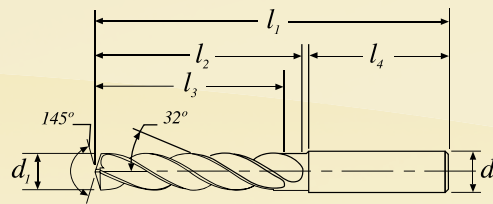


**Hi-PerCarb High Performance
Double Margin Drills**

Tolerances (mm)		
Diameter	d_1	d_2
≤ 3	+0,0025/+0,0127	h6
> 3 – 6	+0,0050/+0,0152	h6
> 6 – 10	+0,0050/+0,0200	h6
> 10 – 18	+0,0076/+0,0254	h6
> 18 – 30	+0,0076/+0,0279	h6



Cutting Diameter	Decimal Equivalent	Tap Size Reference Only	Shank Diameter	Overall Length	Flute Length	Min. Cleared Length	Min. Shank Length	Ti-NAMITE-A (AITiN) EDP No.
d_1 mm			d_2 mm	l_1 mm	l_2 mm	l_3 mm	l_4 mm	
3	0.1181	–	6	62	20	17	36	63155
3,2	0.1260	–	6	62	20	17	36	63156
3,3	0.1299	M4 (4 x 0,7)	6	62	20	17	36	63157
3,4	0.1339	–	6	62	20	17	36	63158
3,5	0.1378	–	6	62	20	17	36	63159
3,6	0.1417	–	6	62	20	17	36	63160
3,7	0.1457	M4,5 (4,5 x 0,75)	6	62	20	17	36	63161
4	0.1575	–	6	66	24	21	36	63162
4,2	0.1654	M5 (5 x 0,8)	6	66	24	21	36	63163
4,3	0.1693	–	6	66	24	21	36	63164
4,5	0.1772	–	6	66	24	21	36	63165
4,6	0.1811	–	6	66	24	21	36	63166
4,8	0.1890	–	6	66	28	24	36	63167
5	0.1969	M6 (6 x 1)	6	66	28	24	36	63168
5,25	0.2067	–	6	66	28	24	36	63169
5,3	0.2087	–	6	66	28	24	36	63170
5,5	0.2165	–	6	66	28	24	36	63171
5,8	0.2283	–	6	66	28	24	36	63172
6	0.2362	M7 (7 x 1)	6	66	28	24	36	63173
6,25	0.2461	–	8	79	34	28	36	63174
6,4	0.2520	–	8	79	34	28	36	63175
6,5	0.2559	–	8	79	34	28	36	63213
6,8	0.2677	M8 (8 x 1,25)	8	79	34	28	36	63176
7	0.2756	8 x 1	8	79	34	28	36	63177
7,25	0.2854	–	8	79	41	34	36	63178
7,5	0.2953	–	8	79	41	34	36	63179
7,8	0.3071	M9 (9 x 1,25)	8	79	41	34	36	63180
8	0.3150	–	8	79	41	34	36	63181
8,4	0.3307	–	10	89	47	40	40	63182
8,5	0.3346	M10 (10 x 1,5)	10	89	47	40	40	63183
8,8	0.3465	10 x 1,25	10	89	47	40	40	63184
9	0.3543	–	10	89	47	40	40	63185
9,25	0.3642	–	10	89	47	40	40	63186
9,5	0.3740	11 x 1,5	10	89	47	40	40	63187
10	0.3937	–	10	89	47	40	40	63188
10,2	0.4015	M12 (12 x 1,75)	12	102	55	45	45	63189

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Metric: shank to DIN 6535 HA (6535 HB quoted on request)

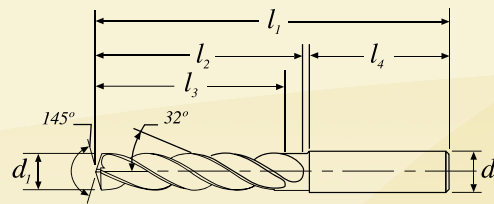
Métricas: mango según DIN 6535 HA (se cotiza a pedido 6535 HB)

Métrique : Tige conforme à la norme DIN 6535 HA (prix 6535 HB établi sur demande)



Hi-PerCarb High Performance Double Margin Drills

Metric Series **135M**



Diameter	Tolerances (mm)	
	d ₁	d ₂
≤ 3	+0,0025/+0,0127	h6
> 3 – 6	+0,0050/+0,0152	h6
> 6 – 10	+0,0050/+0,0200	h6
> 10 – 18	+0,0076/+0,0254	h6
> 18 – 30	+0,0076/+0,0279	h6



