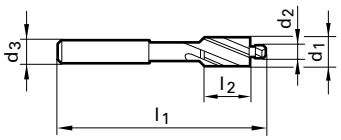
COUNTERSINKS & COUNTERBORES

METRIC COUNTERBORES - HSS
PARALLEL SHANK (3-FLUTE)

Guhring no.	**482**
Standard	**DIN 373**
Tool material	**HSS**
Surface	○
Form	

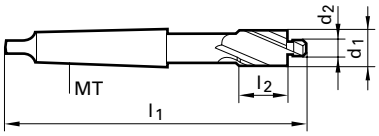


d1	d2	d3	l1	l2	Code no.	thread	AVAILABILITY
mm		mm	mm	mm			
4.300	2.200	4.300	56.00	10.00	4.300	M 2	•
6.000	3.200	5.000	71.00	14.00	6.000	M 3	•
8.000	4.300	5.000	71.00	14.00	8.000	M 4	•
10.000	5.300	8.000	80.00	18.00	10.000	M 5	•
11.000	6.400	8.000	80.00	18.00	11.000	M 6	•
15.000	8.400	12.500	100.00	22.00	15.000	M 8	•
18.000	10.500	12.500	100.00	22.00	18.000	M10	•
20.000	13.000	12.500	100.00	22.00	20.000	M12	•

○ Bright ● Steam Tempered ◓ Nitrided Lands (S) S-Coated (TiN) (A) A-Coated (TiAlN) (C) C-Coated (TiCN) (F) F-Coated (FIRE)

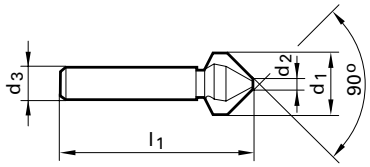
METRIC COUNTERBORES - HSS
TAPER SHANK (3-FLUTE)

Guhring no.	**485**
Standard	**Guhring std.**
Tool material	**HSS**
Surface	
Form	



d1	d2	MT	l1	l2	Code no.	thread	AVAILABILITY
mm			mm	mm			
26.000	17.00	3	192.00	35.00	26.000	M16	•
30.000	19.00	3	192.00	35.00	30.000	M18	•
33.000	21.00	3	204.00	40.00	33.000	M20	•
40.000	25.00	3	204.00	40.00	40.000	M24	•

90° COUNTERSINKS - HSS
PARALLEL SHANK (3-FLUTE)



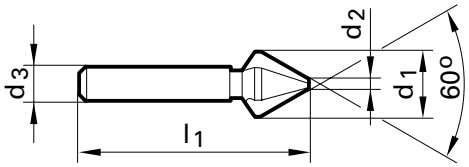
Guhring no.	476	5008
Standard	DIN 335	
Tool material	HSS	Carbide
Surface	○	F
Form	C	
Angle	90°	90°

d1	d3	l1	d2	Code no.	AVAILABILITY	
mm		mm	mm			
4.300	4.000	40.00	1.300	4.300	•	
5.000	4.000	40.00	1.500	5.000	•	
5.300	4.000	40.00	1.500	5.300	•	
6.300	5.000	45.00	1.500	6.300	•	
8.000	6.000	50.00	2.000	8.000	•	
8.300	6.000	50.00	2.000	8.300	•	
10.000	6.000	50.00	2.500	10.000	•	
10.400	6.000	50.00	2.500	10.400	•	
12.400	8.000	56.00	2.800	12.400	•	
15.000	10.000	60.00	3.200	15.000	•	
16.500	10.000	60.00	3.200	16.500	•	
19.000	10.000	63.00	3.500	19.000	•	
20.500	10.000	63.00	3.500	20.500	•	
25.000	10.000	67.00	3.800	25.000	•	
26.000	10.000	67.00	3.800	26.000	•	
28.000	12.000	71.00	4.000	28.000	•	
30.000	12.000	71.00	4.200	30.000	•	
31.000	12.000	71.00	4.200	31.000	•	
					Coated also available on request	
8.00	8.00	50.00	2.00	8.00		•
12.00	12.00	56.00	2.80	12.00		•
16.00	16.00	60.00	32.0	16.00		•
20.00	20.00	63.00	3.50	20.00		•
25.00	25.00	80.00	3.80	25.00		•
						Also 82° available on request

