grey cast iron and hard AlSi-alloys. Dry machining is possible. A coated application is preferable.
DK120	6	1.3	1620	K15 coated: N15	The grade is especially suitable for the application with diamond coating.
DK120UF	7	0.5	1850	K05	Ultra fine grain type offering extreme wear resistance, suitable for absolutely rigid machines, preferred for reamers.
K555F	9	0.2 - 0.5	1920	K10-K30	For application with high wear resistant materials, stainless steels, composite materials such as Kevlar and GRP, high speed machining and dry machining.
DK400N	10	0.7	1580	K35M coated: P, M, S, N35M	An extremely tough grade for the machining of high heat resistant metals.

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Fume extraction

Vapours produced during the shrink fit process are removed and filtered under controlled conditions by the fume extraction system.

Length setting

During the shrink fit process the tool is pre-set to the required length with the assistance of an adjustment rod.

Quick cooling

The water-cooled cooling elements cool down the shrink fit chuck quickly and safely. The shrink fit chuck remains clean and dry, so that it can be applied again without drying and without rusting. Hot spots remain safely screened during the cooling process in order to prevent burns.

Tool identification Balluff chip

The read and write function of the Balluff chip simplifies tool identification.
Tool life can be managed.

User-friendly software

Intuitive menu navigation similar to the well-established Guhring TM-Software GTMS via touch-screen monitor (for details see page 5).

Safe shrink fitting

The minimal heating of the shrink fit chuck ensures maximum operating safety on the one hand, on the other the controlled heating ensures the long life of the shrink fit chuck.

Label printer

Print data such as Guhring no., current setting dimension, date, operator etc. on an adhesive label for your pre-set tool.

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