Series 135M



Hi-PerCarb High Performance
Double Margin Drills

Serie 135M



Brocas Hi-PerCarb de alto
rendimiento de doble margen

Série 135M



Forets double marge haute
performance Hi-PerCarb

Cutting Diameter d ₁ mm	Decimal Equivalent	Tap Size Reference Only	Shank Diameter d ₂ mm	Overall Length l ₁ mm	Flute Length l ₂ mm	Min.Cleared Length l ₃ mm	Min.Shank Length l ₄ mm	Ti-NAMITE-A (AlTiN) EDP No.
10,5	0.4134	–	12	102	55	45	45	63190
10,8	0.4251	12 x 1,25	12	102	55	45	45	63191
11	0.4331	–	12	102	55	45	45	63192
11,25	0.4429	–	12	102	55	45	45	63193
11,5	0.4528	–	12	102	55	45	45	63194
12	0.4724	M14 (14 x 2)	12	102	55	45	45	63195
12,5	0.4921	14 x 1,5	14	107	60	49	45	63196
12,8	0.5039	–	14	107	60	49	45	63197
13	0.5118	–	14	107	60	49	45	63198
13,5	0.5315	–	14	107	60	49	45	63199
14	0.5512	M16 (16 x 2)	14	107	60	49	45	63200
14,5	0.5709	16 x 1,5	16	115	65	51	48	63201
15	0.5906	–	16	115	65	51	48	63202
15,5	0.6102	M18 (18 x 2,5)	16	115	65	51	48	63203
16	0.6299	–	16	115	65	51	48	63204
16,5	0.6496	18 x 1,5	18	123	73	58	48	63205
17	0.6693	–	18	123	73	58	48	63206
17,5	0.6890	M20 (20 x 2,5)	18	123	73	58	48	63207
18	0.7087	–	18	123	73	58	48	63208
18,5	0.7283	20 x 1,5	20	131	79	63	50	63209
19	0.7480	–	20	131	79	63	50	63210
19,5	0.7677	M22 (22 x 2,5)	20	131	79	63	50	63211
20	0.7874	–	20	131	79	63	50	63212

Metric: shank to DIN 6535 HA (6535 HB quoted on request)

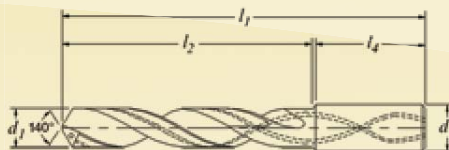
Métricas: mango según DIN 6535 HA (se cotiza a pedido 6535 HB)

Métrique : Tige conforme à la norme DIN 6535 HA (prix 6535 HB établi sur demande)



Tolerances (mm)

Diameter	d ₁ (m7)	d ₂
≤ 3	+0,002/+0,012	h6
> 3 – 6	+0,004/+0,016	h6
> 6 – 10	+0,006/+0,021	h6
> 10 – 18	+0,007/+0,025	h6



Cutting Diameter d ₁ mm	Decimal Equivalent	Tap Size Reference Only	Tap Size Reference Only	Shank Diameter d ₂ mm	Overall Length l ₁ mm	Flute Length l ₂ mm	Shank Length l ₄ mm	Ti-NAMITE-A (AlTiN) EDP No.
3	.1181	–	–	6	75	37,5	36	63575
3,1	.1220	–	–	6	75	37,5	36	63576
3,2	.1260	–	M3.5 X.35	6	75	37,5	36	63577
3,3	.1299	–	M4	6	75	37,5	36	63578
3,4	.1339	#8-32	–	6	75	37,5	36	63579
3,5	.1378	#8-36	M4 X .5	6	75	37,5	36	63580
3,6	.1417	–	M4 X .35	6	75	37,5	36	63581
3,7	.1457	–	M4.5	6	75	37,5	36	63582
3,8	.1496	#10-24	–	6	75	37,5	36	63583
3,9	.1535	–	–	6	75	37,5	36	63584
4	.1575	–	M4.5 X .5	6	75	37,5	36	63585
4,1	.1614	#10-32	–	6	75	37,5	36	63586
4,2	.1654	–	M5 / M5 X .75	6	75	37,5	36	63587
4,3	.1693	–	–	6	85	45	36	63588
4,4	.1732	#12-24	–	6	85	45	36	63589
4,5	.1772	–	M5 X .5	6	85	45	36	63590
4,6	.1811	#12-28	–	6	85	45	36	63591
4,7	.1850	–	–	6	85	45	36	63592
4,8	.1890	–	–	6	90	50	36	63593
4,9	.1929	–	–	6	90	50	36	63594
5	.1969	–	M6	6	90	50	36	63595
5,1	.2008	1/4-20	–	6	90	50	36	63596
5,2	.2047	–	M6 X .75	6	90	50	36	63597
5,3	.2087	–	–	6	90	50	36	63598
5,4	.2126	–	–	6	97	57	36	63599
5,5	.2165	1/4-28	M6 X .5	6	97	57	36	63600
5,6	.2205	–	–	6	97	57	36	63601
5,7	.2244	–	–	6	97	57	36	63602
5,8	.2283	–	–	6	97	57	36	63603
5,9	.2323	–	–	6	97	57	36	63604
6	.2362	–	M7	6	97	57	36	63605
6,1	.2402	–	–	8	106	66	36	63606
6,2	.2441	–	M7 X .75	8	106	66	36	63607
6,3	.2480	–	–	8	106	66	36	63608
6,4	.2520	–	–	8	106	66	36	63609
6,5	.2559	–	–	8	106	66	36	63610
6,6	.2598	5/16-18	–	8	106	66	36	63611



Series 140M

ICe-Carb Internal Coolant Drills for
Depths up to 7XD

Serie 140M

Brocas ICe-Carb con refrigerante
interno para profundidades de hasta
7 x D

Série 140M

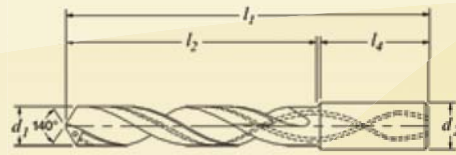
Forets ICe-Carb à refroidissement
interne pour profondeurs jusqu'à
7XD



