

# **GUHRING**

## **AUSTRALIAN STOCK RANGE**

### **9<sup>TH</sup> EDITION 2024 - 2026**








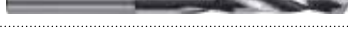

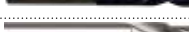



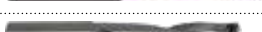
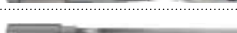











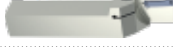




# **GUHRING**

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# DRILLING



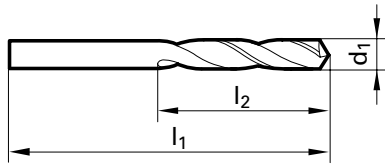




# STUB DRILLS

DRILLS









Guhring no.	223	5524	5520	1228	659	5516	730	2463
Standard	DIN 1897				DIN 6539			
Tool material	HSS	HSCO			Solid carbide			
Surface	$\geq 0.2.36$							
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°

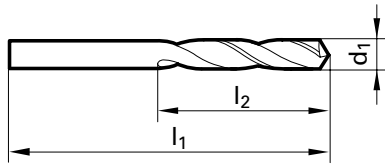


d1		l1	l2	AVAILABILITY									
mm	Inch	mm	mm										
1.000		26.00	6.00	•	•	•		•				•	
1.100		28.00	7.00		○	•						•	
1.200		30.00	8.00		○	•		•				•	
1.300		30.00	8.00		○	•						•	
1.400		32.00	9.00		○	•					•	•	
1.500		32.00	9.00	•	•	•		•				•	
1.600		34.00	10.00		○	•		•				•	
1.700		34.00	10.00		○	•		•			•	•	
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		○	•		•	•			•	

• 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	 $\frac{>\varnothing}{2,36}$							
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		l1	l2	AVAILABILITY									
mm	Inch	mm	mm	•	○	•	•	•	•	•	•	•	•
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		○	•	•	•	•	•	•	•	•

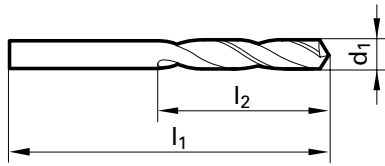
• Australian stock item    ○ German stock item



# STUB DRILLS

DRILLS

Guhring no.	223	5524	5520	1228	659	5516	730	2463
Standard	DIN 1897				DIN 6539			
Tool material	HSS	HSCO			Solid carbide			
Surface								
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°

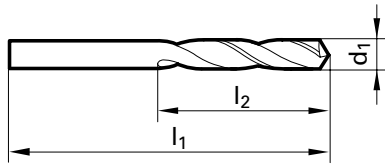


d1		l1	l2	AVAILABILITY					
mm	Inch	mm	mm						
7.300		74.00	34.00		○	●			
7.400		74.00	34.00		○	●			●
7.500		74.00	34.00	●		●		●	
7.600		79.00	37.00		○	●			●
7.700		79.00	37.00		○	●		●	●
7.800		79.00	37.00		○	●			●
7.900		79.00	37.00		○	●			●
7.940	5/16	79.00	37.00	●	○	●		●	
8.000		79.00	37.00	●	●	●		●	
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	11/32	84.00	40.00		○	●			●
8.730		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		○	●			

● 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	$>\varnothing$ 2,36							
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		l1	l2	AVAILABILITY				
mm	Inch	mm	mm					
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	•		•		

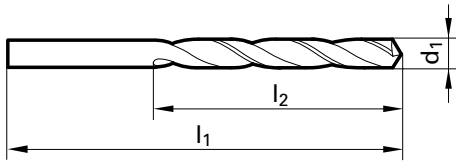
• Australian stock item    ○ German stock item



# JOBBER DRILLS

DRILLS

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

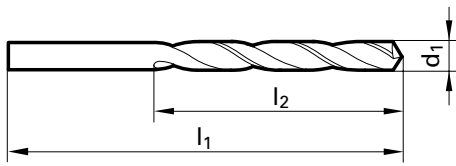


d1		l1	l2	AVAILABILITY												
mm	Inch	mm	mm													
0.400	1/64	20.00	5.00	•												
0.500		22.00	6.00	•												
0.600		24.00	7.00	•												
0.700		28.00	9.00	•												
0.800		30.00	10.00	•												
0.900		32.00	11.00	•												
1.000		34.00	12.00	•	•	•	•	•	•	•					•	•
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	•		•	•	•	•	•					•	•

• Australian stock item ○ German stock item



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	$>\varnothing$ 2,36								
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		l1	l2	AVAILABILITY															
mm	Inch	mm	mm	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
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	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

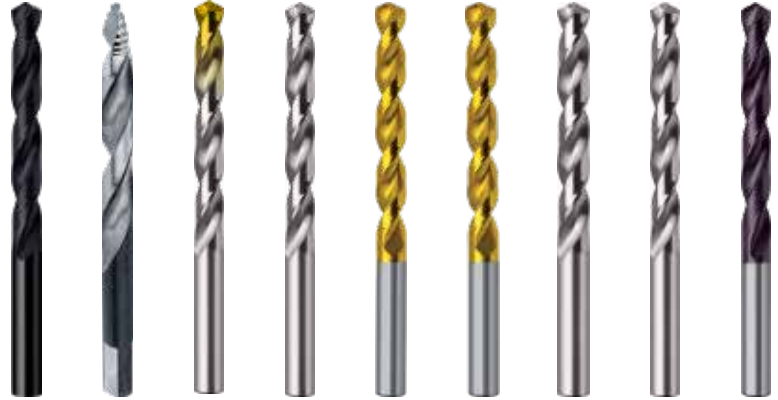
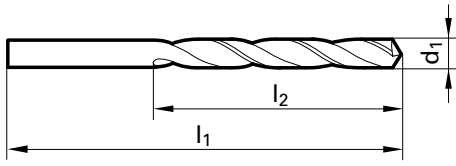
• Australian stock item    ◦ German stock item



# JOBBER DRILLS

DRILLS

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	 $>\varnothing$ 2.36								
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°

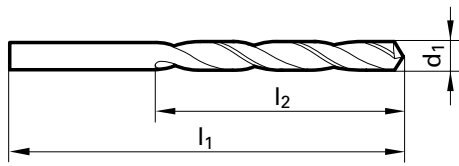


d1		l1	l2	AVAILABILITY												
mm	Inch	mm	mm	•	•	•	•	•	•	•	•	•	•	•	•	•
6.800		109.00	69.00	•	•	•	•	•	•	•	•	•	•	•	•	•
6.900		109.00	69.00	•		•		•		•		•		•		•
7.000		109.00	69.00	•	•	•		•		•		•		•		•
7.100		109.00	69.00	•		•		•		•		•		•		•
7.140	9/32	109.00	69.00	•		•		•		•		•		•		•
7.200		109.00	69.00	•		•		•		•		•		•		•
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



Gühring no.	205	9500	9651	5523	5522	658	732	5517	2464
Standard	DIN 338						Gühring std.		
Tool material	HSS	HSS	HSS	HSCO	HSS-E-PM	HSCO	Solid carbide		
Surface	$\frac{>0}{2,36}$								
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		l1	l2	AVAILABILITY										
mm	Inch	mm	mm											
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	•		•	•		•					

• Australian stock item    ◦ German stock item

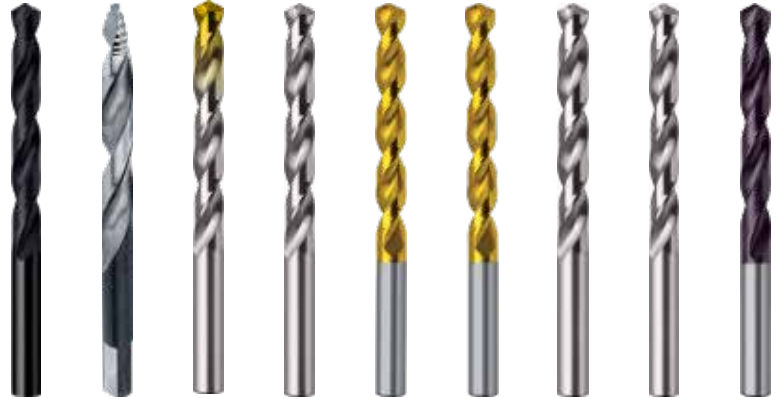
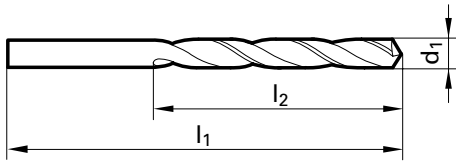




# JOBBER DRILLS

DRILLS

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								
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°

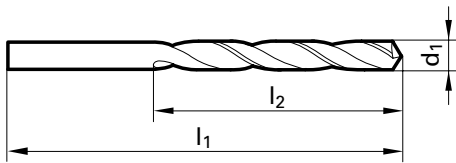


d1		l1	l2	AVAILABILITY						
mm	Inch	mm	mm							
14.290	9/16	169.00	114.00	•						
14.500		169.00	114.00	•	•		•			
15.000		169.00	114.00	•	•					
15.200		178.00	120.00	•						
15.500		178.00	120.00	•	•					
16.000		178.00	120.00	•	•					

• 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		l1	l2	AVAILABILITY		
mm	Inch	mm	mm			
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	•	•	○

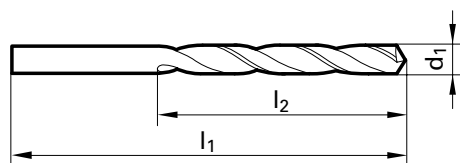
• Australian stock item    ○ German stock item



# LONG SERIES TWIST DRILLS

DRILLS

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

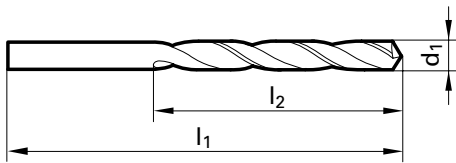


d1		l1	l2	AVAILABILITY		
mm	Inch	mm	mm			
6.700		148.00	97.00	○	●	○
6.750	17/64	156.00	102.00	●	●	
6.800		156.00	102.00	●	●	○
6.900		156.00	102.00	○	●	○
7.000		156.00	102.00	●	●	○
7.200		156.00	102.00	○	●	○
7.500		156.00	102.00	●	●	○
7.540	19/64	165.00	109.00	○	●	
7.940	5/16	165.00	109.00	●	●	
8.000		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



<b>Guhring no.</b>	<b>502</b>	<b>618</b>
<b>Standard</b>	<b>DIN 1869</b>	
<b>Tool material</b>	<b>HSS</b>	<b>HSCO</b>
<b>Surface</b>		
<b>Type</b>	<b>GT 100</b>	<b>GT 100</b>
<b>Cutting direction</b>	<b>right-hand</b>	<b>right-hand</b>
<b>Point angle</b>	<b>130°</b>	<b>130°</b>



d1		l1	l2	AVAILABILITY	
mm	Inch	mm	mm		
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	•	○

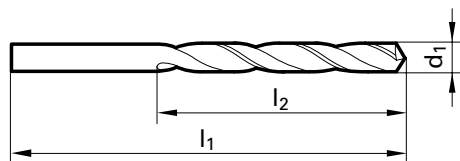
• Australian stock item    ○ German stock item



# EXTRA LENGTH TWIST DRILLS, SERIES 2

DRILLS

<b>Guhring no.</b>	<b>503</b>	<b>619</b>
<b>Standard</b>	<b>DIN 1869</b>	
<b>Tool material</b>	<b>HSS</b>	<b>HSCO</b>
<b>Surface</b>		
<b>Type</b>	<b>GT 100</b>	<b>GT 100</b>
<b>Cutting direction</b>	<b>right-hand</b>	<b>right-hand</b>
<b>Point angle</b>	<b>130°</b>	<b>130°</b>

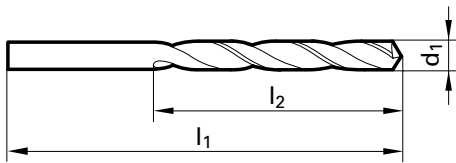


d1		l1	l2	AVAILABILITY
mm	Inch	mm	mm	
2.000		160.00	110.00	•
3.000		190.00	130.00	•
3.170	1/8	200.00	135.00	◦
3.500		210.00	145.00	•
3.570	9/64	210.00	145.00	◦
3.970	5/32	220.00	150.00	◦
4.000		220.00	150.00	•
4.370	11/64	235.00	160.00	◦
4.760	3/16	245.00	170.00	◦
5.000		245.00	170.00	•
5.160	13/64	245.00	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



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



d1		l1	l2	AVAILABILITY
mm	Inch	mm	mm	
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	•

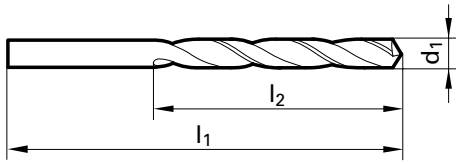
• Australian stock item    ○ German stock item



# EXTRA LENGTH TWIST DRILLS

DRILLS

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°

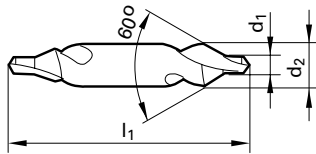


d1	l1	l2	AVAILABILITY
mm	mm	mm	
6.000	500.00	400.00	•
8.000	500.00	400.00	•
10.000	600.00	500.00	•
11.000	600.00	500.00	•
12.000	600.00	500.00	•
8.000	750.00	650.00	•
10.000	750.00	650.00	•
11.000	750.00	650.00	•
12.000	750.00	650.00	•
10.000	1000.00	850.00	•
11.000	1000.00	850.00	•
12.000	1000.00	850.00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

• Australian stock item    ◦ German stock item



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

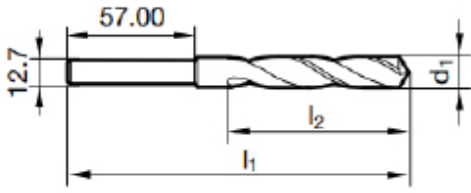




# DRILLS WITH SHANK DIA. 12.7MM

DRILLS

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**

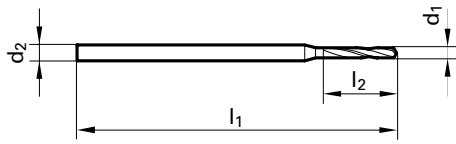




# MICRO-PRECISION DRILLS WITHOUT OIL FEED

DRILLS

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

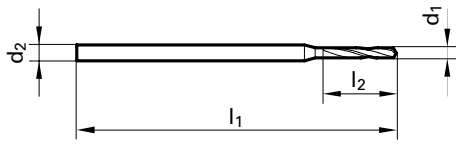


<b>d1</b>	<b>d2</b>	<b>l1</b>	<b>l2</b>	<b>AVAILABILITY</b>
<b>mm</b>	<b>mm</b>	<b>mm</b>	<b>mm</b>	
0.100	1.00	25.00	0.50	•
0.180	1.00	25.00	1.10	•
0.200	1.00	25.00	1.50	•
0.300	1.00	25.00	1.90	•
0.400	1.00	25.00	3.00	•
0.500	1.00	25.00	3.40	•
0.600	1.00	25.00	3.90	•
0.700	1.00	25.00	4.20	•
0.800	1.50	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



<b>Guhring no.</b>	<b>5652</b>
<b>Standard</b>	<b>WN</b>
<b>Tool material</b>	<b>Solid Carbide</b>
<b>Surface</b>	<b>A</b>
<b>Type</b>	<b>N</b>
<b>Cutting direction</b>	
<b>Tolerance</b>	
<b>Point angle</b>	<b>140°</b>



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



# MICRO-PRECISION DRILLS WITH OIL FEED

DRILLS

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

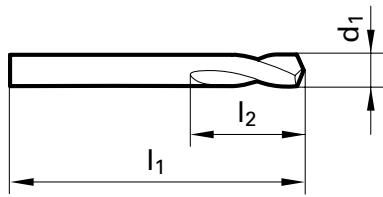


d1	d2	l1	l2	AVAILABILITY
mm	mm	mm	mm	
1.400	4.00	52.00	15.00	•
1.500	4.00	52.00	17.00	•
1.600	4.00	52.00	18.00	•
1.700	4.00	56.00	19.00	•
1.800	4.00	56.00	20.00	•
1.900	4.00	56.00	21.00	•
2.000	4.00	56.00	22.00	•
2.100	4.00	62.00	23.00	•
2.200	4.00	62.00	24.00	•
2.300	4.00	62.00	25.00	•
2.400	4.00	62.00	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		l1	l2	AVAILABILITY									
mm	Inch	mm	mm	•	○	•	○	•	○	•	○	•	○
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	•									

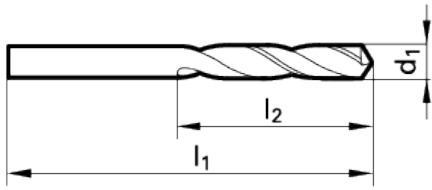
• Australian stock item    ○ German stock item



# SPOT WELD DRILLS

DRILLS

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



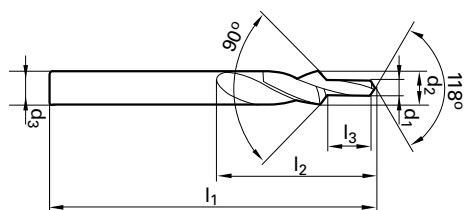
<b>d1</b>	<b>l1</b>	<b>l2</b>
<b>mm</b>	<b>mm</b>	<b>mm</b>
6.000	66.000	28.000
8.000	79.000	37.000

<b>AVAILABILITY</b>	
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•	• 377016775
•	• 377016776

• Australian stock item ○ German stock item

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



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

AVAILABILITY	
•	
•	
•	
•	
•	
•	
•	
•	
	• 302428537
	• 302428539
	• 302428540
	• 302428542
	• 302428543
	• 302428545
	• 302428546
	• 302586822
	• 302586823
	<b>Other sizes available on request</b>

• Australian stock item ○ German stock item

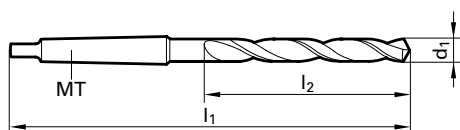




# TAPER SHANK TWIST DRILLS

DRILLS

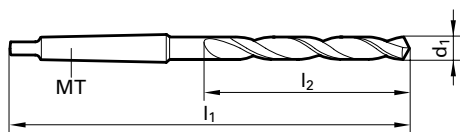
<b>Guhring no.</b>	<b>245</b>
<b>Standard</b>	<b>DIN 345</b>
<b>Tool material</b>	<b>HSS</b>
<b>Surface</b>	
<b>Type</b>	<b>N</b>
<b>Cutting direction</b>	<b>right-hand</b>
<b>Tolerance</b>	<b>h8</b>
<b>Point angle</b>	<b>118°</b>



d1		MT	l1	l2	AVAILABILITY
mm	inch				
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

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



d1		MT	l1	l2	AVAILABILITY
mm	inch				
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	•

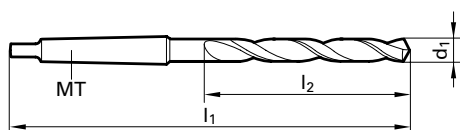
• Australian stock item    ○ German stock item



# TAPER SHANK LONG SERIES TWIST DRILLS

DRILLS

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

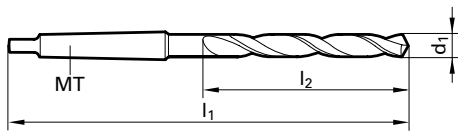


d1	MT	l1	l2	AVAILABILITY
mm		mm	mm	
13.00	1	215.00	134.00	•
13.50	1	223.00	142.00	○
14.00	1	223.00	142.00	•
14.50	2	245.00	147.00	○
15.00	2	245.00	147.00	•
15.50	2	251.00	153.00	○
16.00	2	251.00	153.00	•
16.50	2	257.00	159.00	○
17.00	2	257.00	159.00	•
17.50	2	263.00	165.00	○
18.00	2	263.00	165.00	•
18.50	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	MT	l1	l2	AVAILABILITY
mm		mm	mm	
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	•

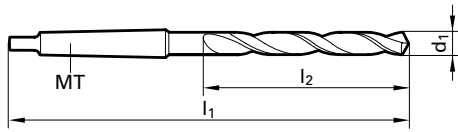
• Australian stock item    ◦ German stock item



# TAPER SHANK EXTRA LENGTH TWIST DRILLS

DRILLS

Guhring no.	293	298	299
Standard	Guhring std.		
Tool material	HSS		
Surface	 $>\varnothing$ 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°

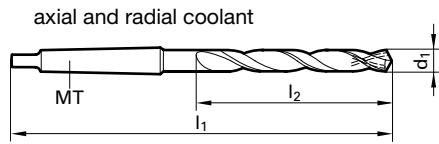


d1	MT	l1	l2	AVAILABILITY
mm		mm	mm	
14.000	1	600.00	500.00	•
15.000	2	600.00	500.00	•
16.000	2	600.00	500.00	•
17.000	2	600.00	500.00	•
18.000	2	600.00	500.00	•
19.000	2	600.00	500.00	•
20.000	2	600.00	500.00	•
21.000	2	600.00	500.00	•
22.000	2	600.00	500.00	•
23.000	2	600.00	500.00	•
24.000	3	600.00	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



<b>Guhring no.</b>	<b>255</b>
<b>Standard</b>	<b>WN</b>
<b>Tool material</b>	<b>HSS</b>
<b>Surface</b>	
<b>Type</b>	<b>N</b>
<b>Cutting direction</b>	<b>right-hand</b>
<b>Tolerance</b>	<b>h8</b>
<b>Point angle</b>	<b>170°</b>



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!