○ Bright ● Steam Tempered ◐ Nitrided Lands (S) S-Coated (TiN) (A) A-Coated (TiAlN) (C) C-Coated (TiCN) (F) F-Coated (FIRE)

60° COUNTERSINKS - HSS
PARALLEL SHANK (3-FLUTE)

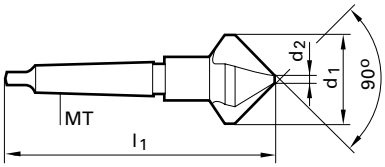
Guhring no.	**472**
Standard	**DIN 334**
Tool material	**HSS**
Surface	○
Form	**C**
Angle	**60°**



d1	d3	l1	d2	Code no.	AVAILABILITY
mm		mm	mm		
6.300	5.000	45.00	1.600	6.300	•
8.000	6.000	50.00	2.000	8.000	•
12.500	8.000	56.00	3.200	12.500	•
16.000	10.000	63.00	4.000	16.000	•
20.000	10.000	67.00	5.000	20.000	•
25.000	10.000	71.00	6.300	25.000	•
					Coated also available on request

90° COUNTERSINKS - HSS
TAPER SHANK (3-FLUTE)

Guhring no.	**477**
Standard	**DIN 335**
Tool material	**HSS**
Surface	◯
Form	**D**
Angle	**90°**



d1 mm	MT	l1 mm	d2 mm	Code no.	AVAILABILITY
31.000	2	112.00	4.200	31.000	•
34.000	2	118.00	4.500	34.000	•
37.000	2	118.00	4.800	37.000	•
40.000	3	140.00	10.000	40.000	•
50.000	3	150.00	14.000	50.000	•
63.000	4	180.00	16.000	63.000	•
					Coated also available on request

Bright · Steam Tempered · Nitrided Lands · S S-Coated (TiN) · A A-Coated (TiAlN) · C C-Coated (TiCN) · F F-Coated (FIRE)

CUTTING SPEED RECOMMENDATION COUNTERSINKING & COUNTERBORING

Tool ø mm	Feed Column No. Countersinking Tools			
	81	82	83	84
	f (mm/rev)			
2.00	0.03	0.04	0.06	0.08
2.50	0.03	0.05	0.07	0.10
3.15	0.03	0.05	0.08	0.11
4.00	0.04	0.06	0.09	0.13
5.00	0.04	0.07	0.10	0.14
6.30	0.04	0.07	0.12	0.15
8.00	0.05	0.08	0.13	0.16
10.00	0.06	0.09	0.14	0.17
12.50	0.06	0.10	0.15	0.19
16.00	0.07	0.11	0.17	0.21
20.00	0.08	0.13	0.18	0.23
25.00	0.09	0.15	0.21	0.26
31.50	0.12	0.17	0.24	0.30
40.00	0.14	0.21	0.28	0.34
50.00	0.17	0.24	0.31	0.36
63.00	0.20	0.27	0.33	0.38
80.00	0.23	0.30	0.35	0.40
100.00	0.25	0.30	0.35	0.40