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ICe-Carb Internal Coolant Drills for Depths up to 7XD

Metric Series **140M**



Diameter	Tolerances (mm)	
	d ₁ (m7)	d ₂
≤ 3	+0,002/+0,012	h6
> 3 – 6	+0,004/+0,016	h6
> 6 – 10	+0,006/+0,021	h6
> 10 – 18	+0,007/+0,025	h6

Cutting Diameter d ₁ mm	Decimal Equivalent	Tap Size Reference Only	Tap Size Reference Only	Shank Diameter d ₂ mm	Overall Length l ₁ mm	Flute Length l ₂ mm	Shank Length l ₄ mm	Ti-NAMITE-A (AITiN) EDP No.
6,7	.2638	–	–	8	106	66	36	63612
6,8	.2677	–	M8	8	106	66	36	63613
6,9	.2717	5/16-24	–	8	116	76	36	63614
7	.2756	–	M8 X 1	8	116	76	36	63615
7,1	.2795	–	–	8	116	76	36	63616
7,2	.2835	–	M8 X .75	8	116	76	36	63617
7,3	.2874	–	–	8	116	76	36	63618
7,4	.2913	–	–	8	116	76	36	63619
7,5	.2953	–	M8 X .5	8	116	76	36	63620
7,6	.2992	–	–	8	116	76	36	63621
7,7	.3031	–	–	8	116	76	36	63622
7,8	.3071	–	M9	8	116	76	36	63623
7,9	.3110	–	–	8	116	76	36	63624
8	.3150	3/8-16	M9 X 1	8	116	76	36	63625
8,1	.3189	–	–	10	131	87	40	63626
8,2	.3228	–	–	10	131	87	40	63627
8,3	.3248	–	–	10	131	87	40	63628
8,4	.3307	–	–	10	131	87	40	63629
8,5	.3346	3/8-24	M10	10	131	87	40	63630
8,6	.3386	–	–	10	131	87	40	63631
8,7	.3425	–	–	10	131	87	40	63632
8,8	.3465	–	M10 X 1.25	10	131	87	40	63633
8,9	.3504	–	–	10	131	87	40	63634
9	.3543	–	M10 X 1	10	131	87	40	63635
9,1	.3583	–	–	10	139	95	40	63636
9,2	.3622	–	M10 X .75	10	139	95	40	63637
9,3	.3661	7/16-14	–	10	139	95	40	63638
9,4	.3701	–	–	10	139	95	40	63639
9,5	.3740	–	M11/M10X.5	10	139	95	40	63640
9,6	.3780	–	–	10	139	95	40	63641
9,7	.3819	–	–	10	139	95	40	63642
9,8	.3858	–	–	10	139	95	40	63643
9,9	.3898	7/16-20	–	10	139	95	40	63644
10	.3937	–	–	10	139	95	40	63645
10,1	.3976	–	–	12	155	106	45	63646
10,2	.4016	–	M12	12	155	106	45	63647
10,3	.4055	–	–	12	155	106	45	63648
10,4	.4094	–	–	12	155	106	45	63649

Series 140M



ICe-Carb Internal Coolant Drills for
Depths up to 7XD

Serie 140M



Brocas ICe-Carb con refrigerante
interno para profundidades de hasta
7XD

Série 140M



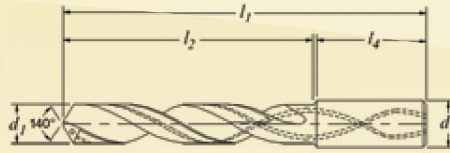
Forets ICe-Carb à refroidissement
interne pour profondeurs jusqu'à
7XD

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ICe-Carb Internal Coolant Drills for Depths up to 7XD



Diameter	Tolerances (mm)	
	d ₁ (m7)	d ₂
≤ 3	+0,002/+0,012	h6
> 3 – 6	+0,004/+0,016	h6
> 6 – 10	+0,006/+0,021	h6
> 10 – 18	+0,007/+0,025	h6