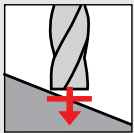
## RT 100 FB Flat Bottom Drill

### 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.



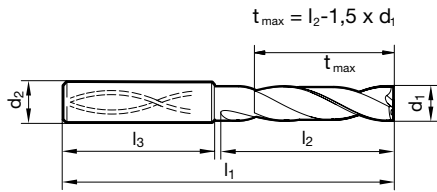
1. Spot drill with a conventional solid carbide drill, e.g. art. 2477 on  $\text{Ø FB}$  of the following RT 100 FB or on  $\text{Ø FB} + 0.20$  mm of the following RT 100 FB to directly apply a chamfer.



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



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



Scan for speeds and feeds



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

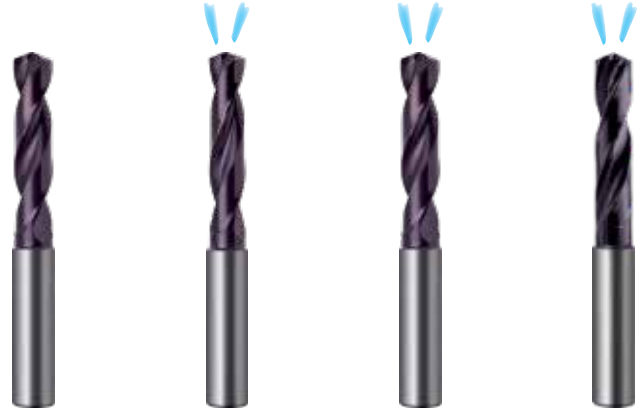
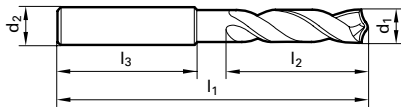




# HIGH-PERFORMANCE RATIO DRILLS, 3 X D

DRILLS

Guhring no.	5514	5510	5526	6498
Standard	DIN 6537 K			
Tool material	Solid carbide			
Surface	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>
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°

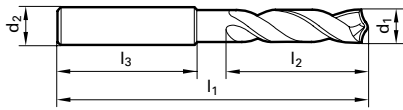


d1		d2	l1	l2	l3	AVAILABILITY			
mm	inch	mm	mm	mm	mm				
3.000		6.000	62.00	20.00	36.00	•	○	○	○
3.100		6.000	62.00	20.00	36.00	•	○	○	○
3.170	1/8	6.000	62.00	20.00	36.00	○	○	○	○
3.200		6.000	62.00	20.00	36.00	•	○	○	○
3.250		6.000	62.00	20.00	36.00	•	○	○	○
3.300		6.000	62.00	20.00	36.00	•	•	○	○
3.400		6.000	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	•	•	○	○

• Australian stock item    ○ German stock item



Guhring no.	5514	5510	5526	6498
Standard	DIN 6537 K			
Tool material	Solid carbide			
Surface	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>
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		d2	l1	l2	l3	AVAILABILITY			
mm	inch	mm	mm	mm	mm				
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	•	•	○	○

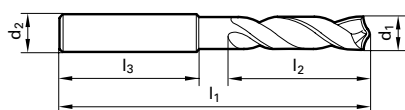
• Australian stock item    ○ German stock item



# HIGH-PERFORMANCE RATIO DRILLS, 3 X D

DRILLS

Guhring no.	5514	5510	5526	6498
Standard	DIN 6537 K			
Tool material	Solid carbide			
Surface	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>
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°

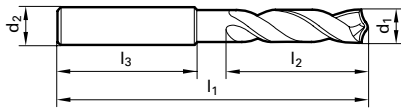


d1		d2	l1	l2	l3	AVAILABILITY			
mm	inch	mm	mm	mm	mm				
9.000		10.000	89.00	47.00	40.00	•	•	○	○
9.100		10.000	89.00	47.00	40.00	•	○	○	○
9.130	23/64	10.000	89.00	47.00	40.00	○	○	○	○
9.200		10.000	89.00	47.00	40.00	•	○	○	○
9.250		10.000	89.00	47.00	40.00	•	○	○	○
9.300		10.000	89.00	47.00	40.00	•	○	○	○
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	•	○	○	○

• Australian stock item    ○ German stock item



Guhring no.	5514	5510	5526	6498
Standard	DIN 6537 K			
Tool material	Solid carbide			
Surface	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>
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	d2	l1	l2	l3	AVAILABILITY				
mm	inch	mm	mm	mm					
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	○	•	○	○

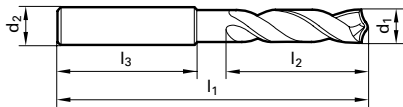
• Australian stock item    ○ German stock item



# HIGH-PERFORMANCE RATIO DRILLS, 5 X D

DRILLS

Guhring no.	5515	5511	5580	5498	5768
Standard	DIN 6537 L				
Tool material	Solid carbide				
Surface	<b>F</b>	<b>F</b>	<b>A</b>	<b>F</b>	○
Type	RT 100 U	RT 100 U	RT 100 VA	RT 100 XF	RT 100 AI
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°

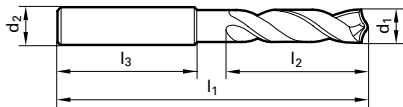


d1		d2	l1	l2	l3	AVAILABILITY				
mm	inch	mm	mm	mm	mm					
2.500		2.500	57.00	20.00	25.00	•	•			
2.800		2.800	57.00	22.00	27.00	•	•			
2.900		2.900	57.00	23.00	28.00	•	•			
3.000		6.000	66.00	28.00	36.00	•	•	•	•	○
3.100		6.000	66.00	28.00	36.00	•	•	○	○	○
3.170	1/8	6.000	66.00	28.00	36.00	○	○	○	•	○
3.200		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



Guhring no.	5515	5511	5580	5498	5768
Standard	DIN 6537 L				
Tool material	Solid carbide				
Surface	<b>F</b>	<b>F</b>	<b>A</b>	<b>F</b>	○
Type	RT 100 U	RT 100 U	RT 100 VA	RT 100 XF	RT 100 AI
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		d2	l1	l2	l3	AVAILABILITY				
mm	inch	mm	mm	mm	mm					
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					

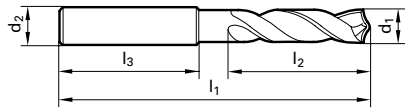
● Australian stock item ○ German stock item



# HIGH-PERFORMANCE RATIO DRILLS, 5 X D

DRILLS

Guhring no.	5515	5511	5580	5498	5768
Standard	DIN 6537 L				
Tool material	Solid carbide				
Surface	<b>F</b>	<b>F</b>	<b>A</b>	<b>F</b>	○
Type	RT 100 U	RT 100 U	RT 100 VA	RT 100 XF	RT 100 AI
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°

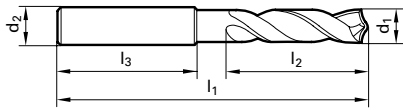


d1		d2	l1	l2	l3	AVAILABILITY				
mm	inch	mm	mm	mm	mm					
8.730	11/32	10.000	103.00	61.00	40.00	○	○	○	●	○
8.800		10.000	103.00	61.00	40.00	●	●	○	○	○
8.900		10.000	103.00	61.00	40.00	○	●	○	○	○
9.000		10.000	103.00	61.00	40.00	●	●	●	●	○
9.100		10.000	103.00	61.00	40.00	○	●	○	○	○
9.130	23/64	10.000	103.00	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



Guhring no.	5515	5511	5580	5498	5768
Standard	DIN 6537 L				
Tool material	Solid carbide				
Surface	<b>F</b>	<b>F</b>	<b>A</b>	<b>F</b>	○
Type	RT 100 U	RT 100 U	RT 100 VA	RT 100 XF	RT 100 AI
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		d2	l1	l2	l3	AVAILABILITY				
mm	inch	mm	mm	mm	mm					
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

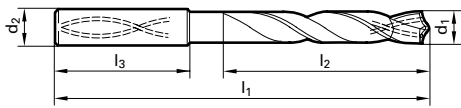




# HIGH-PERFORMANCE RATIO DRILLS, 7 X D

DRILLS

Gühring no.	5512	5499
Standard	Gühring std.	Gühring std.
Tool Material	Solid carbide	Solid carbide
Surface	<b>F</b>	<b>F</b>
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°

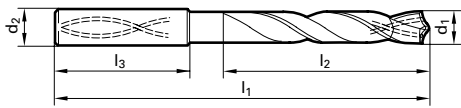


d1		d2	l1	l2	l3	AVAILABILITY	
mm	inch	mm	mm	mm	mm		
3.000		6.000	70.00	30.00	36.00	•	○
3.300		6.000	70.00	30.00	36.00	•	○
4.000		6.000	75.00	37.50	36.00	•	○
4.600		6.000	85.00	45.00	36.00	•	○
5.000		6.000	90.00	50.00	36.00	•	○
5.200		6.000	90.00	50.00	36.00	•	○
5.500		6.000	97.00	57.00	36.00	•	○
5.560		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	<b>F</b>	<b>F</b>
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	d2	l1	l2	l3	AVAILABILITY	
mm	inch	mm	mm	mm		
12.500		14.000	182.00	133.00	•	○
12.700	1/2	14.000	182.00	133.00	•	○
13.000		14.000	182.00	133.00	•	○
13.500		14.000	182.00	133.00	○	○
14.000		14.000	182.00	133.00	•	○
14.200		16.000	204.00	152.00	○	○
14.500		16.000	204.00	152.00	○	○
15.000		16.000	204.00	152.00	•	○
15.500		16.000	204.00	152.00	○	○
16.000		16.000	204.00	152.00	○	○
16.500		18.000	223.00	171.00	○	○
17.000		18.000	223.00	171.00	○	○
17.500		18.000	223.00	171.00	○	○
18.000		18.000	223.00	171.00	○	○
18.500		20.000	244.00	190.00	○	○
19.000		20.000	244.00	190.00	○	○
19.050	3/4	20.000	244.00	190.00	○	○
19.500		20.000	244.00	190.00	○	○
20.000		20.000	244.00	190.00	○	○

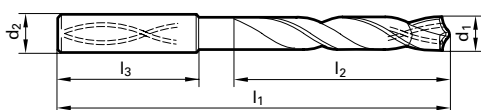
• Australian stock item    ○ German stock item



# RATIO DRILLS WITH OIL FEED, 12 X D

DRILLS

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



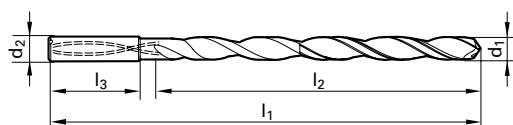
d1	d2	l1	l2	l3	AVAILABILITY
mm	mm	mm	mm	mm	
3.000	6.000	90.00	50.00	36.00	•
3.170	6.000	90.00	50.00	36.00	•
3.200	6.000	90.00	50.00	36.00	•
3.500	6.000	90.00	50.00	36.00	○
4.000	6.000	102.00	64.00	36.00	•
4.500	6.000	102.00	64.00	36.00	○
5.000	6.000	116.00	78.00	36.00	•
5.200	6.000	116.00	78.00	36.00	•
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



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

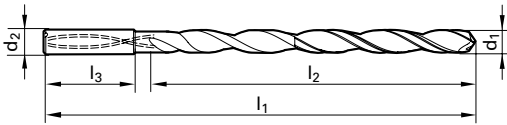


d1	d2	l1	l2	l3	AVAILABILITY
mm	mm	mm	mm	mm	
3.000	6.000	110.00	70.00	36.00	•
4.000	6.000	136.00	96.00	36.00	•
4.500	6.000	158.00	118.00	36.00	•
5.000	6.000	158.00	118.00	36.00	•
5.500	6.000	180.00	140.00	36.00	•
6.000	6.000	180.00	140.00	36.00	•
6.500	8.000	202.00	162.00	36.00	•
7.000	8.000	202.00	162.00	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



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

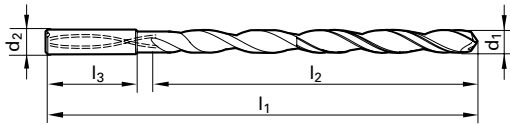


d1	d2	l1	l2	l3	AVAILABILITY	
mm	mm	mm	mm	mm		
3.000	6.000	140.00	100.00	36.00	•	
3.170	6.000	158.00	118.00	36.00	•	
4.000	6.000	176.00	136.00	36.00	•	
4.500	6.000	208.00	168.00	36.00	•	
5.000	6.000	208.00	168.00	36.00	•	
5.500	6.000	240.00	200.00	36.00	•	
6.000	8.000	240.00	200.00	36.00	•	
6.500	8.000	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



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



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

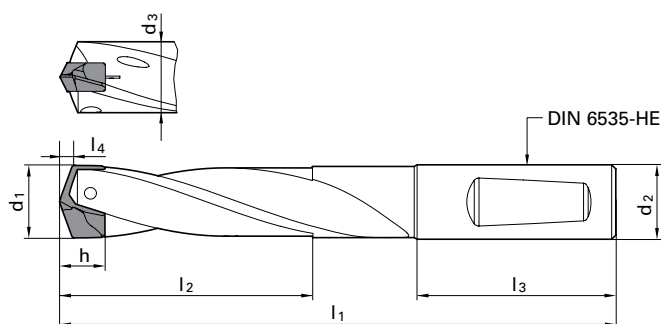


# TOOL HOLDERS FOR INTERCHANGEABLE INSERTS HT 800, 3 X D

DRILLS

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	50.90	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	•

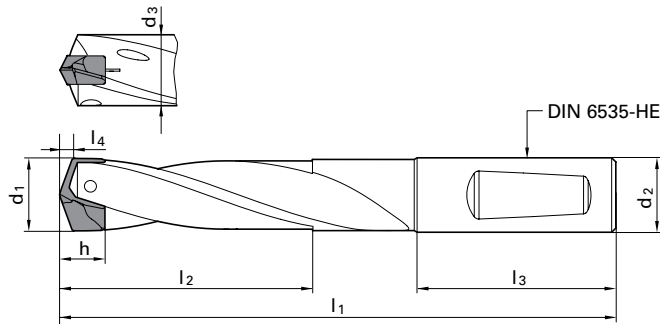
• Australian stock item ○ German stock item



Guhring no.

4107

DRILLS



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



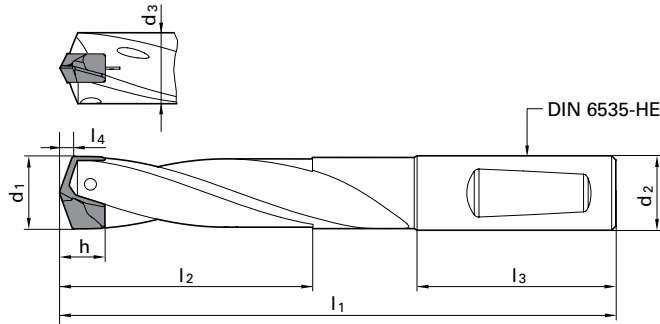


# TOOL HOLDERS FOR INTERCHANGEABLE INSERTS HT 800, 3 X D

DRILLS

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	○

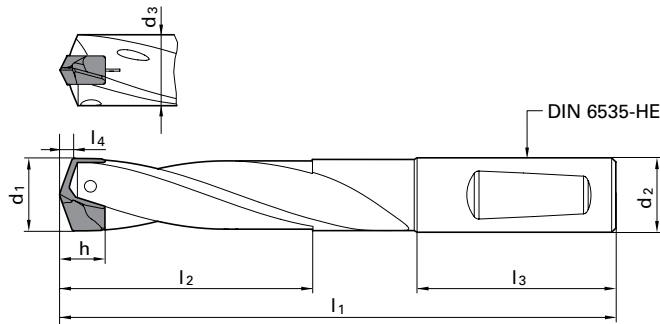
● Australian stock item   ○ German stock item



Guhring no.

4108

DRILLS



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

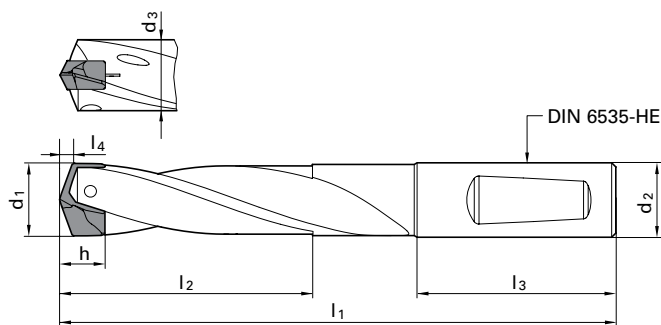


# TOOL HOLDERS FOR INTERCHANGEABLE INSERTS HT 800, 5 X D

DRILLS

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	○

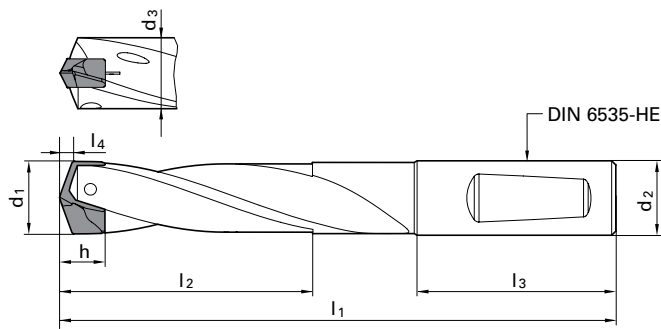
● Australian stock item ○ German stock item



Guhring no.

4108

DRILLS



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

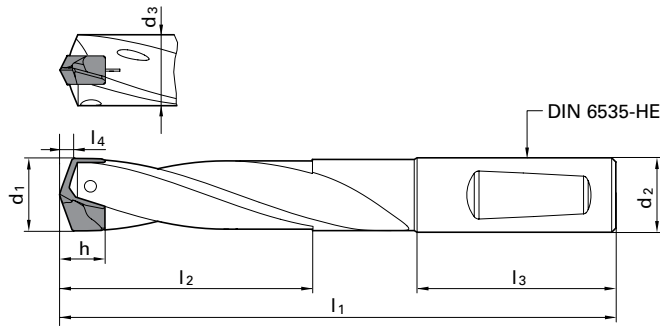


# TOOL HOLDERS FOR INTERCHANGEABLE INSERTS HT 800, 7 X D

DRILLS

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 - 14.99	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	•

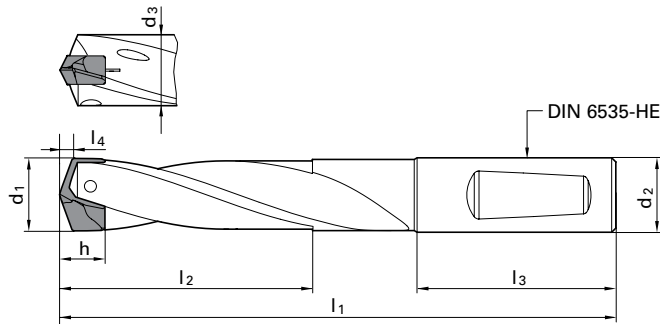
• Australian stock item ○ German stock item



Guhring no.

4109

DRILLS



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

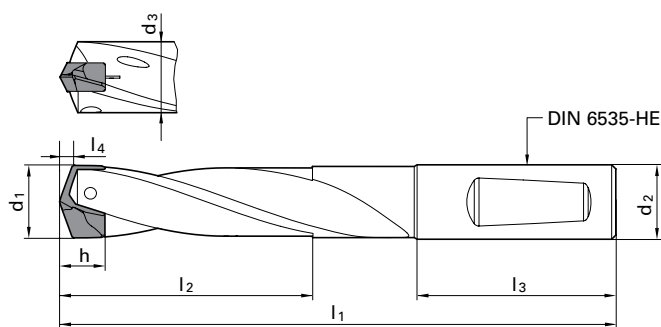


# TOOL HOLDERS FOR INTERCHANGEABLE INSERTS HT 800, 7 X D

DRILLS

Guhring no.

4109



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

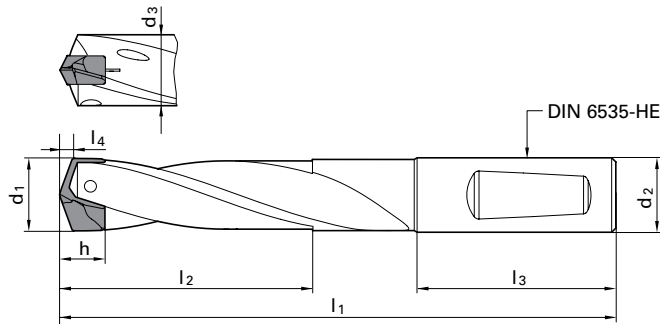
● Australian stock item   ○ German stock item



Guhring no.

4110

DRILLS



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



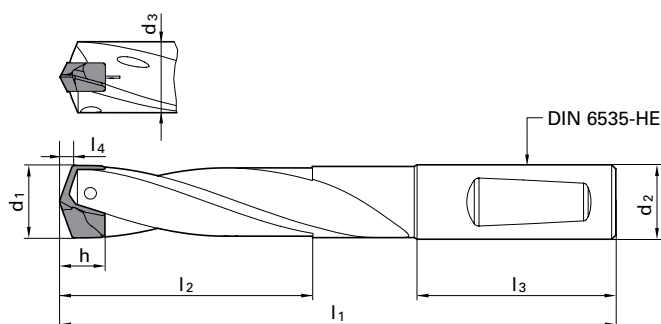


# TOOL HOLDERS FOR INTERCHANGEABLE INSERTS HT 800, 10 X D

DRILLS

Guhring no.