Material Group	Material Examples	Tens. Strength (N/mm²)	Hardness	v_c m/min	Feed col.no.	Feed col.no.	v_c m/min	Feed col.no.	Feed col.no.
			Tool Material	HSS			HSS		
			Guhring No.	472	476 / 477		482	485	
			DIN	334	335		373		
			Surface Finish	○	○		○	●	
			Guhring Std					YES	
			Angle	60°	90°				
Common Structural Steels	Mild steel, Grade 250 plate, Grade 350 plate	≤ 500		32	82	83	32	83	82
		> 500-850		30	82	82	30	82	82
Free-Cutting Steels	1020, S1214, S1213, S12L13, S12L14	≤ 850		32	82	83	32	83	82
		850-1000		30	82	82	30	82	82
Unalloyed Heat-Treatable Steels	1035, 1045, 1055, 1060, 1025	≤ 700		32	82	82	32	82	82
		700-850		30	82	82	30	82	82
		850-1000		20	81	82	20	82	81
Alloyed Heat-Treatable Steels	3140, 4130, 4140, 4150, 4340, 6150, EN16, EN26	850-1000		15	81	82	15	82	81
		1000-1200		12	81	81	12	81	81
Unalloyed Case Hardened Steels	1010, 1015	≤ 750		25	82	83	25	83	82
Alloyed Case Hardened Steels	3310, 3415, 5115, 4615, 4620, 5120, 8617, 8620, N33, EN36A	850-1000		15	81	82	15	82	81
		1000-1200		10	81	81	10	81	81
Nitriding Steels	1.8504 34CrAl6, 1.8519 31CrMo V9, 1.8550 34CrAlNi7	≥ 850-1000		15	82	82	15	82	81
		1000-1200		12	81	81	12	81	81
Tool Steels	H11, H13, P20, D2, D3	≤ 850		17	81	82	17	82	81
		850-1000		15	81	81	15	81	81
High Speed Steels	M2, M3, M35, M45	≥ 650-1000		15	81	81	15	81	81
Spring Steels	5155, 6150, 9255		≤ 330 HB	10	81	81	10	81	81
Stainless Steels, Sulphured	410S, 430F, 630	≤ 850		16	81	82	16	82	81
Austenitic	302, 303, 304, 310, 316, 316Ti, 321	≤ 850		12	81	81	12	81	81
Martensitic	410, 410X, 416, 420, 420C, 431, 440C	≤ 850		14	81	81	14	81	81
Hardened Steels	-		≤ 40-48 HRC	8	81	81			
			> 48-60 HRC	6	81	81			
Special Alloys	Nimonic, Inconel, Monel, Hastelloy, Bisalloy	≤ 1200		8	81	81	8	81	81
Cast Iron	GG10, GG15, GG20, GG25, GG30, GG35, GG40		≤ 240 HB	25	82	82	25	82	82
			≤ 300 HB	16	81	82	16	82	81
Spheroidal Graphite and Malleable Cast Iron	GGG40, GGG50, GGG60, GGG70, 32510, 50005, Nodular Iron		≤ 240 HB	22	81	82	22	82	81
			≤ 300 HB	20	81	81	20	81	81
Chilled Cast Iron	-		≤ 350 HB	8	81	81	8	81	81
Ti and Ti-alloys	3.7024 Ti99,5, 3.7114 TiAl5Sn2,5, 3.7124 TiCu2	≤ 850		15	82	83	15	83	82
	3.7154 TiAl6Zr5, 3.7164 TiAl6V4, 3.7184 TiAl4Mo4Sn2,5, -TiAl8Mo 1V1	850-1200		10	82	82	10	82	82
Al and Ti-alloys	3.0255 Al99,5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤ 400		90	82	83	90	83	82
Al Wrought Alloys	3.0615 AlMgSiPb, 3.1325 AlCiMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1,5	≤ 450		70	83	84	70	84	83
Al Cast Alloys ≤ 10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9	≤ 600		40	82	83	40	83	82
Al Cast Alloys >10 % Si	3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, -GAlSi12CuNiMg	≤ 600		30	82	83	30	83	82
Magnesium Alloys	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		100	83	84	100	84	83
Copper, Low-Alloyed	2.0070 SE-Cu, 2.1020 CuSn6, 2.1020 CuSn6, 2.1096 G-CuSn5ZnPb	≤ 450		60	81	82	60	82	81
Brass, Short-Chipping	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2	≤ 600		80	82	82	80	82	82
Brass, Long-Chipping	2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0,5	≤ 600		50	82	82	50	82	82
Bronze, Short-Chipping	2.1090 CuSn7ZnPb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn	≤ 600		30	83	84	30	84	83
	2.0790 CuNi18Zn19Pb	> 600 -850		26	83	82	26	84	83
Bronze, Long-Chipping	2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10	≤ 850		24	83	84	24	84	83
	2.0980 CuAl11Ni, 2.1247 CuBe2	850-1000		20	83	84	20	84	83
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren		-	30	81	82	30	82	81
Thermoplastics	Plexiglas, Hostalen,Novodur, Makralon		-	40	82	82	40	82	82
Kevlar	Kevlar		-	70	81	82	70	82	81
Glass, carbon Concentr. Plastics	GFK/CFK		-	40	82	82	40	82	82

○ Bright ● Steam Tempered ◓ Nitrided Lands (S) S-Coated (TiN) (A) A-Coated (TiAlN) (C) C-Coated (TiCN) (F) F-Coated (FIRE)