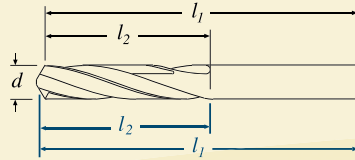


Cutting Diameter d ₁ mm	Decimal Equivalent	Tap Size Reference Only	Tap Size Reference Only	Shank Diameter d ₂ mm	Overall Length l ₁ mm	Flute Length l ₂ mm	Shank Length l ₄ mm	Ti-NAMITE-A (AlTiN) EDP No.
10,5	.4134	–	M12 X 1.5	12	155	106	45	63650
10,6	.4173	–	–	12	155	106	45	63651
10,7	.4213	1/2-13	–	12	155	106	45	63652
10,8	.4252	–	M12 X 1.25	12	155	106	45	63653
10,9	.4291	–	–	12	155	106	45	63654
11	.4331	–	M12 X 1	12	155	106	45	63655
11,1	.4370	–	–	12	163	114	45	63656
11,2	.4409	–	–	12	163	114	45	63657
11,3	.4449	–	–	12	163	114	45	63658
11,4	.4488	–	–	12	163	114	45	63659
11,5	.4528	1/2-20	M12 X .5	12	163	114	45	63660
11,6	.4567	–	–	12	163	114	45	63661
11,7	.4606	–	–	12	163	114	45	63662
11,8	.4646	–	–	12	163	114	45	63663
11,9	.4685	–	–	12	163	114	45	63664
12	.4724	–	M14	12	163	114	45	63665
12,5	.4921	–	M14 X 1.5	14	182	133	45	63666
12,8	.5039	–	M14 X 1.25	14	182	133	45	63667
13	.5118	9/16-18	M14 X 1	14	182	133	45	63668
13,5	.5315	5/8-11	–	14	182	133	45	63669
13,8	.5433	–	–	14	182	133	45	63670
14	.5512	–	M16	14	182	133	45	63671
14,5	.5709	5/8-18	M16 X 1.5	16	204	152	48	63672
14,8	.5827	–	–	16	204	152	48	63673
15	.5906	–	M16 X 1	16	204	152	48	63674
15,5	.6102	–	M18	16	204	152	48	63675
15,8	.6220	–	–	16	204	152	48	63676
16	.6299	–	–	16	204	152	48	63677



2 Flute – Single End – Jobber – Fast Spiral

Fractional & Metric† **101, 125**



TOLERANCES
d=+.0000-.0005



101

Size d	Decimal Equiv.	Flute Length l ₂	Overall Length l ₁	Uncoated		Ti-NAMITE-A (AlTiN)	
				Reg. Spiral Series 101 EDP No.	Fast Spiral Series 125 EDP No.	Series 101 EDP No.	Series 125 EDP No.
80	.0135	3/16	3/4	51080	52080	57076	57214
79	.0145	3/16	3/4	51079	52079	57077	57215
1/64	.0156	3/16	3/4	51101	–	57078	–
78	.0160	3/16	3/4	51078	52078	57079	57216
77	.0180	3/16	3/4	51077	52077	57080	57217
76	.0200	1/4	7/8	51076	52076	57081	57218
75	.0210	1/4	7/8	51075	52075	57082	57219
74	.0225	1/4	7/8	51074	52074	57083	57220
73	.0240	1/4	7/8	51073	52073	57084	57221
72	.0250	5/16	1	51072	52072	57085	57222
71	.0260	5/16	1	51071	52071	57086	57223
0.7 mm	.0276	12 mm	31 mm	61001	–	68268	–
70	.0280	1/2	1-1/4	51070	52070	57087	57224
69	.0292	1/2	1-1/4	51069	52069	57088	57225
68	.0310	1/2	1-1/4	51068	52068	57089	57226
1/32	.0312	1/2	1-1/4	51102	52102	57090	57227
0.8 mm	.0315	12 mm	31 mm	61003	–	68269	–
67	.0320	1/2	1-1/4	51067	52067	57091	57228
66	.0330	1/2	1-1/4	51066	52066	57092	57229
65	.0350	5/8	1-3/8	51065	52065	57093	57230
0.9 mm	.0354	16 mm	35 mm	61005	–	68270	–
64	.0360	5/8	1-3/8	51064	52064	57094	57231
63	.0370	5/8	1-3/8	51063	52063	57095	57232
62	.0380	5/8	1-3/8	51062	52062	57096	57233
61	.0390	5/8	1-3/8	51061	52061	57097	57234
1.0 mm	.0394	12 mm	34 mm	61007	–	68271	–
60	.0400	3/4	1-1/2	51060	52060	57098	57235
59	.0410	3/4	1-1/2	51059	52059	57099	57236
58	.0420	3/4	1-1/2	51058	52058	57100	57237
57	.0430	3/4	1-1/2	51057	52057	57101	57238
1.1 mm	.0433	14 mm	36 mm	61052	–	68294	–
56	.0465	3/4	1-1/2	51056	52056	57102	57239
3/64	.0469	3/4	1-1/2	51103	52103	57103	57240
1.2 mm	.0472	16 mm	38 mm	61053	–	68295	–
1.3 mm	.0512	16 mm	38 mm	61054	–	68296	–
55	.0520	3/4	1-1/2	51055	52055	57104	57241
54	.0550	3/4	1-1/2	51054	52054	57105	57242
1.4 mm	.0551	18 mm	40 mm	61055	–	68297	–
1.5 mm	.0591	18 mm	40 mm	61009	–	68272	–
53	.0595	3/4	1-1/2	51053	52053	57106	57243
*1/16	.0625	3/4	1-1/2	51104	52104	57107	57244
1.6 mm	.0630	20 mm	43 mm	61056	–	68298	–
52	.0635	3/4	1-1/2	51052	52052	57108	57245
1.7 mm	.0669	22 mm	46 mm	61057	–	68299	–
51	.0670	3/4	1-1/2	51051	52051	57109	57246
50	.0700	7/8	1-3/4	51050	52050	57110	57247
1.8 mm	.0709	22 mm	46 mm	61058	–	68300	–
49	.0730	7/8	1-3/4	51049	52049	57111	57248
1.9 mm	.0748	22 mm	46 mm	61059	–	68301	–
48	.0760	7/8	1-3/4	51048	52048	57112	57249
5/64	.0781	7/8	1-3/4	51105	52105	57113	57250
47	.0785	7/8	1-3/4	51047	52047	57114	57251
2.0 mm	.0787	24 mm	49 mm	61011	–	68273	–
46	.0810	7/8	1-3/4	51046	52046	57115	57252
45	.0820	7/8	1-3/4	51045	52045	57116	57253
2.1 mm	.0827	24 mm	49 mm	61060	–	68302	–
44	.0860	1	2	51044	52044	57117	57254
2.2 mm	.0866	27 mm	53 mm	61061	–	68303	–
43	.0890	1	2	51043	52043	57118	57255
2.3 mm	.0906	27 mm	53 mm	61062	–	68304	–