4110

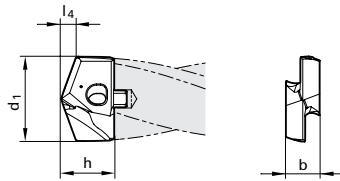


Code no.	Holder Size	d1	d2	d3	incl. WP l1*	l2 max	l3	AVAILABILITY
		mm	mm	mm	mm	mm	mm	
20.505	205	20.50 - 20.99	25.40	20.20	306.00	214.00	56.00	○
21.000	210	21.00 - 21.49	25.00	20.70	312.00	219.10	56.00	○
21.005	210	21.00 - 21.49	25.40	20.70	312.00	219.10	56.00	○
21.500	215	21.50 - 21.99	25.00	21.20	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
	Guhring std.	Guhring std.
Standard		
Tool material	Solid carbide	Solid carbide
Application	Steel	Stainless Steel
Surface finish	<b>F</b>	<b>a</b>
Tolerance	m7	m7
Point angle	140°	140°



Code no.	for drill.	for pilot.	d1	l4	b	h	AVAILABILITY	
	holder size	holder size						
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	○	○

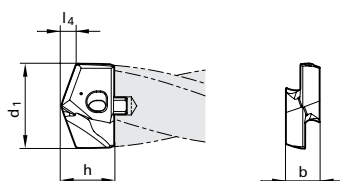
• Australian stock item    ○ German stock item



# INTERCHANGEABLE INSERTS HT 800

DRILLS

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

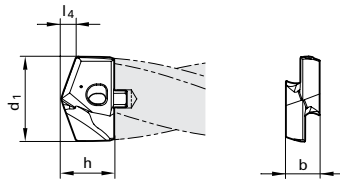


Code no.	for drill. holder size	for pilot. holder size	d1 mm	l4 mm	b mm	h mm	AVAILABILITY	
15,500	155	140	15.50	2.80	6.00	9.80	•	•
15,600	155	140	15.60	2.90	6.00	9.80	○	○
15,700	155	140	15.70	2.90	6.00	9.80	○	○
15,800	155	140	15.80	2.90	6.00	9.80	○	○
15,870	155	140	15.87	2.90	6.00	9.80	•	•
16,000	160	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
	Guhring std.	Guhring std.
Standard		
Tool material	Solid carbide	Solid carbide
Application	Steel	Stainless Steel
Surface finish	<b>F</b>	<b>a</b>
Tolerance	m7	m7
Point angle	140°	140°



Code no.	for drill.	for pilot.	d1	l4	b	h	AVAILABILITY	
	holder size	holder size						
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	●	○

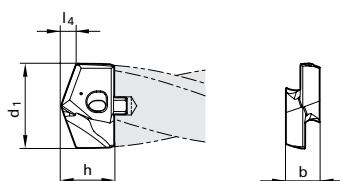
● Australian stock item ○ German stock item



# INTERCHANGEABLE INSERTS HT 800

DRILLS

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



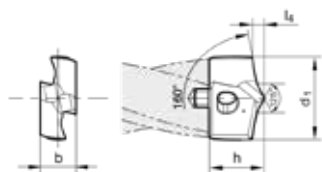
Code no.	for drill. holder size	for pilot. holder size	d1 mm	l4 mm	b mm	h mm	AVAILABILITY
31,750	310	300	31.75	5.80	14.00	22.30	• ○
32,000	320	320	32.00	5.90	15.00	23.10	• •
32,500	320	320	32.50	6.00	15.00	23.10	○ ○
32,540	320	320	32.54	6.00	15.00	23.10	○ ○
32,940	320	320	34.94	6.00	15.00	23.10	○ ○
33,000	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



<b>Guhring no.</b>	<b>4229</b>
<b>Standard</b>	<b>WN</b>
<b>Tool material</b>	<b>Solid carbide</b>
<b>Application</b>	<b>Steel</b>
<b>Surface finish</b>	<b>F</b>
<b>Tolerance</b>	<b>h7</b>
<b>Point angle</b>	

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



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Gühring Optimising Apple Application

- Coolant:
- Air
  - Neat oil
  - Soluble oil

Material group	Material examples	Tensile strength MPa (N/mm <sup>2</sup> )	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 Malleable cast iron	GGG40, GGG50, GGG60, 32510, GTW35		≤240 HB	○
	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		○







# CUTTING SPEED RECOMMENDATION FOR TWIST DRILLS

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

<b>Gühring no.</b>
<b>Standard/DIN</b>
<b>Tool material</b>
<b>Surface finish</b>
<b>Type</b>



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Gühring Optimising Apple Application

- Coolant:
- Air
  - Neat oil
  - Soluble oil

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

# CUTTING SPEED RECOMMENDATION FOR TWIST DRILLS



DRILLS

≤3XD DRILLING DEPTH			≤5XD DRILLING DEPTH			≤10XD			MICRO-PRECISION DRILLS >10XD			≤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			
Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	○	Ⓢ	○	Ⓢ	●	○	○	●			
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.	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	48	5	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									



# CUTTING SPEED RECOMMENDATION

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



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Coolant:

- Air
- Neat oil
- Soluble oil

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

# CUTTING SPEED RECOMMENDATION



DRILLS

≤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 K10/ K20	Carbide K/P	Carbide K/P	Carbide K/P	Carbide K/P K/P		Carbide K10/ K20	Carbide K/P	Carbide K10/ K20	Carbide K/P	Carbide K/P	Carbide K/P	Carbide K/P								
○	○	●	●	●	○	●	○	●	●	●	●	●	●								
					axial									axial							
N	N		N		N		N		N		N		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.



# CUTTING SPEED RECOMMENDATION

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



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Coolant:

- Air
- Neat oil
- Soluble oil

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

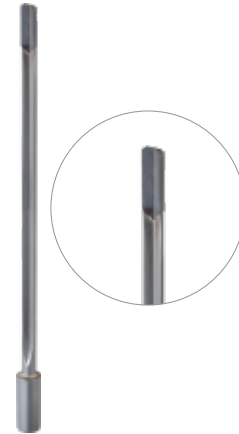
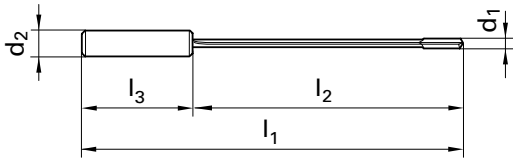


# GUN DRILLS





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



d1		d2	l1	l2	l3	AVAILABILITY
mm	inch	mm	mm	mm	mm	
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	●
32.000		32.00	870.00	800.00	70.00	● ●302633296 ●302633297

Sizes above Ø30.00 are uncoated

● Australian stock item ○ German stock item



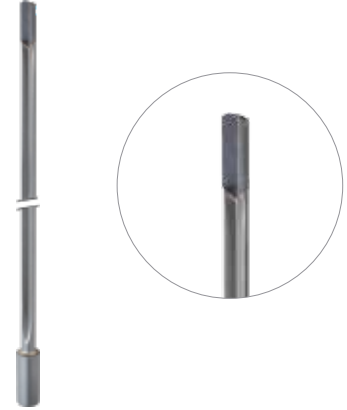
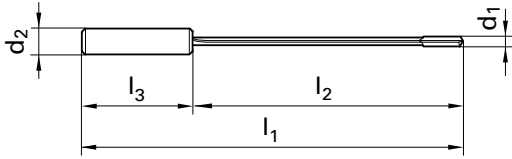


# GUN DRILLS EB 80, 40 X D

GUN DRILLS

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

\*Sizes above dia 13mm all uncoated



d1		d2	l1	l2	l3	AVAILABILITY
mm	inch	mm	mm	mm	mm	
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

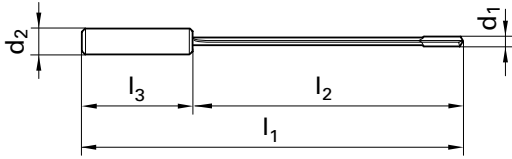
Sizes above Ø25.00 are uncoated

● Australian stock item ○ German stock item



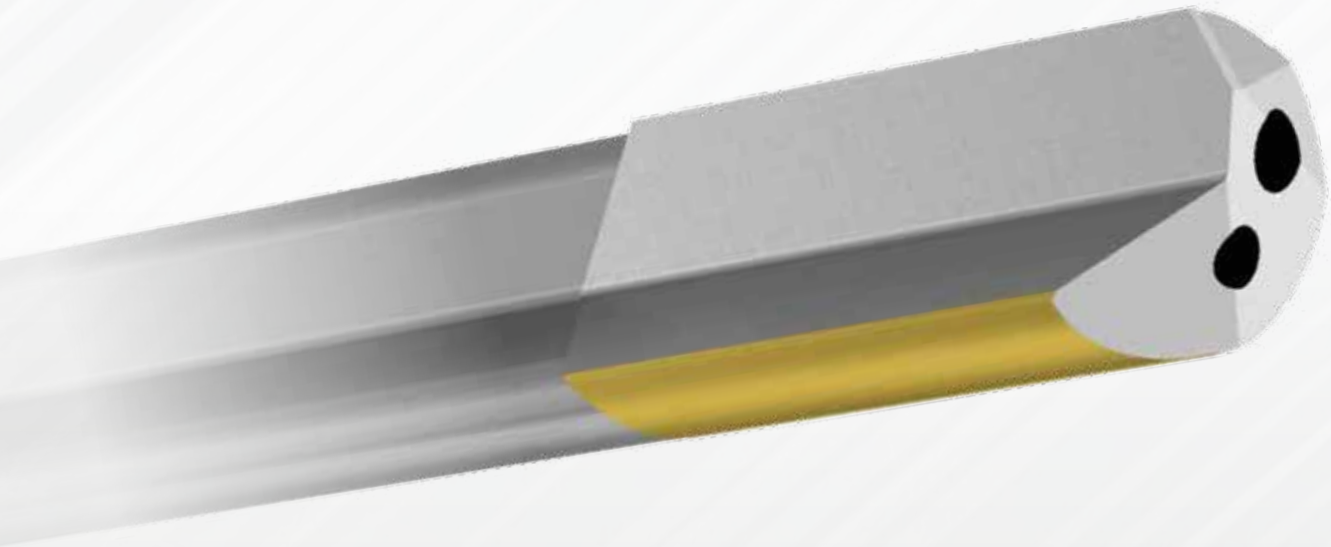
<b>Guhring no.</b>	<b>5642</b>
<b>Standard</b>	<b>Guhring std.</b>
<b>Tool material</b>	<b>Carbide</b>
<b>Surface</b>	<b>C</b>
<b>Drilling depth</b>	<b>80 x D</b>
<b>Cutting direction</b>	<b>right-hand</b>
<b>Tolerance</b>	<b>h5</b>

\*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

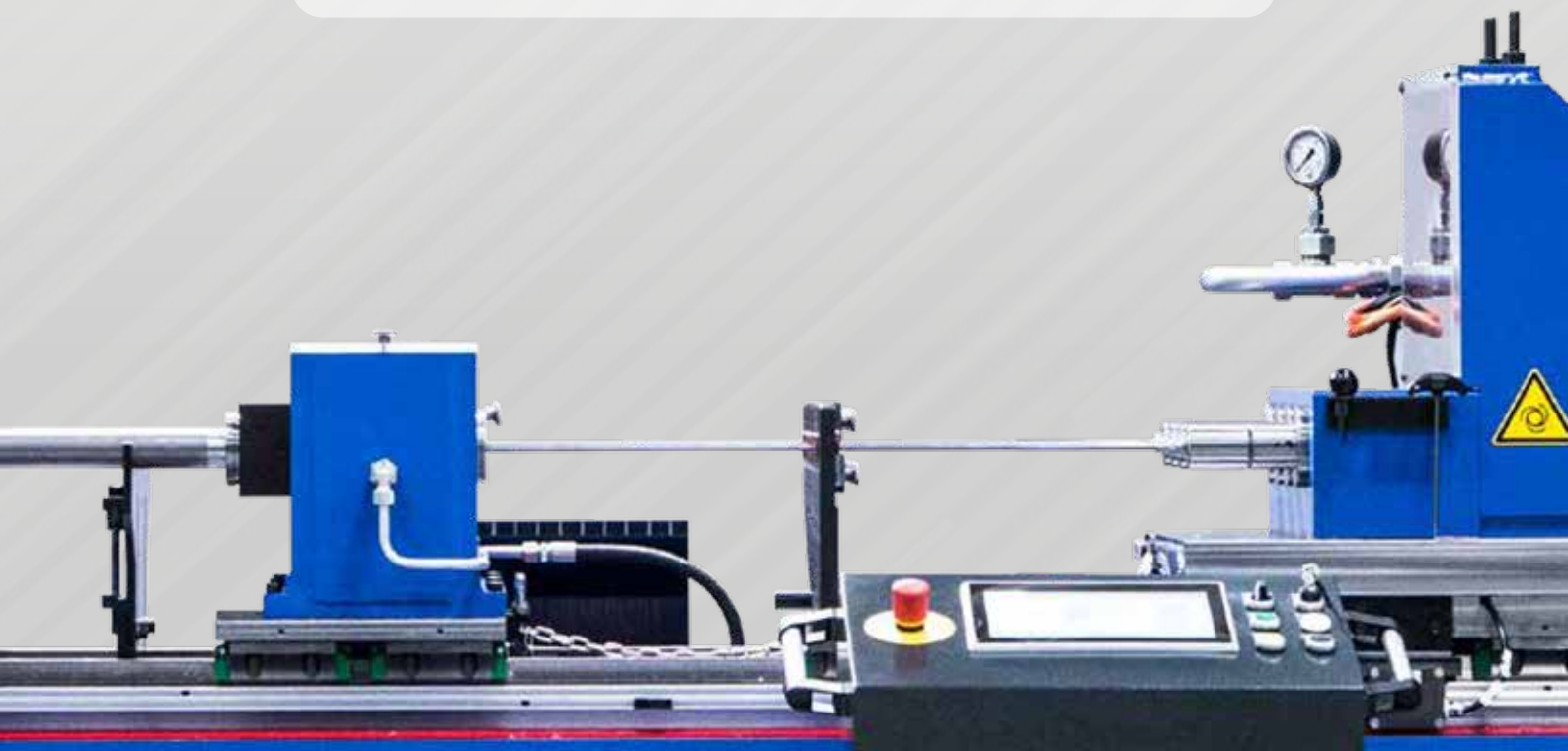


# EB 80 XXL

- Up to 1500 x quicker machining times than conventional spiral deep hole drills
- Idea for deep drilling machines
- Optimal use in die and mould industry
- Polished 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

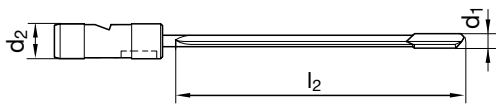


All gun drills must have support for the pilot hole.  
Gun drills must never operate at full speed without support in the machine shop.





Guhring no.	5691	5692	5693	5694
Standard	Guhring std.			
Tool material	Solid carbide			
Surface				
Drilling depth (l <sub>2</sub> )	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

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.



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

<b>Guhring no.</b>
<b>Standard/DIN</b>
<b>Tool material</b>
<b>Carbide grade</b>
<b>Surface finish</b>
<b>Type</b>

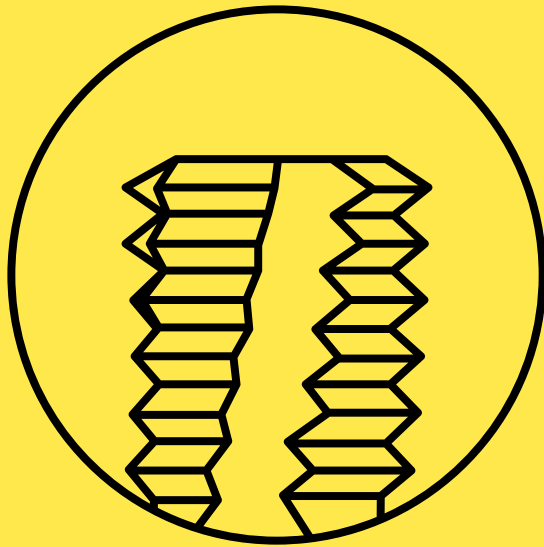
≤20XD	≤40XD	
<b>5639</b>	<b>5641</b>	<b>5642</b>
<b>G.S.</b>	<b>G.S.</b>	
<b>Carbide</b>	<b>Carbide</b>	
<b>K30/ K40</b>	<b>K30/ K40</b>	<b>K30/ K40</b>
<b>Surface finish</b>	<b>Surface finish</b>	<b>Surface finish</b>
<b>EB80</b>	<b>EB80</b>	<b>EB80</b>



Material group	Material examples	Tensile strength MPa (N/mm <sup>2</sup> )	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, Grade 250 plate, Grade 350 plate, E295, E360, P500NH	≤500 ≤1000	○	○	100 85	14 14	95 80	13 13	13 13
Free-cutting steels	11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14, 46S20, 46SPb20	≤850 ≤1000	○	○	90 80	14 14	85 75	13 13	13 13
Unalloyed heat-treatable steels	C22, C30E, 1035, 1045, 1055, 1060, 1025, C45, C45E, C60, C60E	≤700 ≤850 ≤1000	○	○	90 80 75	13 13 13	85 75 70	12 12 12	12 12 12
Alloyed heat-treatable steels	50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26, 36NiCr6, 41Cr4, 42CrMo4	≤1000 ≤1400	○	○	75 65	13 13	70 60	12 12	12 12
Unalloyed case hardened steels	C10E, 1010, 1015	≤850	○	○	80	14	75	13	13
Alloyed case hardened steels	10CrMo11, 11MnSi6, 3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620, 15NiCr13, 16MnCr5, 20CrMo5, N33	≤1000 ≤1400	●	○	75 65	13 13	70 60	12 12	12 12
Nitriding steels	34CrAl6, 31CrMoV9, 34CrAlNi7	≤1000 ≤1400	○	○	75 65	13 13	70 60	12 12	12 12
Tool steels	C75W, 102Cr6, 29CrMoV9, H11, H13, P20, D2, D3, X210Cr12, X42Cr13, 105WCr6, X45NiCrMo4	≤850 ≤1400	○	○	75 65	12 12	70 60	11 11	11 11
High speed steels	S 6-5-2-5, S 6-5-2, S 6-5-3, M2, M3, M35, M45	≤1400	○	○	55	11	50	11	11
Spring steels	55Si7, 55Cr3, 51CrV4, 5155, 6150, 9255	≤350 HB	○	○	65	12	60	12	12
Stainless steels, sulphured	X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	≤900	○	○	55	13	50	12	12
Stainless steels, austenitic	X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 321	≤1100	○	○	45	13	40	12	12
Stainless steels, martensitic	X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420,	≤1500	○	○	35	13	35	12	12
Hardened steels	-	≤48 HRC ≤66 HRC	○	○	30 25	12 11	25 20	11 11	11 11
Special alloys	Nimonic, Inconel, Monel, Hastelloy, Bisalloy	≤2000	○	○	35	11	30	11	11
Cast iron	GG10, GG15, GG20, GG25, GG30, GG35, GG40	≤240 HB ≤350 HB	○	○	85 80	15 15	80 75	14 14	14 14
Spheroidal graphite iron and malleable cast iron	GGG40, GGG50, GGG60, 32510, GTW35, GGG70, GTS70, 50005, Nodular Iron	≤240 HB ≤350 HB	○	○	80 70	14 14	75 65	13 13	13 13
Chilled cast iron	-	≤350 HB	○	○	55	13	50	12	12
Ti and Ti-alloys	Ti99.5, TiAl5Sn2.5, TiCu2, TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2.5, - TiAl8Mo1V1	≤850 ≤1400	○	○	35 30	11 11	30 25	11 11	11 11
Aluminium and Al-alloys	Al99.5, AlMgSi1, AlMg1, AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1.5	≤400 ≤650	○	○	150 120	16 16	140 115	14 14	14 14
Al wrought alloys	G-AlSi5Cu1, G-AlSi7Cu3, G-AlSi9	≤600	○	○	150	17	140	16	16
Al cast alloys ≤ 10 % Si	G-AlSi12, G-AlSi12Cu, - G-AlSi12CuNiMg	≤600	○	○	130	17	120	16	16
Al cast alloys ≤ 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	○	○	75	14	70	13	13
Brass, short-chipping	CuZn39Pb2, CuZn39Pb3, CuZn43Pb2	≤600	○	○	120	17	115	16	16
Brass, long-chipping	CuZn20, CuZn33, CuZn37Pb0.5	≤600	○	○	90	17	85	16	16
Bronze, short-chipping	CuSn7Zn1Pb, CuPb5Sn5, CuPb10Sn, CuNi18Zn19Pb	≤600 ≤850	○	○	95 75	16 16	90 70	15 15	15 15
Bronze, long-chipping	CuAl5, CuAl9Mn, CuSn10, CuAl11Ni, CuBe2	≤850 ≤1000	○	○	70 60	16 16	65 55	15 15	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, GGV40, GGV50, SiMo 6	≤220 HB ≤300 HB	○	○					
New cast materials ADI	ADI800, ADI1000, ADI1200, ADI1400	≤1000 ≤1400	○	○					
Kevlar	Kevlar	≤1000	○	○	60	13	55	12	12
Glass, carbon concent. plastics	GRP/CFRP	≤1000	○	○	50	13	45	12	12



# THREADING





# RECOMMENDATION CHART FOR TAPS



Colour Ring	Material Groups	Tens Strength Mpa (N/mm <sup>2</sup> )	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
	- Austenitic -302, 303, 304, 310, 316, 316Ti, 321	≤ 850	-	6 - 12	8 - 15	30 - 50
	- Martensitic - 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    ● AICrN    ● TiN    ● TiCN    ● Carbo

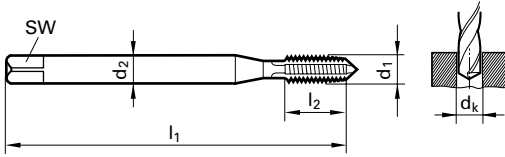
●● universal    ● general steel    ● tool steel    ● stainless steel    ● Aluminium    ● cast materials

TAPS





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								
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								
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	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm	
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  
 AlCrN  
 TiN  
 TiCN  
 Carbo  
 Sirius

universal  
 general steel  
 tool steel  
 stainless steel  
 Aluminium  
 cast materials



5558	816	57	58	5559	879	4218	5557	817	805	4672
DIN 371										
HSS-E		HSS-E-PM				HSS-E				
●	○	● <sup>S</sup>	● <sup>S</sup>	●	○	● <sup>S</sup>	○	○	○	● <sup>Cb</sup>
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										
●	●	●	●	●	●	●	●	●	●	●
8-12	8-12	8-12	8-12	6-12	6-12	10-15	10-15	10-15	10-15	10-15



## AVAILABILITY

						●			●	○
		●				●			●	○
●		●		●		●	●		●	○
●		●		●		●	●		●	○
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						●				

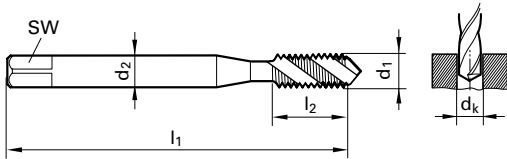
○ bright   ● steam tempered   ● nitrided   ● AlCrN   ●<sup>S</sup> TiN   ●<sup>C</sup> TiCN   ●<sup>Cb</sup> Carbo   ●<sup>S</sup> Sirius

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



TAPS

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	○	○	●	●	● <sup>S</sup>	○	○
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	●	●	●	●	●	●	●
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	AVAILABILITY									
mm	mm	mm	mm	mm	mm	mm										
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										

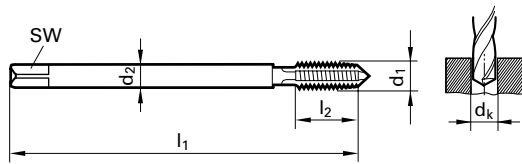
○ bright   ● steam tempered   ● nitrided   ● AlCrN   ●<sup>S</sup> TiN   ● TiCN   ● Carbo   ●<sup>S</sup> Sirius

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





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
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

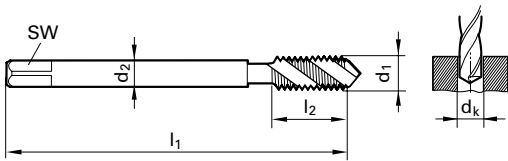
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bright steam tempered nitrided AlCrN TiN TiCN Carbo Sirius

universal general steel tool steel stainless steel Aluminium cast materials



Guhring no.	834	2864
<b>Standard</b>	DIN 374	
<b>Tool material</b>	HSS-E	
<b>Surface</b>	○	●
<b>Type</b>	N	N
<b>Form</b>	C	C
<b>Cutting direction</b>	right-hand	right-hand
<b>Tolerance</b>	ISO 2 / 6H	ISO 2 / 6H
<b>Application</b>	●	●
<b>Cutting speed m/min</b>	10-15	6-12



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

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

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

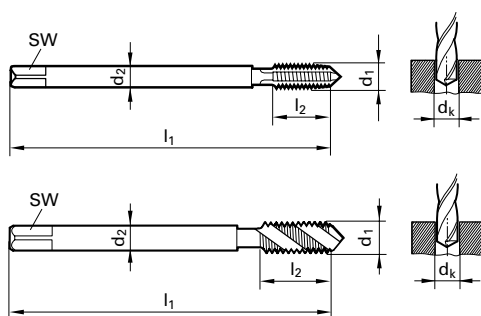


# METRIC RECOIL TAPS



TAPS

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
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

## AVAILABILITY

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
M3	0.50	4.00	3.00	3.45	56.00	11.50
M4	0.70	6.00	4.90	4.60	70.00	14.00
M6	1.00	8.00	6.20	6.85	90.00	16.00
M8	1.25	10.00	8.00	9.05	100.00	20.00

- 303502990
- 303502991
- 303503092
- 303503093
- 303503094

○ bright   ● steam tempered   ● nitrided   ● AICrN   ●S TiN   ●C TiCN   ●Cb Carbo   ●S Sirius

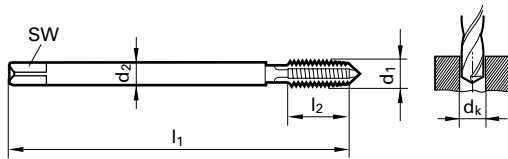
● universal   ● general steel   ● tool steel   ● stainless steel   ● Aluminium   ● cast materials

Guhring no.	5009	4640	4627
Standard	Guhring std.		
Tool material	HSS-E		
Surface			
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
mm	mm	mm	mm	mm	mm	mm
M10	1.50	8.00	5.00	8.80	100.00	23.00
M12	1.75	9.00	7.00	10.40	110.00	24.00
M16	2.00	12.00	9.00	14.20	110.00	26.00
M20	2.50	16.00	12.00	17.70	140.00	32.00
M24	3.00	18.00	14.50	21.40	160.00	36.00

## AVAILABILITY

- 303433725
- 302790623
- 302790624
- 302790625
- 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

		○	○
		○	○
		○	○
		○	○
		○	○
		○	○
		○	○
		○	○
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		○	○
		○	○
		○	○
		○	○
		○	○

○ bright   ● steam tempered   ● nitrided   ● AICrN   ● TiN   ● TiCN   ● Carbo

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



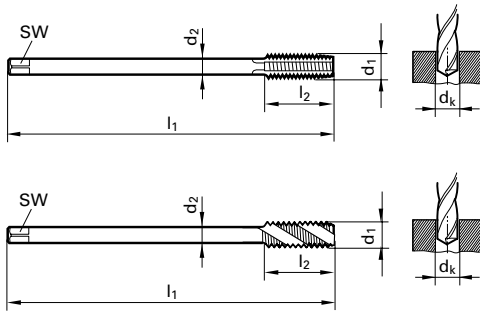


# METRIC LONG SERIES TAPS



TAPS

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

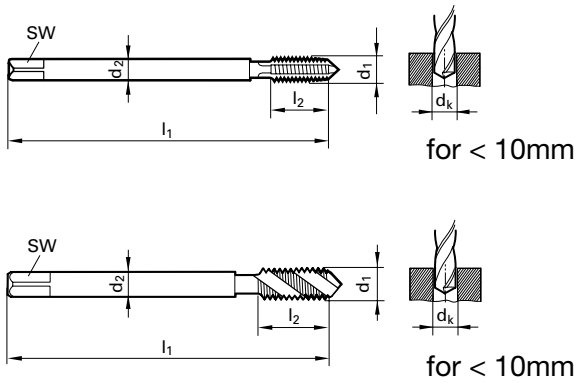


d1	P	d2	SW	dk	l1	l2	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm	
M3	0.50	2.20		2.50	70.00	18.00	•
M4	0.70	2.80	2.10	3.30	90.00	22.00	•
M5	0.80	3.50	2.70	4.20	100.00	24.00	•
M6	1.00	4.50	3.40	5.00	110.00	25.00	•
M8	1.25	6.00	4.90	6.80	125.00	28.00	•
M10	1.50	7.00	5.50	8.50	140.00	30.00	•
M12	1.75	9.00	7.00	10.20	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

Guhring no.	4645	4633
Standard	Guhring std.	
Tool material	HSS-E	
Surface		
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

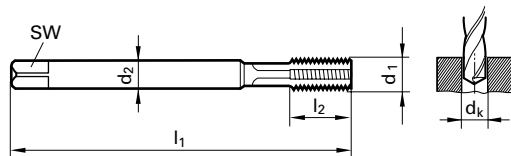


d1	P	d2	SW	dk	l1	l2	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm	
M3	0.50	3.50	2.70	2.50	90.00	10.00	•
M4	0.70	4.50	3.40	3.30	125.00	12.00	•
M5	0.80	6.00	4.90	4.20	140.00	14.00	•
M6	1.00	6.00	4.90	5.00	160.00	16.00	•
M8	1.25	8.00	6.20	6.80	180.00	17.00	•
M10	1.50	10.00	8.00	8.50	200.00	20.00	•
M12	1.75	9.00	7.00	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	18.00	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	•



TAPS

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    ● AlCrN    ● TiN    ● TiCN    ● Carbo    ● Sirius

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

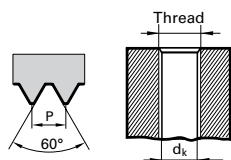
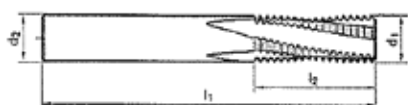




# THREAD MILLING CUTTER FOR UNC-THREADS

TAPS

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



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

AVAILABILITY	
	○
	○
	●
	●
	●
	●
	●
	○
	○
	○

○ bright    ● steam tempered    ● nitrided    ● AICrN    ● TiN    ● TiCN    ● Carbo    ● Sirius

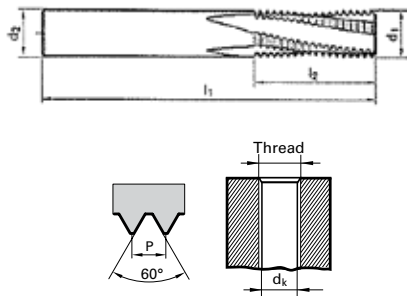
● universal    ● general steel    ● tool steel    ● stainless steel    ● Aluminium    ● cast materials

# THREAD MILLING CUTTER FOR UNF-THREADS



TAPS

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



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

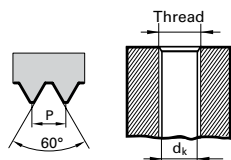
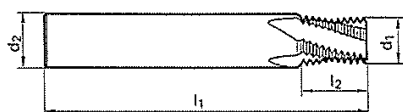
AVAILABILITY	
	○
	○
	●
	●
	●
	●
	●
	○
	○
	○



# THREAD MILLING CUTTER FOR NPT-THREADS

TAPS

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
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

## AVAILABILITY

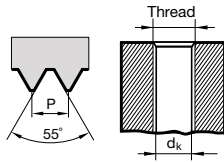
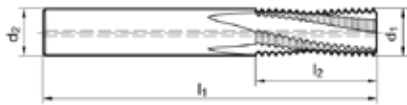
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○ bright   ● steam tempered   ● nitrided   ● P AlCrN   ● S TiN   ● C TiCN   ● Cb Carbo   ● S Sirius

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



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



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

AVAILABILITY	
●	
●	
●	

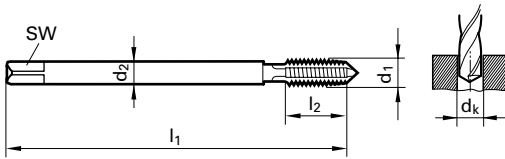
○ bright   ● steam tempered   ● nitrided   ● P AlCrN   ● S TiN   ● C TiCN   ● Cb Carbo   ● S Sirius

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





Guhring no.	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					
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					
Cutting speed m/min	10-15	10-15	10-15	10-15	10-15



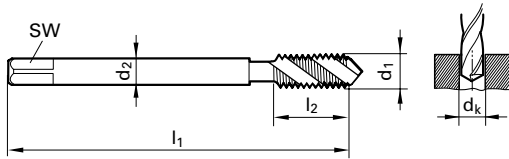
d1	P	d2	SW	dk	l1	l2	Code
inch	inch	mm	mm	mm	mm	mm	no.
No.2	56	2.80	2.10	1.85	45.00	9.00	2.184
No.3	48	2.80	2.10	2.10	50.00	9.00	2.515
No.4	40	3.50	2.70	2.35	56.00	11.00	2.845
No.5	40	3.50	2.70	2.65	56.00	11.00	3.175
No.6	32	4.00	3.00	2.85	56.00	12.00	3.505
No.8	32	4.50	3.40	3.50	63.00	13.00	4.166
No.10	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

AVAILABILITY			
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- 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
<b>Standard</b>	DIN 371	DIN 376	DIN 371	DIN 371+376	DIN/ANSI
<b>Tool material</b>	HSS-E				HSS-E-PM
<b>Surface</b>	○	○	●	Ⓐ	Ⓢ
<b>Type</b>	N	N	N	VA R45	N
<b>Form</b>	C	C	C	C	C
<b>Cutting direction</b>	right-hand	right-hand	right-hand	right-hand	right-hand
<b>Tolerance</b>	2B	2B	2B	2B	2B
<b>Application</b>	●	●	●	●	●
<b>Cutting speed m/min</b>	10-15	10-15	10-15	6-12	6-12



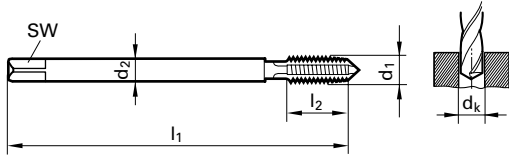
d1	P	d2	SW	dk	l1	l2	Code	AVAILABILITY	
inch	inch	mm	mm	mm	mm	mm	no.		
No.2	56	2.80	2.10	1.85	45.00	8.00	<b>2.184</b>	•	•
No.3	48	2.80	2.10	2.10	50.00	9.00	<b>2.515</b>		
No.4	40	3.50	2.70	2.35	56.00	6.50	<b>2.845</b>	•	•
No.5	40	3.50	2.70	2.65	56.00	6.50	<b>3.175</b>		
No.6	32	4.00	3.00	2.65	56.00	8.00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

○ 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.	5727	908	4643	3994
Standard	DIN 374	DIN 374	DIN 371+374	DIN/ANSI
Tool material	HSS-E			HSS-E-PM
Surface	●	○	●	●
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	P	d2	SW	dk	l1	l2	Code
inch	inch	mm	mm	mm	mm	mm	no.
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

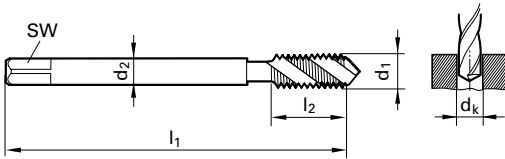
AVAILABILITY			
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○ bright    ● steam tempered    ● nitrided    ● AlCrN    ● S TiN    ● C TiCN    ● Cb Carbo    ● S Sirius

● ● 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			<b>A</b>	<b>S</b>
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



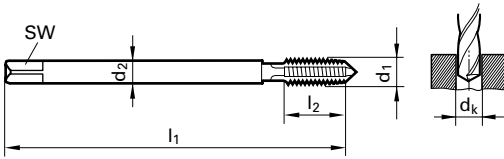
d1	P	d2	SW	dk	l1	l2	Code	AVAILABILITY	
inch	inch	mm	mm	mm	mm	mm	no.		
No.4	48	2.20		2.40	56.00	6.00	2.845	•	•
No.6	40	2.50	2.10	2.95	56.00	11.00	3.505	•	•
No.8	36	2.80	2.10	3.50	63.00	10.00	4.166		•
No.10	32	3.50	2.70	4.10	70.00	12.00	4.826	•	•
No.12	28	6.00	4.90	4.60	80.00	9.50	5.486		•
1/4	28	4.50	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 AlCrN TiN TiCN Carbo Sirius

universal general steel tool steel stainless steel Aluminium cast materials



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



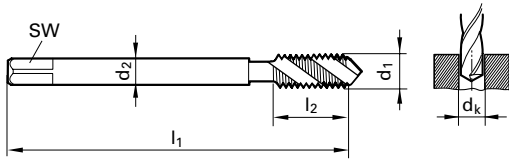
d1	P	d2	SW	dk	l1	l2	Code
inch	inch	mm	mm	mm	mm	mm	no.
G1/16	28	6.00	4.90	6.80	90.00	18.00	7.723
G1/8	28	7.00	5.50	8.80	90.00	18.00	9.728
G1/4	19	11.00	9.00	11.80	100.00	20.00	13.157
G3/8	19	12.00	9.00	15.25	100.00	22.00	16.662
G1/2	14	16.00	12.00	19.00	125.00	25.00	20.955
G5/8	14	18.00	14.50	21.00	125.00	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		
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○ bright    ● steam tempered    ● nitrided    ● AlCrN    ● TiN    ● TiCN    ● Carbo    ● Sirius

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

Guhring no.	5732	965	395
Standard	DIN 5156		
Tool material	HSS-E		
Surface			
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

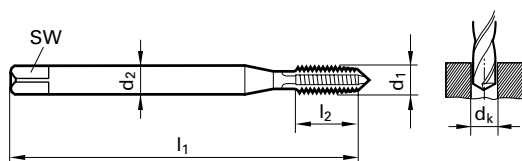


d1	P	d2	SW	dk	l1	l2	Code	AVAILABILITY		
inch	inch	mm	mm	mm	mm	mm	no.			
G1/16	28	6.00	4.90	6.80	90.00	11.00	7.723			•
G1/8	28	7.00	5.50	8.80	90.00	11.00	9.728	•	•	•
G1/4	19	11.00	9.00	11.80	100.00	14.00	13.157	•	•	•
G3/8	19	12.00	9.00	15.25	100.00	14.00	16.662	•	•	•
G1/2	14	16.00	12.00	19.00	125.00	18.00	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	•	•	•



Guhring no.	2892	2893	4680
Standard	DIN 371	DIN 376	DIN 376
Tool material	HSS-E		
Surface	●	●	● <sup>S</sup>
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	P	d2	SW	dk	l1	l2	Code
inch	inch	mm	mm	mm	mm	mm	no.
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

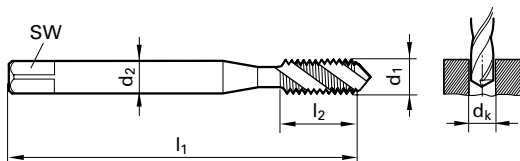
AVAILABILITY	
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○ bright   ● steam tempered   ● nitrided   ● AICrN   ●<sup>S</sup> TiN   ●<sup>C</sup> TiCN   ●<sup>Ch</sup> Carbo

●● 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	●	●	● <sup>A</sup>
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	P	d2	SW	dk	l1	l2	Code
inch	inch	mm	mm	mm	mm	mm	no.
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

AVAILABILITY	
●	●
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 ○ bright   ● steam tempered   ● nitrided   ●<sup>P</sup> AlCrN   ●<sup>S</sup> TiN   ●<sup>C</sup> TiCN   ●<sup>Cb</sup> Carbo

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



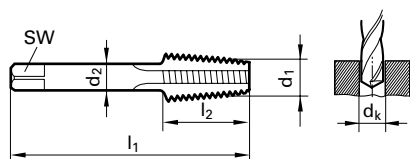


# MACHINE TAPS FOR BSPT THREADS THROUGH HOLE

TAPS

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

*NEW*



d1	P	d2	SW	dk	l1	l2	Code
inch	inch	mm	mm	mm	mm	mm	no.
1/8	28	7.00	5.50	8.40	63.00	15.00	9.728
1/4	19	11.00	9.00	11.20	63.00	21.00	13.157
3/8	19	12.00	9.00	14.75	70.00	21.00	16.662
1/2	14	16.00	12.00	18.25	80.00	27.00	20.955
3/4	14	20.00	16.00	23.75	100.00	27.00	26.441
1	11	25.00	20.00	30.00	110.00	32.00	33.249
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	4	25.00	20.00	30.00	140.00	56.00	33.249

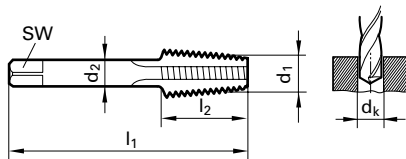
AVAILABILITY	
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○ bright   ● steam tempered   ● nitrided   ● AICrN   ● S TiN   ● C TiCN   ● Cb Carbo

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

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○ bright   ● steam tempered   ● nitrided   ● AICrN   ● S TiN   ● C TiCN   ● Cb Carbo

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



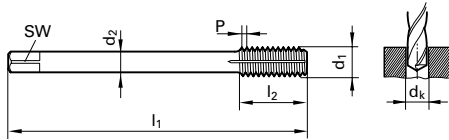




# FLUTELESS MACHINE TAPS FOR ISO METRIC FINE THREADS (THREAD FORMERS)

TAPS

Guhring no.	4489
Standard	DIN 374
Tool material	HSS-E-PM
Surface	Ⓒ
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
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

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

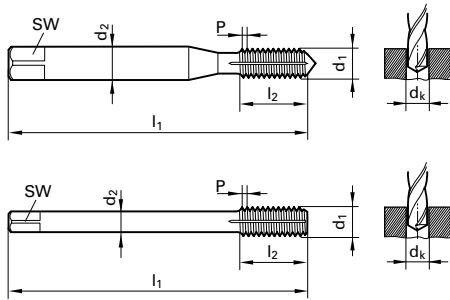
● general steel    ● universal    ● tool steel    ● stainless steel    ● Aluminium    ● cast materials

# FLUTELESS MACHINE TAPS FOR UNC THREADS (THREAD FORMERS)



TAPS

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



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

○ bright   ● steam tempered   ● nitrided   ● AICrN   ● TiN   ● TiCN   ● Carbo   ● Sirius

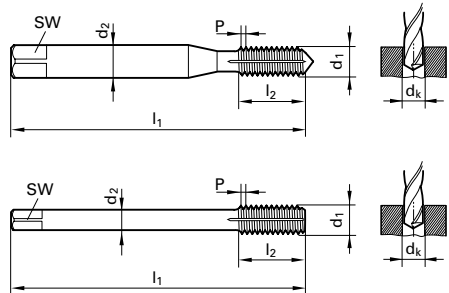
● universal   ● general steel   ● tool steel   ● stainless steel   ● Aluminium   ● cast materials



# FLUTELESS MACHINE TAPS FOR UNF THREADS (THREAD FORMERS)



Guhring no.	4492
Standard	DIN 371 / DIN 374
Tool material	HSS-E-PM
Surface	
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  
 P AlCrN  
 S TiN  
 C TiCN  
 Cb Carbo  
 S 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.