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101 Regular Spiral Drills

2 Flute – 20° Spiral

125 – Fast Spiral Drills

2 Flute – 35° Spiral

Micrograin Solid Carbide

Standard Jobber Lengths, 118° Four

Facet Drill Point

† 101 Metric – Technical Recommendations: 281

Brocas de espiral regular 101

2 Filos – Hélice 20°

Brocas de espiral rápido 125

2 Filos – Hélice 35°

Carburo sólido con micrograno

Longitudes standard, ángulo de punta

118°, afilado frontal a 4 facetas

† 101 Métrica – Recomendaciones Técnicas: 281

101 Forets hélicoïdaux réguliers

2 Dents – Hélice, 20°

125 Forets hélicoïdaux rapides

2 Dents – Hélice, 35°

Carbure monobloc, micrograin

Série courte standard, pointe quatre

faces 118°

† 101 Métrique – Préconisations : 281

Fractional & Metric[†] 101, 125

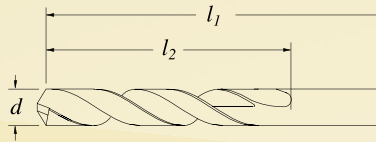
2 Flute – Single End – Jobber – Fast Spiral

TOLERANCES

d=+.0000-.0005



125



Size d	Decimal Equiv.	Flute Length l ₂	Overall Length l ₁	Uncoated		Ti-NAMITE-A (AlTiN)	
				Reg. Spiral Series 101 EDP No.	Fast Spiral Series 125 EDP No.	Series 101 EDP No.	Series 125 EDP No.
42	.0935	1	2	51042	52042	57119	57256
3/32	.0938	1	2	51106	52106	57120	57257
2.4 mm	.0945	30 mm	57 mm	61063	–	68305	–
41	.0960	1	2	51041	52041	57121	57258
40	.0980	1	2	51040	52040	57122	57259
2.5 mm	.0984	30 mm	57 mm	61013	–	68274	–
39	.0995	1-1/4	2-1/4	51039	52039	57123	57260
38	.1015	1-1/4	2-1/4	51038	52038	57124	57261
2.6 mm	.1024	30 mm	57 mm	61064	–	68306	–
37	.1040	1-1/4	2-1/4	51037	52037	57125	57262
2.7 mm	.1063	33 mm	61 mm	61065	–	68307	–
36	.1065	1-1/4	2-1/4	51036	52036	57126	57263
7/64	.1094	1-1/4	2-1/4	51107	52107	57127	57264
35	.1100	1-1/4	2-1/4	51035	52035	57128	57265
2.8 mm	.1102	33 mm	61 mm	61066	–	68308	–
34	.1110	1-1/4	2-1/4	51034	52034	57129	57266
33	.1130	1-1/4	2-1/4	51033	52033	57130	57267
2.9 mm	.1142	33 mm	61 mm	61067	–	68309	–
32	.1160	1-1/4	2-1/4	51032	52032	57131	57268
3.0 mm	.1181	33 mm	61 mm	61015	–	68275	–
31	.1200	1-1/4	2-1/4	51031	52031	57132	57269
3.1 mm	.1220	36 mm	65 mm	61068	–	68310	–
*1/8	.1250	1-1/4	2-1/4	51108	52108	57133	57270
3.2 mm	.1260	36 mm	65 mm	61069	–	68311	–
30	.1285	1-1/4	2-1/4	51030	52030	57134	57271
3.3 mm	.1299	36 mm	65 mm	61070	–	68312	–
3.4 mm	.1339	39 mm	70 mm	61071	–	68313	–
29	.1360	1-3/8	2-1/4	51029	52029	57135	57272
3.5 mm	.1378	39 mm	70 mm	61017	–	68276	–
28	.1405	1-3/8	2-1/2	51028	52028	57136	57273
9/64	.1406	1-3/8	2-1/2	51109	52109	57137	57274
3.6 mm	.1417	39 mm	70 mm	61072	–	68314	–
27	.1440	1-3/8	2-1/2	51027	52027	57138	57275
3.7 mm	.1457	39 mm	70 mm	61073	–	68315	–
26	.1470	1-3/8	2-1/2	51026	52026	57139	57276
25	.1495	1-3/8	2-1/2	51025	52025	57140	57277
3.8 mm	.1496	43 mm	75 mm	61074	–	68316	–
24	.1520	1-3/8	2-1/2	51024	52024	57141	57278
3.9 mm	.1535	43 mm	75 mm	61075	–	68317	–
23	.1540	1-3/8	2-1/2	51023	52023	57142	57279
5/32	.1562	1-3/8	2-1/2	51110	52110	57143	57280
22	.1570	1-3/8	2-1/2	51022	52022	57144	57281
4.0 mm	.1575	43 mm	75 mm	61019	–	68277	–
21	.1590	1-3/8	2-1/2	51021	52021	57145	57282
20	.1610	1-3/8	2-1/2	51020	52020	57146	57283
4.1 mm	.1614	43 mm	75 mm	61076	–	68318	–
4.2 mm	.1654	43 mm	75 mm	61077	–	68319	–
19	.1660	1-5/8	2-3/4	51019	52019	57147	57284
4.3 mm	.1693	47 mm	80 mm	61078	–	68320	–
18	.1695	1-5/8	2-3/4	51018	52018	57148	57285
11/64	.1719	1-5/8	2-3/4	51111	52111	57149	57286
17	.1730	1-5/8	2-3/4	51017	52017	57150	57287
4.4 mm	.1732	47 mm	80 mm	61079	–	68321	–
16	.1770	1-5/8	2-3/4	51016	52016	57151	57288
4.5 mm	.1772	47 mm	80 mm	61021	–	68278	–
15	.1800	1-5/8	2-3/4	51015	52015	57152	57289
4.6 mm	.1811	47 mm	80 mm	61080	–	68322	–
14	.1820	1-5/8	2-3/4	51014	52014	57153	57290
4.7 mm	.1850	47 mm	80 mm	61081	–	68323	–
13	.1850	1-5/8	2-3/4	51013	52013	57154	57291
*3/16	.1875	1-5/8	2-3/4	51112	52112	57155	57292
4.8 mm	.1890	52 mm	86 mm	61082	–	68324	–