C



## 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)



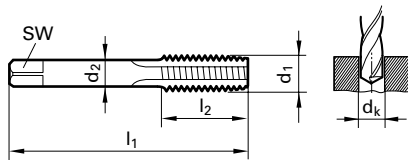
TAPS

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   ● AICrN   ● TiN   ● TiCN   ● Carbo

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

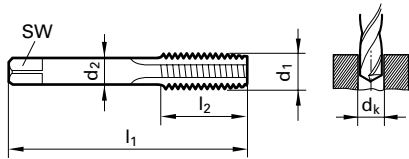
# HAND TAPS FOR UNC THREADS (SERIES TAPS)



TAPS

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	P	d2	SW	dk	l1	l2	Code
inch	inch	mm	mm	mm	mm	mm	no.
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

### AVAILABILITY


○ bright   ● steam tempered   ● nitrided   ● AICrN   ● S TiN   ● C TiCN   ● Cb Carbo

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



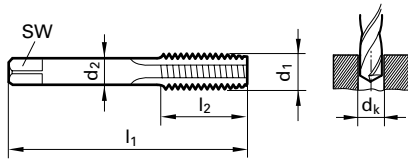
# HAND TAPS FOR UNF THREADS (SERIES TAPS)



TAPS

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

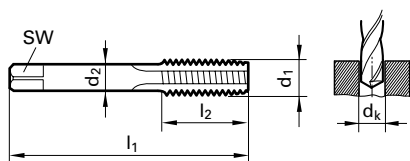
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○ bright    ● steam tempered    ● nitrided    ● AICrN    ● TiN    ● TiCN    ● Carbo

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

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

AVAILABILITY	
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○ bright   ● steam tempered   ● nitrided   ● AICrN   ● TiN   ● TiCN   ● Carbo

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

# MILLING

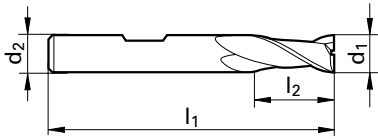


# SLOT DRILLS (2-FLUTED)



MILLING CUTTERS

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	•

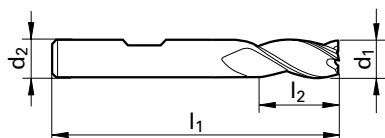
• Australian stock item    ○ German stock item



# SLOT DRILLS (3-FLUTED)

MILLING CUTTERS

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	•

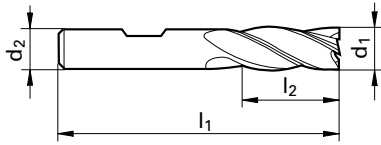
• Australian stock item    ○ German stock item

# END MILLS (4-FLUTED)



MILLING CUTTERS

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

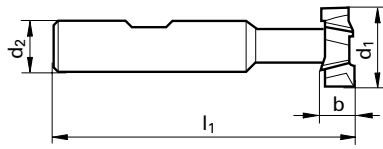




# T-SLOT END MILLS

MILLING CUTTERS

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

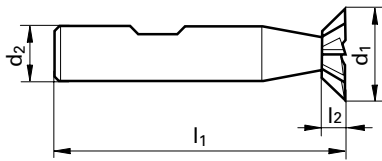


Code	for	d1	d2	l1	b	z	AVAILABILITY
no.	keyseats	mm	mm	mm	mm		
12.500	6	12.500	10.000	57.00	6.00	6	•
16.000	8	16.000	10.000	62.00	8.00	6	•
18.000	10	18.000	12.000	70.00	8.00	6	•
19.000	10	19.000	12.000	71.00	9.00	6	•
21.000	12	21.000	12.000	74.00	9.00	8	•
22.000	12	22.000	12.000	75.00	10.00	8	•
25.000	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



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



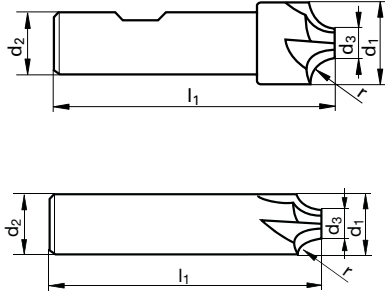
Code no.	d1 mm	d2 mm	l1 mm	l2 mm	z	AVAILABILITY
16.000	16.000	12.00	60.00	4.00	8	•
20.000	20.000	12.00	63.00	5.00	10	•
25.000	25.000	12.00	67.00	6.30	10	•
32.000	32.000	16.00	71.00	8.00	12	•
16.000	16.000	12.00	60.00	6.30	8	•
20.000	20.000	12.00	63.00	8.00	10	•
25.000	25.000	12.00	67.00	10.00	10	•
32.000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

• Australian stock item    ○ German stock item



# CORNER ROUNDING CUTTERS

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	r	d1	d2	d3	l1	z	AVAILABILITY
no.	mm	mm	mm	mm	mm		
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	•

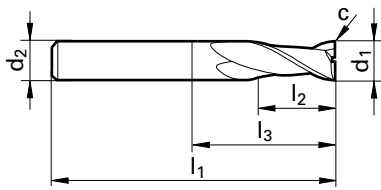
• Australian stock item    ○ German stock item

# SLOT DRILLS (2-FLUTED)



MILLING CUTTERS

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



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	•

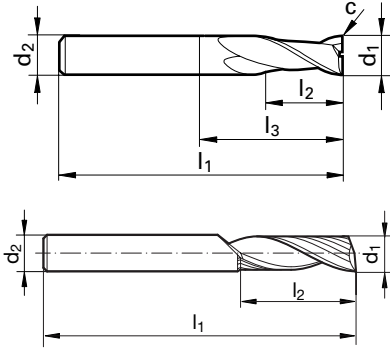
• Australian stock item    ◦ German stock item



# SLOT DRILLS FOR ALUMINIUM (1 AND 2-FLUTED)

MILLING CUTTERS

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		○

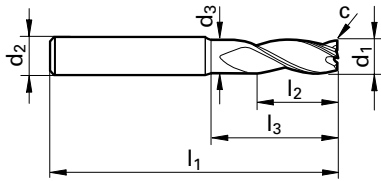
• Australian stock item    ○ German stock item

# RATIO END MILLS FOR ALUMINIUM (3-FLUTED)



MILLING CUTTERS

Guhring no.	3472	6978	3473	6734
Standard	Guhring std.			
Tool material	Solid carbide			
Surface	○	⊕	○	○
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



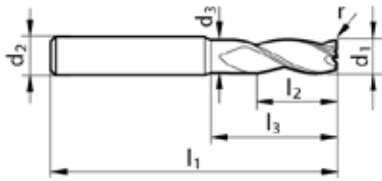
# RATIO END MILLS FOR ALUMINIUM (3-FLUTED)

MILLING CUTTERS

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

**RF 100 A**

*NEW*



d1	d2	d3	l1	l2	l3	r	code no.
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

AVAILABILITY	
○	
●	
○	
●	
○	
●	
○	
○	
○	
○	
○	
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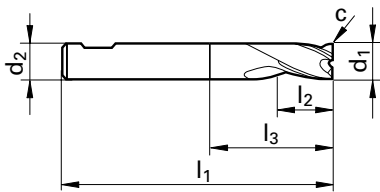
● Australian stock item   ○ German stock item

# MINI SLOT DRILLS (3-FLUTED)



MILLING CUTTERS

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



d1	d2	l1	l2	l3	c
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
1.200	3.000	38.00	2.00	3.90	0.03
1.300	3.000	38.00	2.00	4.40	0.03
1.400	3.000	38.00	3.00	5.90	0.03
1.500	3.000	38.00	3.00	5.90	0.03
1.600	3.000	38.00	3.00	5.90	0.03
1.700	3.000	38.00	3.00	5.90	0.03
1.800	3.000	38.00	3.00	5.90	0.03
1.900	3.000	38.00	3.00	5.90	0.03
2.000	6.000	45.00	4.00	6.90	0.03
2.100	6.000	45.00	4.00	6.90	0.03
2.200	6.000	45.00	4.00	7.10	0.03
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

AVAILABILITY
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• 303180781
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• 303180877
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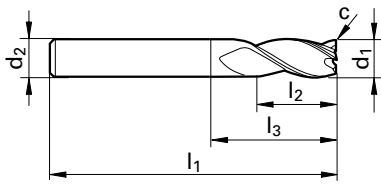
• Australian stock item    ○ German stock item







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



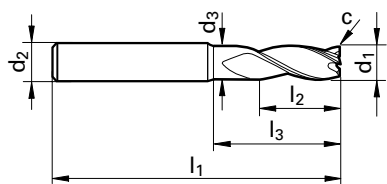
d1	d2	l1	l2	l3	c	AVAILABILITY
mm	mm	mm	mm	mm	mm x 45°	
2.000	2.000	32.000	8.000	10.000	0.025	•
3.000	3.000	38.000	12.000	15.000	0.050	•
4.000	4.000	40.000	12.000	16.000	0.050	•
5.000	5.000	50.000	15.000	20.000	0.050	•
6.000	6.000	57.000	16.000	21.000	0.050	•
7.000	8.000	60.000	16.000	23.900	0.100	•
8.000	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.	3892	5735	5535	5582	3114
Standard	Guhring std.	DIN 6527 L	DIN 6527 L	Guhring std.	Guhring std.
Tool material	Solid carbide				
Surface	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>	<b>F</b>
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	AVAILABILITY	
mm	mm	mm	mm	mm	mm	mm x 45°			
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				
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

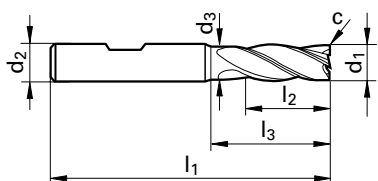


# RATIO END MILLS FOR STAINLESS STEEL (4-FLUTED)

MILLING CUTTERS

Guhring no.	5654	6736	6737
Standard	DIN 6527 L	DIN 6527 L	DIN 6527 L
Tool material	Solid carbide		
Surface	<b>A</b>	<b>Y</b>	<b>Y</b>
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



d1	d2	d3	l1	l2	l3	c
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

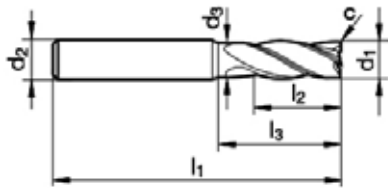
## AVAILABILITY

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



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



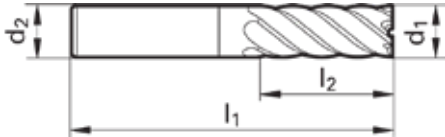
d1	d2	d3	l1	l2	l3	c	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm x 45°	
1.000	4.000	0.920	50.000	3.000	4.000	0.020	•
1.500	4.000	1.400	50.000	4.500	6.000	0.030	•
2.000	6.000	1.900	50.000	6.000	8.000	0.040	•
2.500	6.000	2.400	50.000	7.500	10.000	0.050	•
3.000	6.000	2.900	57.000	10.000	15.000	0.060	•
4.000	6.000	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	•
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



# HARD MULTI-TOOTH END MILLS GH 100 H UP TO 63 HRC

<b>Guhring no.</b>	<b>3715</b>
<b>Standard</b>	<b>Guhring std.</b>
<b>Tool material</b>	<b>Solid carbide</b>
<b>Surface</b>	<b>Y</b>
<b>Type</b>	<b>N</b>
<b>Length</b>	<b>standard</b>
<b>Helix angle</b>	<b>55°</b>
<b>Tolerance</b>	<b>h10</b>



d1	d2	l1	l2	l3	c	z	AVAILABILITY
mm	mm	mm	mm	mm	mm x 45°		
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		
<b>P</b>	≥ 1000 N/mm <sup>2</sup>	<b>180</b>	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		
<b>K</b>	≥ 300 HB	<b>180</b>	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		
<b>H</b>	≤ 55 HRC	<b>100</b>	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	<b>70</b>	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		

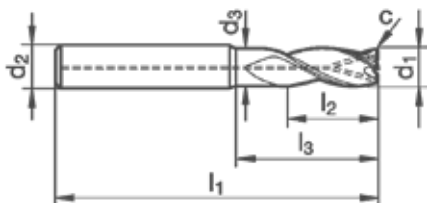
• Australian stock item ◦ German stock item

# RATIO END MILLS RF100 DIVER 3+4 FLUTE


 MILLING  
CUTTERS

Guhring no.	6799	6801
Standard	Guhring std.	Guhring std.
Tool material	Solid carbide	
Surface		
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
mm	mm	mm	mm	mm	mm	mm x 45°
<b>6.000</b>	6.000	5.70	57.00	13.00	20.00	0.090
<b>8.000</b>	8.000	7.70	63.00	19.00	26.00	0.120
<b>10.000</b>	10.000	9.50	72.00	22.00	30.00	0.150
<b>12.000</b>	12.000	11.50	83.00	26.00	36.00	0.180
<b>16.000</b>	16.000	15.50	92.00	32.00	42.00	0.190
<b>6.000</b>	6.000	5.70	57.00	13.00	20.00	0.060
<b>8.000</b>	8.000	7.70	63.00	19.00	26.00	0.080
<b>10.000</b>	10.000	9.50	72.00	22.00	30.00	0.100
<b>12.000</b>	12.000	11.50	83.00	26.00	36.00	0.120
<b>16.000</b>	16.000	15.50	92.00	32.00	42.00	0.160
<b>20.000</b>	20.000	19.50	104.00	38.00	52.00	0.200
<b>25.000</b>	25.000	24.00	121.00	45.00	63.00	0.250

AVAILABILITY	
<b>6.000</b>	•
<b>8.000</b>	•
<b>10.000</b>	•
<b>12.000</b>	•
<b>16.000</b>	•
<b>20.000</b>	○
<b>25.000</b>	○

ISO	Hardness	VC	fz (mm/z)/Ø							VC	fz (mm/z)/Ø							
			4	6	8	10	12	16	20		4	6	8	10	12	16	20	
<b>P</b>	≤ 850 N/mm <sup>2</sup>	<b>270</b>	0.017	0.025	0.034	0.050	0.060	0.080	0.100		<b>270</b>	0.014	0.021	0.028	0.040	0.048	0.064	0.080
	≥ 850 N/mm <sup>2</sup>	<b>180</b>	0.014	0.021	0.028	0.045	0.054	0.072	0.090		<b>180</b>	0.008	0.012	0.016	0.025	0.030	0.040	0.050
<b>M</b>	≤ 750 N/mm <sup>2</sup>	<b>120</b>	0.014	0.021	0.028	0.045	0.054	0.072	0.090		<b>90</b>	0.007	0.011	0.014	0.023	0.027	0.036	0.045
	≥ 750 N/mm <sup>2</sup>	<b>80</b>	0.013	0.019	0.026	0.040	0.048	0.064	0.080		<b>60</b>	0.006	0.010	0.013	0.020	0.024	0.032	0.040
<b>S</b>	Ti-based	<b>60</b>	0.013	0.019	0.026	0.040	0.048	0.064	0.080		<b>50</b>	0.006	0.010	0.013	0.020	0.024	0.032	0.040
<b>K</b>	≤ 240 HB	<b>150</b>	0.017	0.025	0.034	0.050	0.060	0.080	0.100		<b>150</b>	0.014	0.021	0.028	0.040	0.048	0.064	0.080
<b>N</b>	≥ 7% Si	<b>340</b>	0.018	0.027	0.036	0.055	0.066	0.088	0.110		<b>340</b>	0.014	0.021	0.028	0.040	0.048	0.064	0.080

• Australian stock item   ○ German stock item

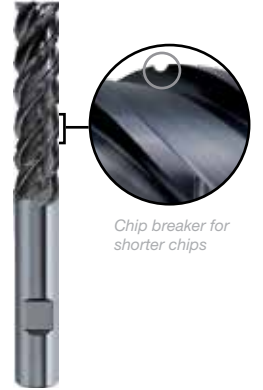
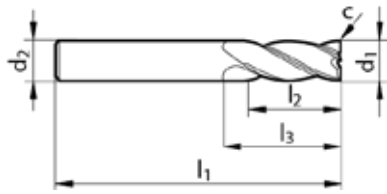
○ bright   ● steam tempered   ◐ nitrided lands   ● TiN   ● TiAlN   ● TiCN   ● FIRE/nanoFIRE   ● Signum





# RATIO END MILLS RF 100 SPEED ( 4 - FLUTED )

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



Chip breaker for shorter chips

d1	d2	l1	l2	l3	z	Code
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

AVAILABILITY	
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### GTC milling strategies

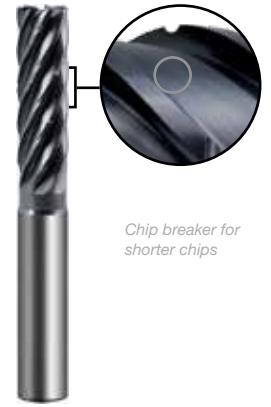
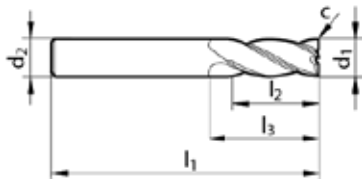
These milling strategies belong to the state-of-the-art and most effective application methods for current solid carbide milling tools. When applied, an enormously high metal removal rate ensures a considerable increase in productivity. Very high cutting parameters can be achieved even with less powerful 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.



• Australian stock item    ◦ German stock item



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



d1	d2	d3	l1	l2	l3	c
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

AVAILABILITY	
6.000	•
8.000	•
10.000	•
12.000	•
16.000	•
20.000	•
6.000	•
8.000	•
10.000	•
12.000	•
16.000	•
20.000	•

• Australian stock Item    ○ German stock Item

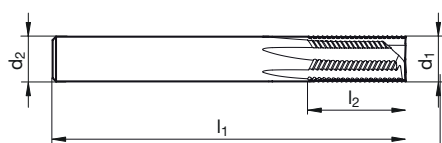
ISO	Härte	v <sub>c</sub>	f <sub>z</sub> (mm/z)/Ø							v <sub>c</sub>	f <sub>z</sub> (mm/z)/Ø						
			3	6	8	10	12	16	20		3	6	8	10	12	16	20
P	≤ 850 N/mm <sup>2</sup>	340	0,036	0,072	0,096	0,138	0,17	0,22	0,28	360	0,017	0,034	0,046	0,066	0,08	0,11	0,13
	≥ 850 N/mm <sup>2</sup>	250	0,031	0,062	0,083	0,115	0,14	0,18	0,23		270	0,015	0,030	0,040	0,055	0,07	0,09
M	≤ 750 N/mm <sup>2</sup>	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/mm <sup>2</sup>	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
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



# DIAMOND COATED TRIMMING CUTTERS

MILLING CUTTERS

<b>Guhring no.</b>	<b>6769</b>
<b>Standard</b>	<b>Guhring std.</b>
<b>Tool material</b>	<b>Solid carbide</b>
<b>Surface</b>	<b>Ⓚ</b>
<b>Type</b>	<b>FR 100</b>
<b>Length</b>	<b>Standard</b>
<b>Helix angle</b>	<b>0°</b>
<b>Tolerance</b>	<b>h10</b>

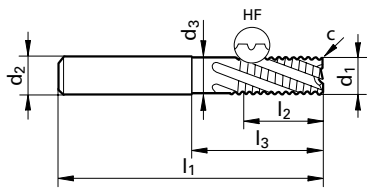


<b>d1</b>	<b>d2</b>	<b>l1</b>	<b>l2</b>	<b>z</b>	<b>Code no.</b>	<b>AVAILABILITY</b>
<b>mm</b>	<b>mm</b>	<b>mm</b>	<b>mm</b>			
<b>4.00</b>	6.00	66	15.0	4	4.000	○
<b>4.76</b>	4.76	63	15.0	4	4.762	○
<b>6.00</b>	6.00	70	20.0	4	6.000	●
<b>6.35</b>	6.35	63	15.0	4	6.350	○
<b>8.00</b>	8.00	75	25.0	6	8.000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

● Australian stock item ○ German stock item



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



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

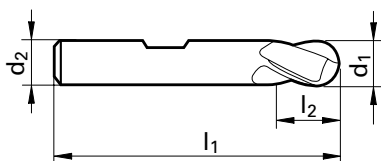
• Australian stock item    ○ German stock item



# BALL NOSE SLOT DRILLS (2-FLUTED)

MILLING CUTTERS

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



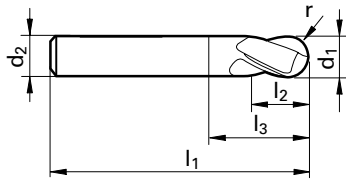
d1	d1	d2	l1	l2	AVAILABILITY
mm	tolerance	mm	mm	mm	
2.000	e8	6.000	48.00	4.00	○
3.000	e8	6.000	49.00	5.00	○
4.000	e8	6.000	51.00	7.00	●
5.000	e8	6.000	52.00	8.00	○
6.000	e8	6.000	52.00	8.00	●
7.000	e8	10.000	60.00	10.00	○
8.000	e8	10.000	61.00	11.00	●
9.000	h10	10.000	61.00	11.00	○
10.000	e8	10.000	63.00	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

# BALL NOSE SLOT DRILLS (2-FLUTED)



Guhring no.	3308	6984	3679
Standard	DIN 6527	Guhring std.	Guhring std.
Tool material	Solid carbide		
Surface	○	Ⓞ	Ⓡ
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	•

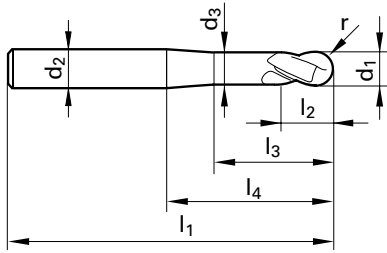
• Australian stock item    ○ German stock item



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

MILLING  
CUTTERS

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



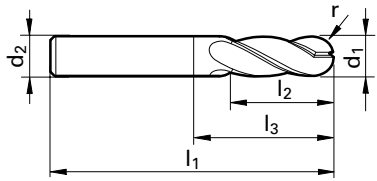
d1	d2	d3	l1	l2	l3	l4	r	AVAILABILITY
mm	mm	mm	mm	mm	mm	mm	mm	
0.500	3.000	0.400	38.00	0.75	2.60	10.00	0.25	•
0.800	3.000	0.700	38.00	1.20	3.50	10.00	0.40	•
1.000	3.000	0.900	38.00	1.50	4.00	10.00	0.50	•
1.500	3.000	1.400	38.00	2.25	5.50	10.00	0.75	•
2.000	6.000	1.900	57.00	3.00	9.40	21.00	1.00	•
3.000	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

# BALL NOSE END MILLS (4-FLUTED)



Guhring no.	5584	3043
Standard	DIN 6527 L	Guhring std.
Tool material	Carbide	Carbide
Surface	<b>F</b>	<b>F</b>
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	•
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

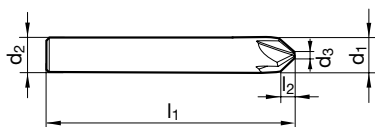




# CHAMFERING MILLING CUTTERS (4-FLUTED)

MILLING CUTTERS

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

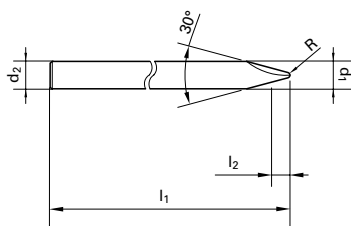


d1	d2	d3	l1	l2	z	AVAILABILITY
mm	mm	mm	mm	mm		
6.000	6.000	1.500	57.00	3.90	5	o
8.000	8.000	2.000	63.00	5.20	5	o
10.000	10.000	2.500	72.00	6.50	5	o
12.000	12.000	3.000	83.00	7.80	5	o
16.000	16.000	4.000	92.00	10.40	5	o
20.000	20.000	5.000	104.00	13.00	5	o
4.000	4.000		50.00	2.00	4	•
6.000	6.000		57.00	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	o
20.000	20.000	5.000	104.00	4.33	5	o

• Australian stock item    o German stock item



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



d1	d2	l1	l2	r
mm	mm	mm	mm	mm
3.000	3.000	38.00	0.70	0.30

AVAILABILITY
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• 330050477

• Australian stock item    ◦ German stock item



Objectives: Higher efficiency through greater metal removal rate

**HPC** **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

*i*machining, roughing, trochoid

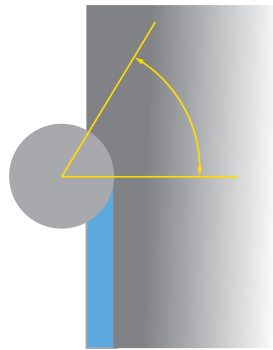
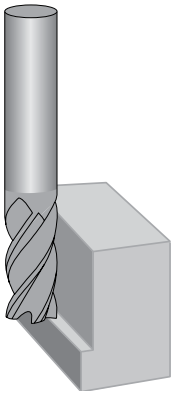
- low cutting width ( $a_e$ ):  $<0.4 \times d$
- high depth of cut ( $a_p$ ): up to 2-3 x d
- very high tooth feed rate ( $f_z$ )
- very high cutting speed ( $v_c$ )

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

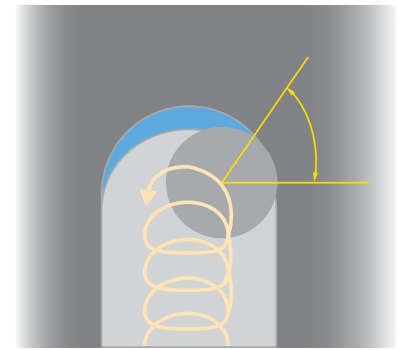
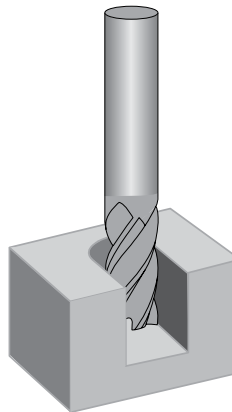
Milling with a tool contact angle of less than 37°  
and cutting depths up to 3x tool diameter

Semi roughing, finishing and fine-finishing

- minimum cutting width ( $a_e$ ):  $0.15 \times d$
- 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 / *i*machining

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 $R_z$

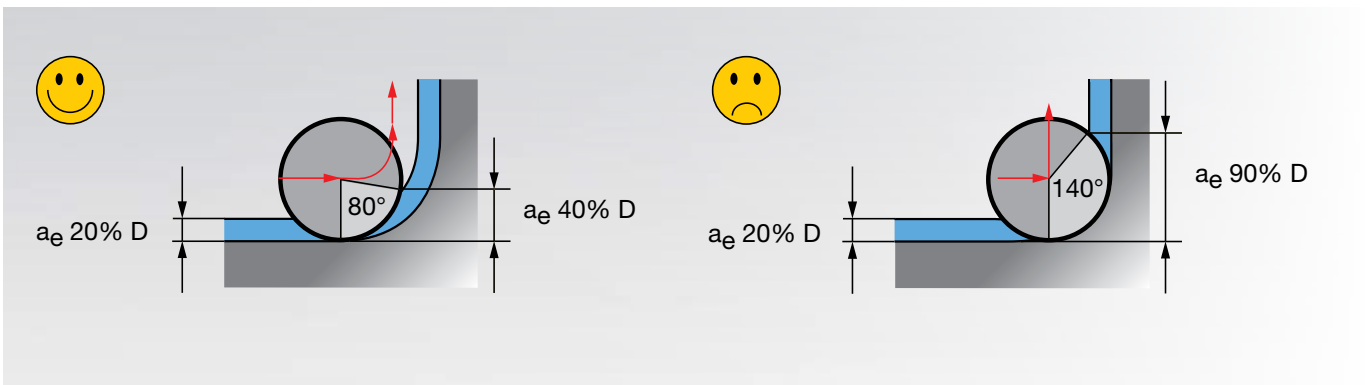
\* Basis for the calculation with the  $v_c$  and  $f_z$  factors is provided within the Guhring Navigator section for „grooves“ in the appropriate material group.

### 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 mm  
 Increased Values:  $v_c$  288 m/min /  $f_z$  0.105 mm  
 S: 7640 min<sup>-1</sup> / vf: 4580 mm/min  
 $a_p$ : 24 mm  $a_e$ : 3 mm → Q: 330 cm<sup>3</sup>/min

$$Q_{(\text{cm}^3/\text{min})} = a_p (\text{mm}) \times a_e (\text{mm}) \times v_f (\text{m/min})$$

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).





# CUTTING SPEED RECOMMENDATION

(HSCO UNIVERSAL MILLING CUTTERS)

**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
<b>Structural + free-cutting steels, unalloyed heat-treatable + case hardened steels</b> 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
<b>Free-cutting steels, unalloyed case hardened steels, nitriding steels</b> 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
<b>Alloyed heat-treatable, tool and high speed steels</b> 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
<b>Hardened steel</b> 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									
<b>Stainless steel</b> 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
<b>Stainless steel</b> 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
<b>Stainless steel</b> 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
<b>Special alloys (nickel based "Ni")</b> 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
<b>Titanium alloys ("Ti")</b> 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
<b>Cast iron, grey cast iron, spheroidal graphite and malleable cast iron</b> 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
<b>Cast iron, grey cast iron, spheroidal graphite and malleable cast iron</b> 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
<b>Aluminium, Al-wrought alloys, Al-alloys</b> 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
<b>Aluminium-cast alloys</b> 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
<b>Magnesium-alloys</b> 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
<b>Non-ferrous metals (copper, short- or long-chipping brass or bronze)</b> 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
<b>Structural + free-cutting steels, unalloyed heat-treatable + case hardened steels</b> S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate, E295, E360, P500NH	up to 850 N/mm <sup>2</sup>	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
<b>Free-cutting steels, unalloyed case hardened steels, nitriding steels</b> 11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14, 46S20, 46SPb20	850-1,200 N/mm <sup>2</sup>	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
<b>Alloyed heat-treatable, tool and high speed steels</b> 50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26, 36NiCr6, 41Cr4, 42CrMo4 Spring steel = 55Si7, 55Cr3, 51CrV4	850-1,400 N/mm <sup>2</sup>	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
<b>Hardened steel</b> 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
	54-60 HRC	4-fluted	Finishing	105	0.009	0.018	0.024	0.030	0.036	0.042	0.054	0.078
<b>Stainless steel</b> X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	up to 750 N/mm <sup>2</sup>	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
<b>Stainless steel</b> X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	750-850 N/mm <sup>2</sup>	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
<b>Stainless steel</b> X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	above 850 N/mm <sup>2</sup>	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
<b>Special alloys (nickel based "Ni")</b> Nimonic, Inconel, Monel, Hastelloy	up to 1,300 N/mm <sup>2</sup>	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
<b>Titanium alloys ("Ti")</b> Ti99.5, TiAl5Sn2.5, TiCu2, TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2	up to 1,300 N/mm <sup>2</sup>	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
<b>Cast iron, grey cast iron, spheroidal graphite and malleable cast iron</b> 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
<b>Cast iron, grey cast iron, spheroidal graphite and malleable cast iron</b> 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
<b>Aluminium, Al-wrought alloys, Al-alloys</b> 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
<b>Aluminium-cast alloys</b> 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
<b>Magnesium-alloys</b> 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
<b>Non-ferrous metals (copper, short- or long-chipping brass or bronze)</b> SE-Cu, CuSn6, G-CuSn5ZnPb, CuZn39Pb2, CuZn39Pb3, CuZn43Pb2, CuZn20, CuZn33, CuZn37Pb0.5, CuSn7ZnPb, CuPb5Sn5, CuPb10Sn, CuAl5, CuAl9Mn, CuSn10	up to 850 N/mm <sup>2</sup>	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)

Gühring no. 5743, 3358, 6793



**CARBIDE**

MILLING CUTTERS

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						
<b>Structural + free-cutting steels, unalloyed heat-treatable + case hardened steels</b> S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate, E295, E360, P500NH	up to 850 N/mm2																	
<b>Free-cutting steels, unalloyed case hardened steels, nitriding steels</b> 11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14, 46S20, 46SPb20	850-1,200 N/mm2																	
<b>Alloyed heat-treatable, tool and high speed steels</b> 50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26, 36NiCr6, 41Cr4, 42CrMo4 Spring steel = 55Si7, 55Cr3, 51CrV4	850-1,400 N/mm2																	
<b>Hardened steel</b> 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																	
<b>Stainless steel</b> X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	up to 750 N/mm2																	
<b>Stainless steel</b> X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	750-850 N/mm2																	
<b>Stainless steel</b> X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	above 850 N/mm2																	
<b>Special alloys (nickel based "Ni")</b> Nimonic, Inconel, Monel, Hastelloy	up to 1,300 N/mm2																	
<b>Titanium alloys ("Ti")</b> Ti99,5, TiAl5Sn2,5, TiCu2, TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2	up to 1,300 N/mm2																	
<b>Cast iron, grey cast iron, spheroidal graphite and malleable cast iron</b> GG10, GG15, GG20, GG25, GG30, GG35 GG40 GGG40, GGG50, GGG60, 32510,GTW35	up to 240 HB 30																	
<b>Cast iron, grey cast iron, spheroidal graphite and malleable cast iron</b> GG10, GG15, GG20, GG25, GG30, GG35 GG40 GGG40, GGG50, GGG60, 32510,GTW35	above 240 HB 30																	
<b>Aluminium, Al-wrought alloys, Al-alloys</b> 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							
<b>Aluminium-cast alloys</b> 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							
<b>Magnesium-alloys</b> 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							
<b>Non-ferrous metals (copper, short- or long-chipping brass or bronze)</b> 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

MILLING CUTTERS

Material	Hardness	Recommended RF100 type	Type of application	cut Vc	fz(mm/z) with nom. ø							
					3	6	8	10	12	16	20	25
<b>Structural + free-cutting steels, unalloyed heat-treatable + case hardened steels</b> S185, P275N, P235GH, P265GH, Mild steel, Grade 250 plate, Grade 350 plate, E295, E360, P500NH	up to 850 N/mm <sup>2</sup>	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
<b>Free-cutting steels, unalloyed case hardened steels, nitriding steels</b> 11SMnPb30, 11SMn37, 1020, S1214, S1213, S12L13, S12L14, 46S20, 46SPb20	850-1,200 N/mm <sup>2</sup>	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
<b>Alloyed heat-treatable, tool and high speed steels</b> 50MnSi4, 38Cr2, 28Cr4, 3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26, 36NiCr6, 41Cr4, 42CrMo4 Spring steel = 55Si7, 55Cr3, 51CrV4	850-1,400 N/mm <sup>2</sup>	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
<b>Hardened steel</b> 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
	54-60 HRC	SF	Finishing	150	0.015	0.03	0.04	0.05	0.06	0.07	0.09	0.13
		H	Slotting									
	H	Roughing										
	H	Finishing	110	0,01	0,015	0,025	0,035	0,042	0,05	0,08	0,09	
<b>Stainless steel</b> X12CrS13, X14CrMoS17, X6CrMoS17, X8CrNiS18-9, 410S, 430F, 630	up to 750 N/mm <sup>2</sup>	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
<b>Stainless steel</b> X5CrNi18-10, X6CrNiTi18-10, X6CrNiMoTi 17-12-2, 302, 303, 304, 310, 316, 316Ti, 321	750-850 N/mm <sup>2</sup>	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
<b>Stainless steel</b> X20CrNi172, X39CrMo17-1, X2CrMoTi18-2, 410, 410X, 416, 420, 420C, 431, 440C	above 850 N/mm <sup>2</sup>	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
<b>Special alloys (nickel based "Ni")</b> Nimonic, Inconel, Monel, Hastelloy	up to 1,300 N/mm <sup>2</sup>	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
<b>Titanium alloys ("Ti")</b> Ti99,5, TiAl5Sn2,5, TiCu2, TiAl6Zr5, TiAl6V4, TiAl4Mo4Sn2	up to 1,300 N/mm <sup>2</sup>	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
<b>Cast iron, grey cast iron, spheroidal graphite and malleable cast iron</b> 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
<b>Cast iron, grey cast iron, spheroidal graphite and malleable cast iron</b> 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
<b>Aluminium, Al-wrought alloys, Al-alloys</b> 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
<b>Aluminium-cast alloys</b> 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
<b>Magnesium-alloys</b> 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
<b>Non-ferrous metals (copper, short- or long-chipping brass or bronze)</b> SE-Cu, CuSn6, G-CuSn5ZnPb, CuZn39Pb2, CuZn39Pb3, CuZn-43Pb2, CuZn20, CuZn33, CuZn37Pb0,5, CuSn7ZnPb, CuPb5Sn5, CuPb10Sn, CuAl5, CuAl9Mn, CuSn10	up to 850 N/mm <sup>2</sup>	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%!





# CUTTING SPEED RECOMMENDATION

(RF 100 DIVER, CARBIDE MILLING CUTTERS)

MILLING CUTTERS



Guhring no. 6736, 6737



## PLUNGING\* AND RAMPING\*

Material/ISO material	Hardness	Ramping depth* (ap 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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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

## SLOTING\*

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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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

MILLING CUTTERS

Material	Hardness	Recommended type	Type of application	cut Vc	fz(mm/z) with nom. ø							
					3	6	8	10	12	16	20	25
<b>Structural + free-cutting steels, unalloyed heat-treatable + case hardened steels</b> 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
<b>Free-cutting steels, unalloyed case hardened steels, nitriding steels</b> 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
<b>Alloyed heat-treatable, tool and high speed steels</b> 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
<b>Hardened steel</b> 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										
<b>Stainless steel</b> 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
<b>Stainless steel</b> 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
<b>Stainless steel</b> 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
<b>Special alloys (nickel based "Ni")</b> 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
<b>Titanium alloys ("Ti")</b> 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
<b>Cast iron, grey cast iron, spheroidal graphite and malleable cast iron</b> 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
<b>Cast iron, grey cast iron, spheroidal graphite and malleable cast iron</b> 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
<b>Aluminium, Al-wrought alloys, Al-alloys</b> Al99,5, AlMgSi1, AlMg1 AlMgSiPb, AlCuMg1, AlMg3Si, AlZnMgCu1,5	up to 3% Si											
<b>Aluminium-cast alloys</b> 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
<b>Magnesium-alloys</b> MgMn2, G-MgAl8Zn1, G-MgAl6Zn3 -												
<b>Non-ferrous metals (copper, short- or long-chipping brass or bronze)</b> 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

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## SYSTEM 104

Micro-precision tools from  $\varnothing$  0.7 mm  
Broaching from  $\varnothing$  1.5 mm



## SYSTEM 106

Micro-precision tools from  $\varnothing$  5 mm  
Broaching from  $\varnothing$  6 mm



## SYSTEM 108

Micro-precision tools from  $\varnothing$  7 mm  
Broaching from  $\varnothing$  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

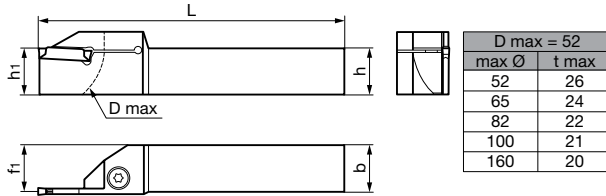


# TOOL HOLDERS FOR INDEXABLE INSERTS

## Square shank holders straight, external machining, without IC

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

Type GH222



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

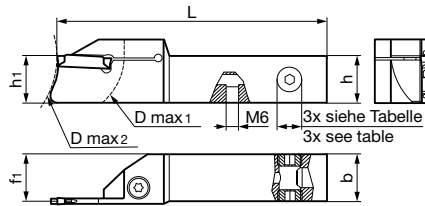
Code no.	Description	t max	h	b	L	h1	f1	D max	Size
		mm	mm	mm	mm	mm	mm	mm	
22.020	GH222.1212.125.00.03.L.00.34	21.00	12.00	12.00	125.00	12.00	10.50	34.00	03
22.030	GH222.0500.500.00.03.L.00.34	21.00	12.70	12.70	127.00	12.70	11.20	34.00	03
22.040	GH222.0625.500.00.03.L.00.45	21.00	15.87	15.87	127.00	15.87	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

- **t<sub>max</sub>**: 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



□	⊙	D max 1 = 52	
		max Ø	t max
12/12	M8x1	52	26
12,7/12,7	M8x1	65	24
15,87/15,87	G1/8	82	22
16/16	G1/8	100	21
19,05/19,05	G1/8	120	20
20/20	G1/8		
25/25	G1/8		
25,4/25,4	G1/8		



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	

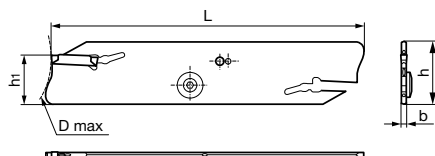
Code 15.000



## 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

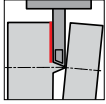
Article no.	Mounting key
25921	
Code 15.000	

Article no.	IC locking screw
25909	
Code 4.000	





## Indexable inserts for parting off



- with chip former

Tool material **Solid carbide**

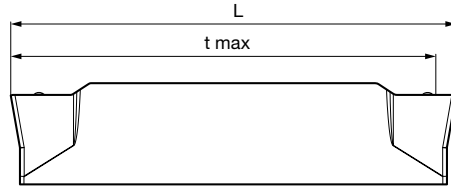
Type GZ222

Surface **F**

FIRE



Scan for speeds and feeds



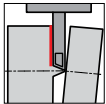
Article no. **26601**

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
22.020	GZ222.0200.020.PP.02.N	21.00	2.00	22.00	0.20	0