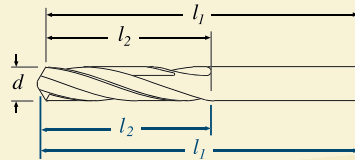
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2 Flute – Single End – Jobber – Fast Spiral



TOLERANCES

d=+.0000-.0005



101

Fractional & Metric† **101, 125**

101 Regular Spiral Drills



2 Flute – 20° Spiral

125 – Fast Spiral Drills

2 Flute – 35° Spiral

Micrograin Solid Carbide

Standard Jobber Lengths, 118° Four

Facet Drill Point

† 101 Metric – Technical Recommendations: 281

Brocas de espiral regular 101



2 Filos – Hélice 20°

Brocas de espiral rápido 125

2 Filos – Hélice 35°

Carburo sólido con micrograno

Longitudes standard, ángulo de punta

118°, afilado frontal a 4 facetas

† 101 Métrica – Recomendaciones Técnicas: 281

101 Forets hélicoïdaux réguliers



2 Dents – Hélice, 20°

125 Forets hélicoïdaux rapides

2 Dents – Hélice, 35°

Carbure monobloc, micrograin

Série courte standard, pointe quatre

faces 118°

† 101 Métrique – Préconisations: 281

Size d	Decimal Equiv.	Flute Length l ₂	Overall Length l ₁	Uncoated		Ti-NAMITE-A (AlTiN)	
				Reg. Spiral Series 101 EDP No.	Fast Spiral Series 125 EDP No.	Series 101 EDP No.	Series 125 EDP No.
12	.1890	1-5/8	2-3/4	51012	52012	57156	57293
11	.1910	1-5/8	2-3/4	51011	52011	57157	57294
4.9 mm	.1929	52 mm	86 mm	61083	–	68325	–
10	.1935	1-5/8	2-3/4	51010	52010	57158	57295
9	.1960	1-3/4	3	51009	52009	57159	57296
5.0 mm	.1969	52 mm	86 mm	61023	–	68279	–
8	.1990	1-3/4	3	51008	52008	57160	57297
5.1 mm	.2008	52 mm	86 mm	61084	–	68326	–
7	.2010	1-3/4	3	51007	52007	57161	57298
13/64	.2031	1-3/4	3	51113	52113	57162	57299
6	.2040	1-3/4	3	51006	52006	57163	57300
5.2 mm	.2047	52 mm	86 mm	61085	–	68327	–
5	.2055	1-3/4	3	51005	52005	57164	57301
5.3 mm	.2087	52 mm	86 mm	61086	–	68328	–
4	.2090	1-3/4	3	51004	52004	57165	57302
5.4 mm	.2126	57 mm	93 mm	61087	–	68329	–
3	.2130	1-3/4	3	51003	52003	57166	57303
5.5 mm	.2165	57 mm	93 mm	61025	–	68280	–
7/32	.2188	1-3/4	3	51114	52114	57167	57304
5.6 mm	.2205	57 mm	93 mm	61088	–	68330	–
2	.2210	1-3/4	3	51002	52002	57168	57305
5.7 mm	.2244	57 mm	93 mm	61089	–	68331	–
1	.2280	1-3/4	3	51001	52001	57169	57306
5.8 mm	.2283	57 mm	93 mm	61090	–	68332	–
5.9 mm	.2323	57 mm	93 mm	61091	–	68333	–
A	.2340	2	3-1/4	51201	52201	57170	57307
15/64	.2344	2	3-1/4	51115	52115	57171	57308
6.0 mm	.2362	57 mm	93 mm	61027	–	68281	–
B	.2380	2	3-1/4	51202	52202	57172	57309
6.1 mm	.2402	63 mm	101 mm	61092	–	68334	–
C	.2420	2	3-1/4	51203	52203	57173	57310
6.2 mm	.2441	63 mm	101 mm	61093	–	68335	–
D	.2460	2	3-1/4	51204	52204	57174	57311
6.3 mm	.2480	63 mm	101 mm	61094	–	68336	–
*E	.2500	2	3-1/4	51205	52205	57175	57312
1/4	.2500	2	3-1/4	51116	52116	57176	57313
6.4 mm	.2520	63 mm	101 mm	61095	–	68337	–
6.5 mm	.2559	63 mm	101 mm	61029	–	68282	–
F	.2570	2	3-1/4	51206	52206	57177	57314
6.6 mm	.2598	63 mm	101 mm	61096	–	68338	–
G	.2610	2-1/8	3-1/2	51207	52207	57178	57315
6.7 mm	.2638	63 mm	101 mm	61097	–	68339	–
17/64	.2656	2-1/8	3-1/2	51117	52117	57179	57316
H	.2660	2-1/8	3-1/2	51208	52208	57180	57317
6.8 mm	.2677	69 mm	109 mm	61098	–	68340	–
6.9 mm	.2717	69 mm	109 mm	61099	–	68341	–
I	.2720	2-1/8	3-1/2	51209	52209	57181	57318
7.0 mm	.2756	69 mm	109 mm	61031	–	68283	–
J	.2770	2-1/8	3-1/2	51210	52210	57182	57319
7.1 mm	.2795	69 mm	109 mm	61100	–	68342	–
K	.2810	2-1/8	3-1/2	51211	52211	57183	57320