NEW

## Indexable inserts for parting off - Single Sided



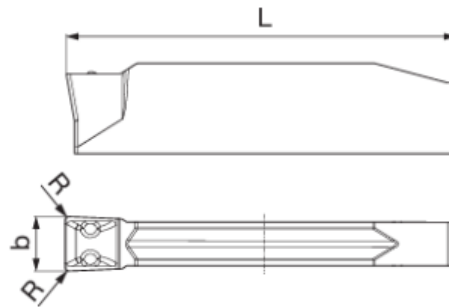
- with chip former

Tool material **Solid carbide**

Type GZ122

Surface **F**

FIRE



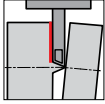
Article no. **26604**

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**

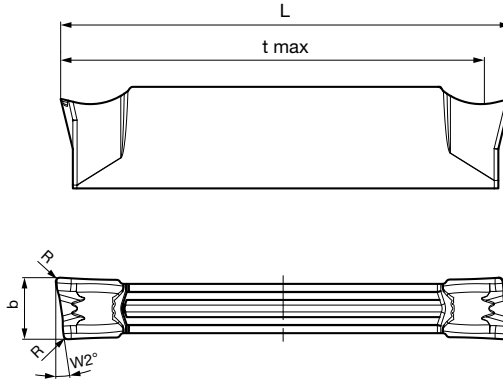
FIRE

GROOVING  
SYSTEMS



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**

For Stainless Steel

Version neutral

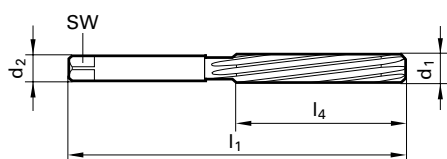
Code no.	Description	t max	b ±0.025	L ±0.1	R	W2
		mm	mm	mm	mm	°
22.030	GZ222.0300.020.PP.02.N	21.00	3.00	22.00	0.20	8

# REAMERS





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



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	○

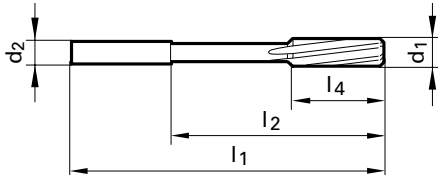
● Australian stock item ○ German stock item



# MACHINE REAMERS

REAMERS

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



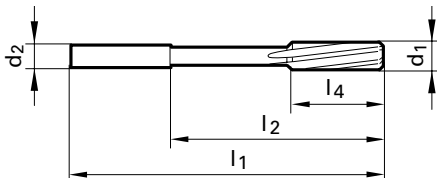
d1	d2	l1	l2	l4	z	AVAILABILITY	
mm	inch	mm	mm	mm	mm		
4.000		4.000	75.00	47.00	19.00	6	•
4.500		4.500	80.00	52.00	21.00	6	•
5.000		5.000	86.00	58.00	23.00	6	•
5.500		5.600	93.00	57.00	26.00	6	•
6.000		5.600	93.00	57.00	26.00	6	•
6.500		6.300	101.00	65.00	28.00	6	•
7.000		7.100	109.00	73.00	31.00	6	•
8.000		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



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

Available in 0.01mm increments on request



d1		d2	l1	l2	l4	z	AVAILABILITY
mm	inch	mm	mm	mm	mm		
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	•

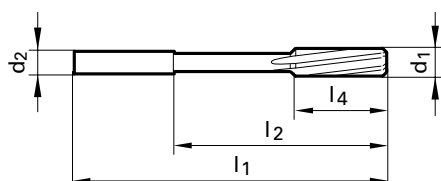
• Australian stock item ○ German stock item



# MACHINE REAMERS

REAMERS

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



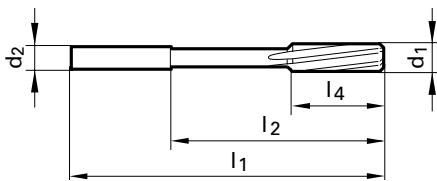
d1		d2	l1	l2	l4	z	AVAILABILITY
mm	inch	mm	mm	mm	mm		
3.100		3.20	65.00	37.00	16.00	6	•
3.170	1/8	3.20	65.00	37.00	16.00	6	•
3.180		3.20	65.00	37.00	16.00	6	•
3.200		3.20	65.00	37.00	16.00	6	•
3.300		3.20	65.00	37.00	16.00	6	•
3.370		3.50	70.00	42.00	18.00	6	•
3.380		3.50	70.00	42.00	18.00	6	•
3.400		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



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



d1	d2	l1	l2	l4	z	AVAILABILITY	
mm	inch	mm	mm	mm	mm		
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

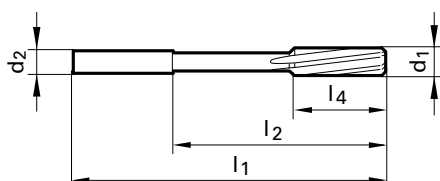




# MACHINE REAMERS

REAMERS

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



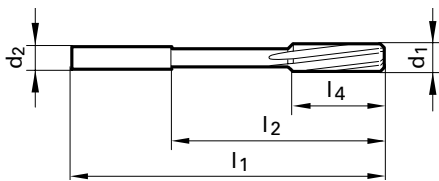
d1		d2	l1	l2	l4	z	AVAILABILITY
mm	inch	mm	mm	mm	mm		
7.940	5/16	8.00	117.00	81.00	33.00	6	•
7.980		8.00	117.00	81.00	33.00	6	•
8.010		8.00	117.00	81.00	33.00	6	•
8.020		8.00	117.00	81.00	33.00	6	•
8.030		8.00	117.00	81.00	33.00	6	•
8.100		8.00	117.00	81.00	33.00	6	•
8.200		8.00	117.00	81.00	33.00	6	•
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



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



d1		d2	l1	l2	l4	z	AVAILABILITY
mm	inch	mm	mm	mm	mm		
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

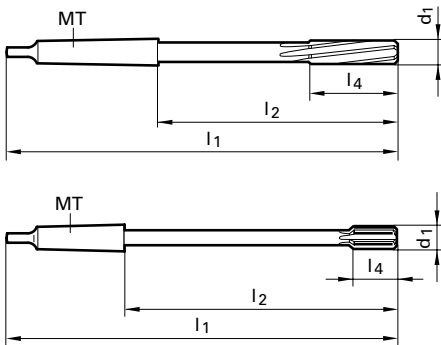
• Australian stock item ○ German stock item



# MACHINE REAMERS (TAPER SHANK)

REAMERS

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



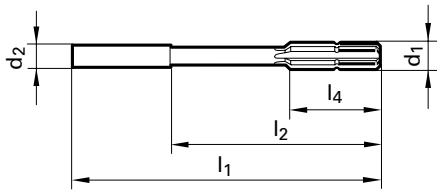
d1	MT	l1	l2	l4	z
mm		mm	mm	mm	
13.000	1	182.00	120.00	44.00	6
14.000	1	189.00	127.00	47.00	8
15.000	2	204.00	129.00	50.00	8
16.000	2	210.00	135.00	52.00	8
17.000	2	214.00	139.00	54.00	8
18.000	2	219.00	144.00	56.00	8
19.000	2	223.00	148.00	58.00	8
20.000	2	228.00	153.00	60.00	8
21.000	2	232.00	157.00	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

AVAILABILITY	
•	•
•	•
•	•
•	•
•	•
•	•
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•	•

• Australian stock item ○ German stock item



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



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	•

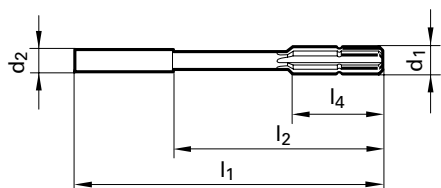
• Australian stock item    ○ German stock item



# CARBIDE REAMERS

REAMERS

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

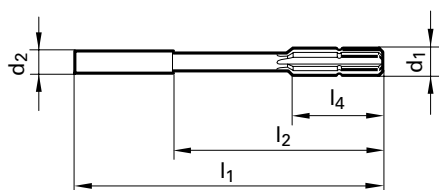


d1	d2	l1	l2	l4	z	AVAILABILITY
mm	mm	mm	mm	mm		
0.980	4.00	50.00	22.00	6.00	6	○
0.990	4.00	50.00	22.00	6.00	6	○
1.000	4.00	50.00	22.00	6.00	6	○
1.010	4.00	50.00	22.00	6.00	6	○
1.020	4.00	50.00	22.00	6.00	6	○
1.030	4.00	50.00	22.00	9.00	6	○
1.480	4.00	50.00	22.00	9.00	6	○
1.490	4.00	50.00	22.00	9.00	6	○
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



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



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



# CUTTING SPEED RECOMMENDATION

REAMERS

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

<b>Guhring no.</b>
<b>Standard/DIN</b>
<b>Tool material</b>
<b>Surface finish</b>
<b>Type</b>

Material group	Material examples	Tensile strength MPa (N/mm <sup>2</sup> )	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 malleable cast iron	GGG40, GGG50, GGG60, 32510, GTW35		≤240 HB	○
	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

496	468	405
212	212-2	208
HSS-E		
○	○	○
B	B	B

## MACHINE REAMERS

1409	720	5527
8093	8051	GS
Carbide		
○	○	○
B	B	B



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

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

## PERFECT CLAMPING

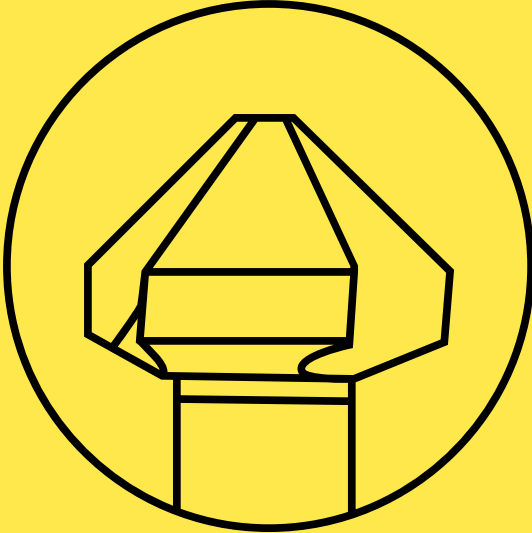
HMC 3000 Hydraulic chucks together with solid carbide micro-precision drills or HR 500 High-performance reamers

- ▶ Direct hydraulic clamping of shanks from  $\varnothing 3$  mm
- ▶ Quick, simple and accurate length setting
- ▶ Perfect concentricity  $R < 3 \mu\text{m}$  with  $10 \times d1$





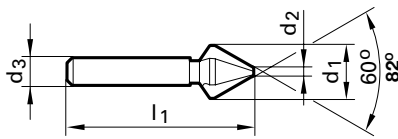
# COUNTERSINKS



# 60° & 82° COUNTERSINKS (3-FLUTED)



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



d1	d3	l1	d2	z	AVAILABILITY
mm	mm	mm	mm		
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.

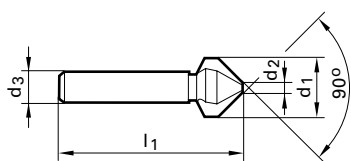
• Australian stock item    ○ German stock item



# 90° COUNTERSINKS (3-FLUTED)

COUNTERSINKS & COUNTERBORES

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	d3	l1	d2	z	AVAILABILITY
mm	mm	mm	mm		
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.					

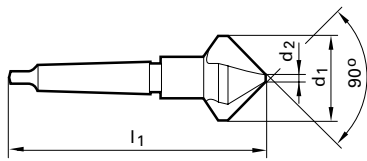
• Australian stock item ○ German stock item

# 90° COUNTERSINKS (3-FLUTED, TAPER SHANK)



COUNTERSINKS &  
COUNTERBORES

<b>Guhring no.</b>	<b>477</b>
<b>Standard</b>	<b>DIN 335</b>
<b>Tool material</b>	<b>HSS</b>
<b>Surface</b>	○
<b>Cutting direction</b>	right-hand
<b>Form</b>	<b>D</b>



d1	MT	l1	d2	z
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

AVAILABILITY
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Coated also available on request.

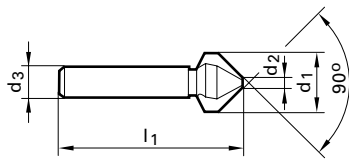
• Australian stock item    ○ German stock item



# 90° COUNTERSINKS (3-FLUTED)

COUNTERSINKS & COUNTERBORES

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



d1	d3	l1	d2	z
mm	mm	mm	mm	
8.000	8.000	50.00	2.00	3
12.000	12.000	56.00	2.80	3
16.000	16.000	60.00	3.20	3
20.000	20.000	63.00	3.50	3
25.000	25.000	80.00	3.80	3

## AVAILABILITY

- 302648362
- 302648363
- 302648364
- 302648365
- 302648366

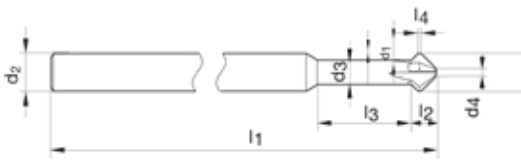
82° also available on request

• Australian stock item    ◦ German stock item

# 90° FRONT/BACK DEBURRER (4-FLUTED)



<b>Guhring no.</b>	<b>495</b>
<b>Standard</b>	<b>Guhring std.</b>
<b>Tool material</b>	<b>Carbide</b>
<b>Surface</b>	<b>a</b>
<b>Cutting direction</b>	<b>right-hand</b>



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/mm <sup>2</sup>	180	0,08	0,12	0,20	0,20	0,25	0,25	0,25
	≥850 N/mm <sup>2</sup>	150	0,06	0,10	0,15	0,15	0,20	0,20	0,20
M	≤750 N/mm <sup>2</sup>	100	0,06	0,10	0,15	0,15	0,20	0,20	0,20
	≥750 N/mm <sup>2</sup>	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/mm <sup>2</sup>	60	0,05	0,08	0,12	0,12	0,15	0,15	0,15
	≥1400 N/mm <sup>2</sup>	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

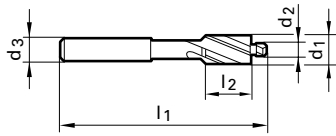
• Australian stock item    ◦ German stock item



# COUNTERBORES WITH FIXED PILOTS FOR FINE TOLERANCES

COUNTERSINKS & COUNTERBORES

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



d1	d2	d3	l1	l2	for	z
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

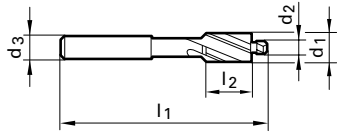
AVAILABILITY	
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● Australian stock item ○ German stock item

# COUNTERBORES WITH FIXED PILOTS FOR FINE TOLERANCES (TAPER SHANK)



<b>Guhring no.</b>	<b>485</b>
<b>Standard</b>	<b>Guhring std.</b>
<b>Tool material</b>	<b>HSS</b>
<b>Surface</b>	○
<b>Cutting direction</b>	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	•
<b>30.000</b>	19.00	3	192.00	35.00	M18	3	•
<b>33.000</b>	21.00	3	204.00	40.00	M20	3	•
<b>40.000</b>	25.00	3	204.00	40.00	M24	3	•

• Australian stock item   ○ German stock item





# CUTTING SPEED RECOMMENDATION

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

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

Material group	Material examples	Tensile strength MPa (N/mm <sup>2</sup> )	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 malleable cast iron	GGG40, GGG50, GGG60, 32510, GTW35		≤240 HB	○
	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		○



## 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		



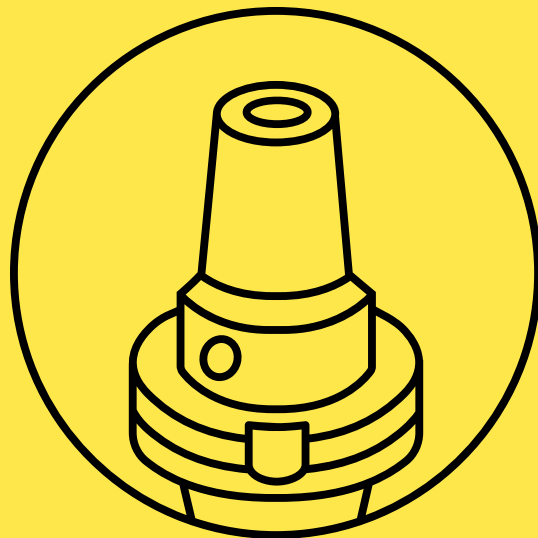
Benefit from the advantages of GSS 2000

- ▷ high performance spindle, hence quick change time
- ▷ overheating protection for holder
- ▷ automatic mode possible error detection
- ▷ heating programs
- ▷ maximum rigidity
- ▷ highest cutting rates

COUNTERSINKS & COUNTERBORES



# TOOL HOLDERS

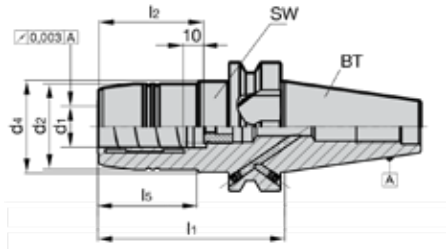




Guhring no.

4221

HYDRAULIC CHUCK



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

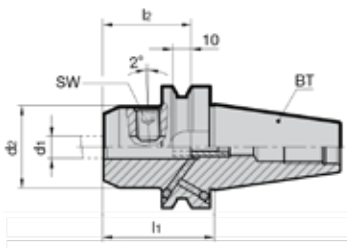
Code No.	d1 h6	d2	d4	l1	l2	l5	BT	SW
	mm	mm	mm	mm	mm	mm		
6.040	6	26.0	44.5	90.0	37	43.0	40	5
8.040	8	28.0	44.5	90.0	37	44.5	40	5
10.040	10	30.0	44.5	90.0	41	44.5	40	5
12.040	12	32.0	44.5	90.0	46	44.5	40	5
14.040	14	34.0	44.5	90.0	46	44.5	40	5
16.040	16	38.0	44.5	90.0	49	47.5	40	5
18.040	18	40.0	44.5	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

AVAILABILITY
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Guhring no.

4233

SIDE LOCK HOLDER



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

Code No.	d1 h6	d2	l1	l2	BT	SW
	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

AVAILABILITY
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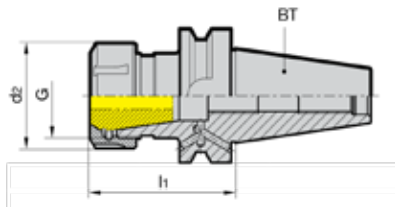
• Australian stock item    ◦ German stock item



Guhring no.

4245

## BT40 ER COLLET HOLDER



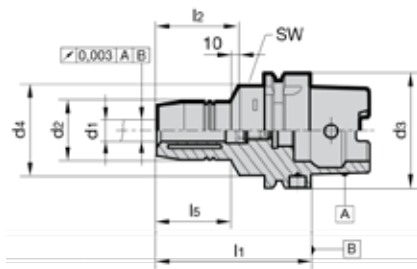
Balancing quality of G6.3 / 15,000 rev./min

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

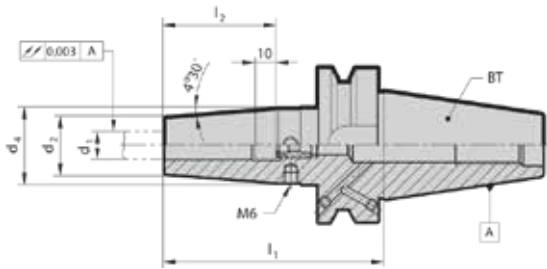
## HSK-63 HYDRAULIC HOLDER



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	•

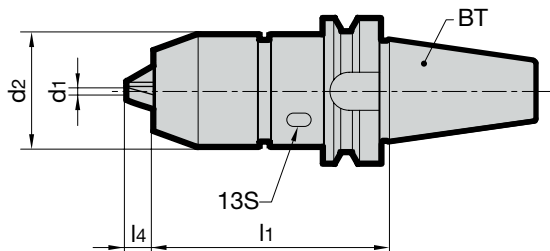
• Australian stock item    ◦ German stock item

**Guhring no.**
**4739**


Code No.	d1 h6	d2	d4	l1	l2	BT
	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

**AVAILABILITY**

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**Guhring no.**
**377025896**


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

**AVAILABILITY**

- 377025896

• Australian stock item    ◦ German stock item



## HYDRAULIC CHUCK SETS 4666



HSK-A 63  
Art. no. 4662



SK 40  
Art. no. 4663



MAS/BT 40  
Art. no. 4664



Ø6 mm Ø8 mm Ø10 mm Ø12 mm Ø16 mm  
Art. no. 4665

1 hydraulic chuck



5 reduction bushes



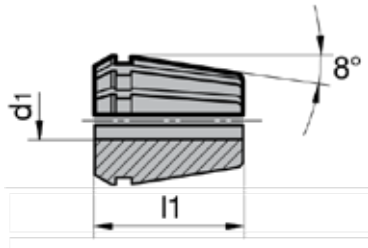
HSK-A 63	4666 20.063
ISO taper 40	4666 20.040
MAS/BT 40	4666 20.140

1 hydraulic  
chuck  
+ 5 reduction  
bushes



<b>Guhring no.</b>	<b>4307</b>	<b>4175</b>
<b>Standard</b>	<b>Guhring std.</b>	<b>Guhring std.</b>
<b>Tool material</b>	<b>HSS</b>	<b>HSS</b>

## ER-32 COLLETS



**Metallic Sealed**

Code No.	nom. size	clamping range d1	l1	AVAILABILITY	
				mm	mm
<b>2.032</b>	ER32 (470E)	2.0-1.0	40.0	•	
<b>2.532</b>	ER32 (470E)	2.5-1.5	40.0	•	
<b>3.032</b>	ER32 (470E)	3.0-2.0	40.0	•	
<b>4.032</b>	ER32 (470E)	4.0-3.0	40.0	•	
<b>5.032</b>	ER32 (470E)	5.0-4.0	40.0	•	
<b>6.032</b>	ER32 (470E)	6.0-5.0	40.0	•	○
<b>7.032</b>	ER32 (470E)	7.0-6.0	40.0	•	○
<b>8.032</b>	ER32 (470E)	8.0-7.0	40.0	•	○
<b>9.032</b>	ER32 (470E)	9.0-8.0	40.0	•	
<b>10.032</b>	ER32 (470E)	10.0-9.0	40.0	•	○
<b>11.032</b>	ER32 (470E)	11.0-10.0	40.0	•	
<b>12.032</b>	ER32 (470E)	12.0-11.0	40.0	•	○
<b>13.032</b>	ER32 (470E)	13.0-12.0	40.0	•	
<b>14.032</b>	ER32 (470E)	14.0-13.0	40.0	•	○
<b>15.032</b>	ER32 (470E)	15.0-14.0	40.0	•	
<b>16.032</b>	ER32 (470E)	16.0-15.0	40.0	•	○
<b>17.032</b>	ER32 (470E)	17.0-16.0	40.0	•	
<b>18.032</b>	ER32 (470E)	18.0-17.0	40.0	•	○
<b>19.032</b>	ER32 (470E)	19.0-18.0	40.0	•	
<b>20.032</b>	ER32 (470E)	20.0-19.0	40.0	•	○
				<b>ER-16, ER-20, ER-25 available on request</b>	

• 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. 9561 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

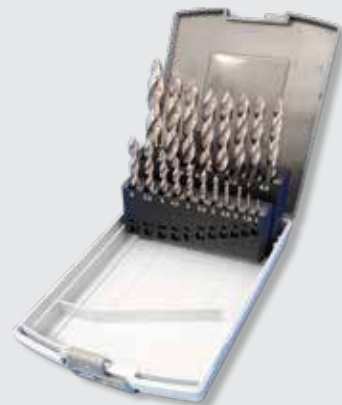


**HSS STEP DRILL SET**

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

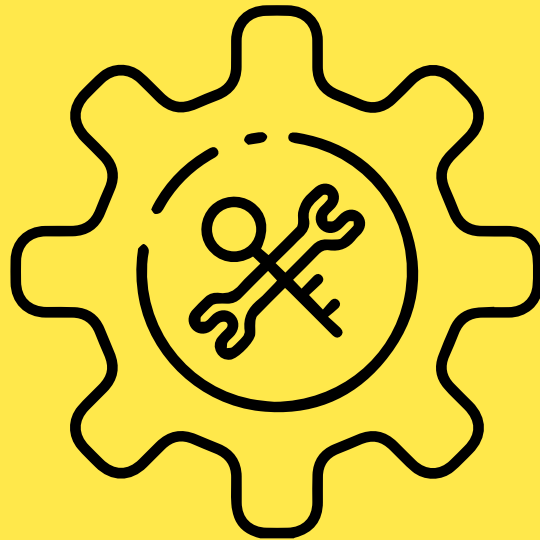
Part No. 6482 1,000

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 manufactures 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 resharpener 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 achieving at least twice the performance of TiN. Combines the advantages 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 manganese-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.