9/32	.2812	2-1/8	3-1/2	51118	52118	57184	57321
7.2 mm	.2835	69 mm	109 mm	61101	–	68343	–
7.3 mm	.2874	69 mm	109 mm	61102	–	68344	–
L	.2900	2-1/8	3-1/2	51212	52212	57185	57322
7.4 mm	.2913	69 mm	109 mm	61103	–	68345	–
M	.2950	2-3/8	3-3/4	51213	52213	57186	57323
7.5 mm	.2953	69 mm	109 mm	61033	–	68284	–
19/64	.2969	2-3/8	3-3/4	51119	52119	57187	57324
7.6 mm	.2992	75 mm	117 mm	61104	–	68346	–

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Fractional & Metric† 101, 125

2 Flute – Single End – Jobber – Fast Spiral



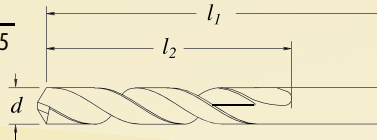
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125

TOLERANCES

$$d = +.0000 - .0005$$



Size d	Decimal Equiv.	Flute Length l ₂	Overall Length l ₁	Uncoated		Ti-NAMITE-A (AlTiN)	
				Reg. Spiral Series 101 EDP No.	Fast Spiral Series 125 EDP No.	Series 101 EDP No.	Series 125 EDP No.
N	.3020	2-3/8	3-3/4	51214	52214	57188	57325
7.7 mm	.3031	75 mm	117 mm	61105	—	68347	—
7.8 mm	.3071	75 mm	117 mm	61106	—	68348	—
7.9 mm	.3110	75 mm	117 mm	61107	—	68349	—
*5/16	.3125	2-3/8	3-3/4	51120	52120	57189	57326
8.0 mm	.3150	75 mm	117 mm	61035	—	68285	—
O	.3160	2-3/8	3-3/4	51215	52215	57190	57327
8.1 mm	.3189	75 mm	117 mm	61108	—	68350	—
8.2 mm	.3228	75 mm	117 mm	61109	—	68351	—
P	.3230	2-3/8	3-3/4	51216	52216	57191	57328
8.3 mm	.3268	75 mm	117 mm	61110	—	68352	—
21/64	.3281	2-1/2	4	51121	52121	57192	57329
8.4 mm	.3307	75 mm	117 mm	61111	—	68353	—
Q	.3320	2-1/2	4	51217	52217	57193	57330
8.5 mm	.3346	75 mm	117 mm	61037	—	68286	—
8.6 mm	.3386	81 mm	125 mm	61112	—	68354	—
R	.3390	2-1/2	4	51218	52218	57194	57331
8.7 mm	.3425	81 mm	125 mm	61113	—	68355	—
11/32	.3438	2-1/2	4	51122	52122	57195	57332
8.8 mm	.3465	81 mm	125 mm	61114	—	68356	—
S	.3480	2-1/2	4	51219	52219	57196	57333
8.9 mm	.3504	81 mm	125 mm	61115	—	68357	—
9.0 mm	.3543	81 mm	125 mm	61039	—	68287	—
T	.3580	2-3/4	4-1/4	51220	52220	57197	57334
9.1 mm	.3583	81 mm	125 mm	61116	—	68358	—
23/64	.3594	2-3/4	4-1/4	51123	52123	57198	57335
9.2 mm	.3622	81 mm	125 mm	61117	—	68359	—
9.3 mm	.3661	81 mm	125 mm	61118	—	68360	—
U	.3680	2-3/4	4-1/4	51221	52221	57199	57336
9.4 mm	.3701	81 mm	125 mm	61119	—	68361	—
9.5 mm	.3740	81 mm	125 mm	61041	—	68288	—
*3/8	.3750	2-3/4	4-1/4	51124	52124	57200	57337
V	.3770	2-3/4	4-1/4	51222	52222	57201	57338
9.6 mm	.3780	87 mm	133 mm	61120	—	68362	—
9.7 mm	.3819	87 mm	133 mm	61121	—	68363	—
9.8 mm	.3858	87 mm	133 mm	61122	—	68364	—
W	.3860	2-7/8	4-1/2	51223	52223	57202	57339
9.9 mm	.3898	87 mm	133 mm	61123	—	68365	—
25/64	.3906	2-7/8	4-1/2	51125	52125	57203	57340
10.0 mm	.3937	87 mm	133 mm	61043	—	68289	—
X	.3970	2-7/8	4-1/2	51224	52224	57204	57341
10.2 mm	.4015	87 mm	133 mm	61124	—	68366	—
Y	.4040	2-7/8	4-1/2	51225	52225	57205	57342
13/32	.4062	2-7/8	4-1/2	51126	52126	57206	57343
Z	.4130	2-7/8	4-1/2	51226	52226	57207	57344
10.5 mm	.4134	87 mm	133 mm	61045	—	68290	—
27/64	.4219	2-7/8	4-1/2	51127	52127	57208	57345
11.0 mm	.4331	94 mm	142 mm	61047	—	68291	—
7/16	.4375	2-7/8	4-1/2	51128	52128	57209	57346
11.5 mm	.4528	94 mm	142 mm	61049	—	68292	—
29/64	.4531	3	4-3/4	51129	52129	57210	57347
15/32	.4688	3	4-3/4	51130	52130	57211	57348
12.0 mm	.4724	101 mm	151 mm	61051	—	68293	—
31/64	.4844	3	4-3/4	51131	52131	57212	57349
1/2	.5000	3	4-3/4	51132	52132	57213	57350
				61175	—	57351	—
				—	62175	—	57352