	<b>S-coating</b> <i>TiN</i>	<b>Super-A Coating</b> <i>TiAlN</i>	<b>FIRE Coating</b> <i>TiN/TiAlN</i>	<b>ICE Coating</b> <i>TiAlCrN</i>	<b>Zenit Coating</b> <i>ZrN/AlTiN</i>	<b>Endurum Coating</b> <i>TiAl/TiSi</i>	<b>Signum Coating</b> <i>TiAlY/TiAlSiMoCr</i>
<b>Colour</b>	Gold	Grey Violet	Black Violet	Metallic Silver	Light Gold	Copper	Bronze Copper
<b>Coating process</b>	Physical Vapour Deposition	Physical Vapour Deposition	Physical Vapour Deposition	Physical Vapour Deposition	Physical Vapour Deposition	Physical Vapour Deposition	Physical Vapour Deposition
<b>Layer structure</b>	Monolayer	Monolayer	Graded Multilayer	Nanolayer	Nanolayer	Multilayered	Multilayered Nano Composite
<b>Thickness [µm]</b>	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
<b>Hardness [HV 5g]</b>	2300	3400	3300	3500	3000	4000	5500
<b>Friction coefficient</b>	0.4	0.6	0.6	0.5	0.3	0.6	0.5
<b>Deposition temp. [°C]</b>	400 – 500°C	400 – 500°C	400 – 500°C	400 – 500°C	400 – 500°C	400 – 500°C	400 – 500°C
<b>Maximum operating temperature [°C]</b>	600°C	900°C	800°C	1000°C	800°C	800°C	800°C+
<b>Applications</b>	General	High Performance	High Performance	High Performance	High Performance	High Performance	High performance
<b>Workpiece materials</b>	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 manganese, alloyed steel, low alloyed steel	Stainless steel, hardened high strength steels, cast iron



# RECYCLING

Guhring recycling carbide protects the environment and conserves resources.

Throw away high quality used carbide? It's just too valuable.

We offer you an environment-friendly and economically attractive solution: Our Recycling Carbide Tools. Thanks to our own carbide technology we are able to recycle this valuable raw material.

By sending us your used carbide tools, you help preserve and protect the environment and ensure that these products are recycled responsibly. You also earn extra money.

Please fill out the form below or call us on 1800-639-991 to obtain the latest price.



**Company**

**Address**

**Name**

**Suburb**

**Postcode**

**Telephone**

**Fax**

**E-Mail**

**Approx. Weight of used carbide tools**

(e.g. carbide inserts, drills, taps, end mills, reamers, and milling cutters)

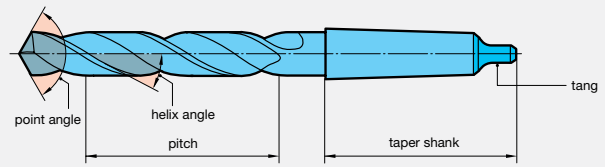
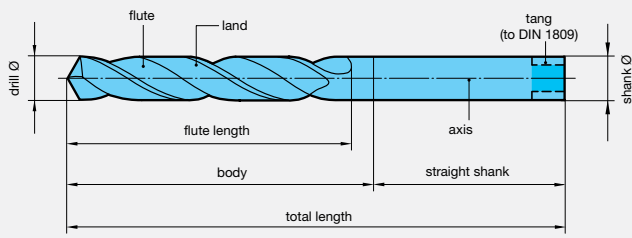
 Kg

# TECHNICAL INFORMATION

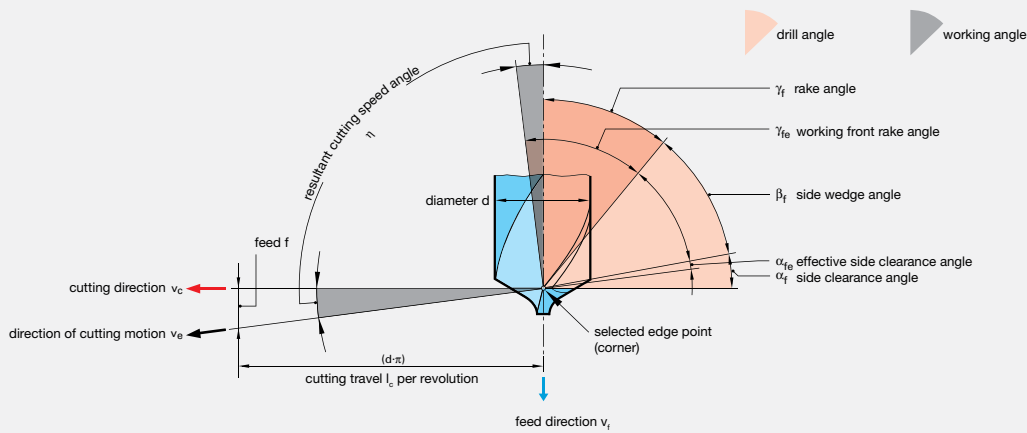
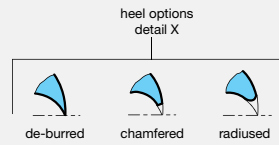
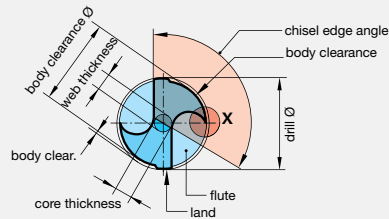
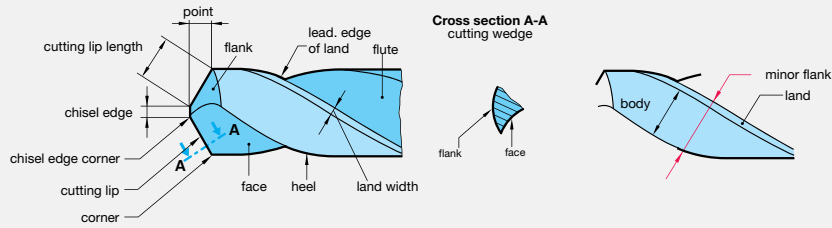




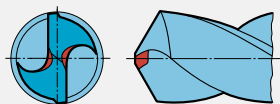
## Twist drills with straight / Morse taper shank



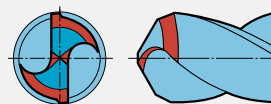
## Cutting portion



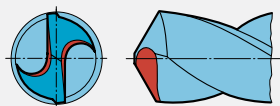
## Special point geometry to DIN 1412 (extract; edition 03/01)



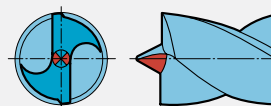
**Form A**  
Thinned chisel edge



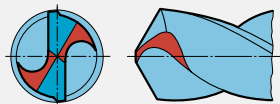
**Form D**  
Point ground for cast iron



**Form B**  
Thinned chisel edge with corrected cutting lips



**Form E**  
Brad point (center point)



**Form C**  
Split 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

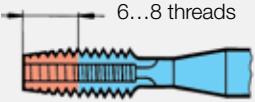
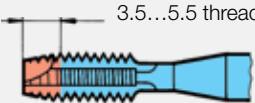
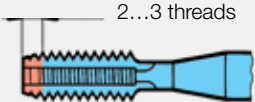
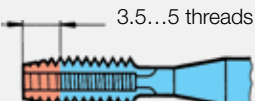
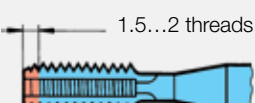
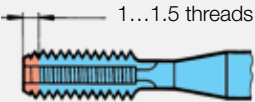
The standard descriptions above are given with the permission from the German Standards Institute (Deutsches Institut für Normung). The most recent editions of the standard sheets apply and are available in DIN A 4 format from Beuth-Verlag GmbH, D-10787 Berlin.

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

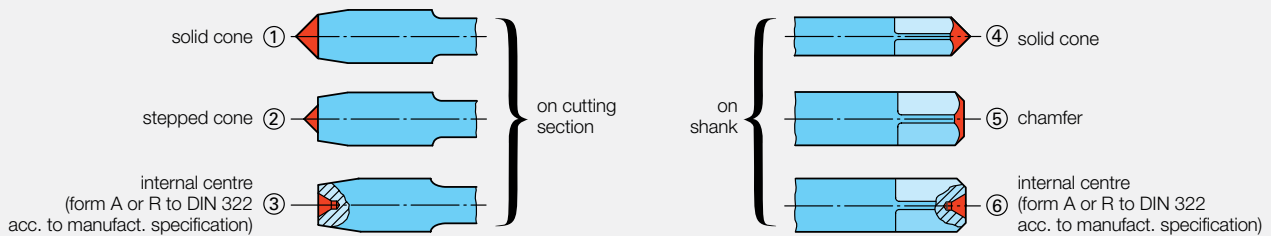
Fraction	mm	inch	Fraction	mm	inch	Fraction	mm	inch	Fraction	mm	inch	Fraction	mm	inch	Fraction	mm	inch
-	0.10	0.0039	66	0.84	0.0330	3/32	2.38	0.0938	10	4.91	0.1935	Q	8.43	0.3320	-	16.00	0.6299
97	0.15	0.0059	65	0.89	0.0350	41	2.44	0.0960	9	4.98	0.1960		8.50	0.3346	41/64	16.27	0.6406
96	0.16	0.0063	-	0.90	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

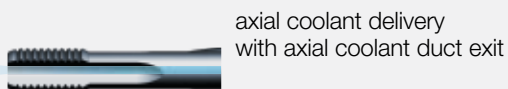
<b>Form A</b>		6...8 threads long, 6 - 8 threads for short through holes
<b>Form B</b>		3.5...5.5 threads medium, 3.5 - 5.5 threads, with spiral point, for all through holes and deep tapping holes in medium and long-chipping materials
<b>Form C</b>		2...3 threads short, 2 - 3 threads for blind holes and generally for aluminium, grey cast iron and brass
<b>Form D</b>		3.5...5 threads medium, 3.5 - 5 threads for short through holes
<b>Form E</b>		1.5...2 threads extremely short, 1.5-2 threads, for blind holes with little run-out depth.
<b>Form F</b>		1...1.5 threads 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	3	5
> 10.0	3	3	6

## Coolant duct geometries



axial coolant delivery  
with axial coolant duct exit



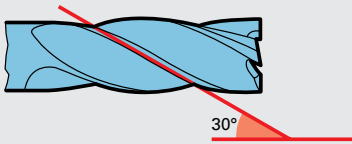
axial coolant delivery with radial  
coolant duct exit in the flutes  
at the chamfer







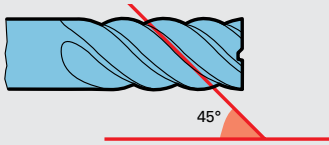
# TYPES OF MILLING CUTTERS AND THEIR BASIC APPLICATION RANGE



## 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

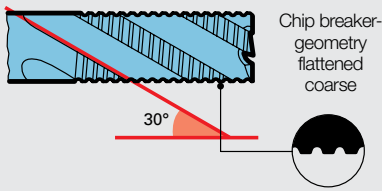
- 1200·N/mm<sup>2</sup>-tensile strength-applying high speed steel milling cutters
- 1600·N/mm<sup>2</sup>-tensile strength-applying solid carbide milling cutters



## Type NH

Quick spiral with high 45° helical pitch, suitable for super fine finishing high-alloyed materials and grey cast iron up to appr.

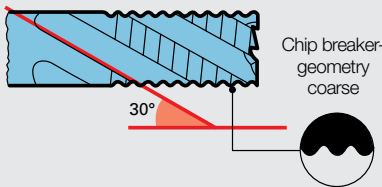
- 1600·N/mm<sup>2</sup>-tensile strength



## 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.

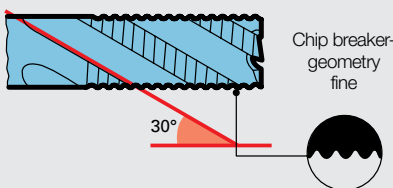
- 1200·N/mm<sup>2</sup>-tensile strength-applying high speed steel milling cutters
- 1600·N/mm<sup>2</sup>-tensile strength applying solid carbide milling cutters



## Type NR

Standard knuckle-type teeth, produces short chips and good chip evacuation. Suitable for milling standard materials up to appr.

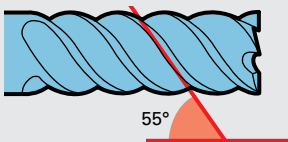
- 1000·N/mm<sup>2</sup>-tensile strength-applying high speed steel milling cutters
- 1200·N/mm<sup>2</sup>-tensile strength-applying solid carbide milling cutters



## 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.

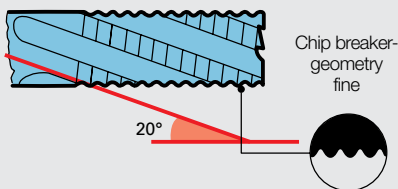
- 1400·N/mm<sup>2</sup>-tensile strength-applying high speed steel milling cutters
- 1600·N/mm<sup>2</sup>-tensile strength applying solid carbide milling cutters



## 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

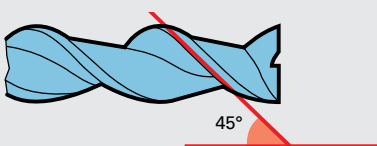


## Type HR

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

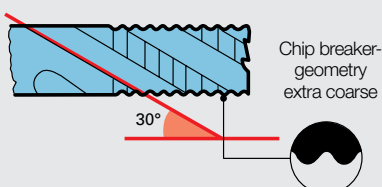
\* High Speed Cutting



## 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/mm<sup>2</sup> 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/mm<sup>2</sup>-tensile strength.



	<p><b>RF 100 U (type N)</b></p>	<p>35°/38° helix. Suitable for slotting, roughing and finishing steel, high-alloyed steel and hardened steel up to</p> <ul style="list-style-type: none"> <li>• 1600 N/mm<sup>2</sup> tensile strength (48 HRC)</li> </ul>
	<p><b>RF 100 U (type NH) 3-fluted</b></p>	<p>41°/43°/45° helix. Suitable for slotting, roughing and finishing steel, high-alloyed steel and stainless steel up to</p> <ul style="list-style-type: none"> <li>• 1400 N/mm<sup>2</sup> tensile strength (44 HRC)</li> </ul> <p>3-fluted suitable for extreme cutting depths</p>
	<p><b>RF 100 U/HF (type HF)</b></p>	<p>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</p> <ul style="list-style-type: none"> <li>• 1600 N/mm<sup>2</sup> tensile strength (48 HRC)</li> </ul>
	<p><b>RF 100 F (type NH)</b></p>	<p>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</p> <ul style="list-style-type: none"> <li>• 850 N/mm<sup>2</sup> tensile strength (25 HRC)</li> </ul>
	<p><b>RF 100 VA (type N)</b></p>	<p>36°/38° helix. Suitable for slotting, roughing and finishing VA steels and stainless materials</p>
	<p><b>RF 100 VA/NF (type NF)</b></p>	<p>36°/38° helix and roughing and finishing geometry. Suitable for slotting and roughing VA steels and stainless materials</p>
	<p><b>RF 100 A (type W)</b></p>	<p>39°/40°/41° helix. Suitable for slotting, roughing and finishing aluminium and Al-alloys as well as long-chipping materials and non-ferrous metals</p>
	<p><b>RF 100 A/WF (type WF)</b></p>	<p>29°/30°/31° helix and roughing and finishing geometry. Suitable for slotting and roughing aluminium and Al-alloys</p>
	<p><b>RF 100 H (type H)</b></p>	<p>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 &gt; 63 HRC.</p>
	<p><b>RF 100 Ti (type N)</b></p>	<p>35°/38° helix with corner radius. Suitable for slotting and roughing of titanium alloys as well as difficult-to-cut alloys</p>
	<p><b>RF 100 SF (type NH)</b></p>	<p>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, cast iron, non-ferrous metals and high-alloyed materials</p>





With an annual production of in excess of 1500 tons Gühring 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
<b>HSS</b>	HS 6-5-2 (DMo5)	1.3343	standard tool material for most common applications
<b>HSCO HSS-E</b>	HS 6-5-2-5 (EMo5Co5)	1.3243	high heat-resistance, especially suited for roughing or when coolant insufficient
<b>HSS-E</b>	HS 6-5-3 (EMo5V3)	1.3344	high friction resistance and cutting edge stability, especially important for reaming operations
<b>M42</b> <b>HSS-E</b>	HS 2-9-1-8	1.3247	increased heat resistance and hardness, suitable for difficult-to-machine materials
<b>HSS-E-PM</b>	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 AISI-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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# GSS

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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.

### User-friendly software

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

### Tool identification Balluff chip

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

### 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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245	26	786	82	1409	173	3995	99	5506	130	5717	82	8926F	24
255	31	787	82	1587	107	4107	46	5510	32	5718	87	9500	8
257	28	789	80	1589	107	4108	49	5511	36	5722	82	9651	8
280	19	790	80	2463	4	4109	52	5512	40	5725	96	19978	131
293	30	793	106	2464	8	4110	55	5514	32	5726	97	26100	158
298	30	803	80	2847	103	4112	57	5515	36	5727	98	26101	158
299	30	804	80	2848	103	4115	57	5516	4	5728	99	26102	159
301	21	805	81	2864	85	4128	92	5517	8	5731	100	26103	159
336	13	810	82	2871	84	4129	93	5520	4	5732	101	26200	160
380	25	811	83	2892	102	4130	94	5522	8	5733	80	26201	161
391	97	812	83	2893	102	4133	91	5523	8	5734	82	26601	162
392	99	815	80	2944	89	4175	193	5524	4	5735	133	26602	163
393	83	816	81	3043	145	4218	81	5525	42	5736	80	26603	163
395	101	817	81	3114	133	4220	100	5526	32	5743	126	26604	164
405	172	822	82	3173	130	4221	189	5527	174	5768	25	26605	165
413	165	823	83	3176	124	4226	91	5535	133	6027	36		
468	166	824	83	3308	143	4229	61	5537	13	6408	22		
472	179	827	84	3358	126	4233	189	5549	125	6478	135		
476	180	834	85	3359	144	4245	190	5551	83	6480	135		
476F	180	861	112	3360	144	4299	190	5552	83	6498	32		
477	181	862	112	3428	121	4307	193	5553	83	6511	43		
482	184	863	112	3431	121	4485	107	5556	131	6513	44		
485	185	864	112	3433	121	4487	107	5557	81	6514	35		
495	183	873	96	3451	119	4491	109	5558	81	6596	45		
496	167	876	97	3453	119	4492	110	5559	81	6713	129		
502	15	878	96	3459	120	4633	93	5573	129	6734	146		
503	16	879	81	3460	120	4642	96	5574	129	6736	134		
504	17	881	97	3466	142	4643	98	5580	36	6737	134		
526	29	908	98	3472	127	4645	93	5582	133	6761	138		
527	29	910	83	3473	127	4672	85	5584	145	6765	138		
557	23	911	99	3570	122	4676	111	5598	106	6769	140		

# AUSTRALIAN STOCK RANGE

2024 - 2026

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