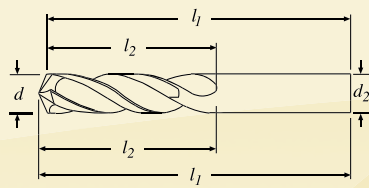
* Series 101 Set
* Series 125 Set



3 Flute – Single End

Fractional
& Metric

103



TOLERANCES

$d = +.0000 - .0005$

$d_2 = h_6$



Series 103 – 3 Flute Drills

Micrograin Solid Carbide
For Cast Iron, High Silicon
Aluminum, Alloy Steel and
Nonferrous Materials 150° Point
Angle, 30° Spiral – Drills cast iron,
high silicon aluminum, alloy steel
and nonferrous materials – Greater
hole dimensional accuracy at higher
production rates – Reduces drill
deflection compared to HSS, Cobalt
and other carbide drills

Serie 103 – Brocas de 3 filos

Carburo sólido con micrograno
Para hierro fundido, aluminio con
alto contenido de silicón, aleaciones
de acero y materiales no ferrosos
Ángulo punta 150°, hélice 30° –
Taladro de fundición, aluminio con
alto contenido de silicio, aceros
aleados y materiales no ferrosos –
Mayor precisión de agujero a las más
altas proporciones de producción
– Reducción de la desviación de la
broca en comparación con las brocas
de HSS, de cobalto y otras brocas de
carburo sólido.

Size d	Decimal Equiv.	Flute Length l ₂	Overall Length l ₁	Uncoated EDP No.	Ti-NAMITE-A (AlTiN) EDP No.
36	.1065	1-1/4	2-1/4	53036	58011
7/64	.1094	1-1/4	2-1/4	53107	58012
35	.1100	1-1/4	2-1/4	53035	58013
34	.1110	1-1/4	2-1/4	53034	58014
33	.1130	1-1/4	2-1/4	53033	58015
32	.1160	1-1/4	2-1/4	53032	58016
3 mm	.1181	16 mm	46 mm	63000	68965
31	.1200	1-1/4	2-1/4	53031	58017
3.1 mm	.1220	18 mm	49 mm	63044	68966
1/8	.1250	1-1/4	2-1/4	53108	58018
3.2 mm	.1260	18 mm	49 mm	63045	68967
30	.1285	1-1/4	2-1/4	53030	58019
3.3 mm	.1299	18 mm	49 mm	63001	68968
3.4 mm	.1339	20 mm	52 mm	63046	68969
29	.1360	1-3/8	2-1/2	53029	58020
3.5 mm	.1378	20 mm	52 mm	63002	68970
28	.1405	1-3/8	2-1/2	53028	58021
9/64	.1406	1-3/8	2-1/2	53109	58022
3.6 mm	.1417	20 mm	52 mm	63047	68971
27	.1440	1-3/8	2-1/2	53027	58023
3.7 mm	.1457	20 mm	52 mm	63003	68972
26	.1470	1-3/8	2-1/2	53026	58024
25	.1495	1-3/8	2-1/2	53025	58025
3.8 mm	.1496	22 mm	55 mm	63048	68973
24	.1520	1-3/8	2-1/2	53024	58026
3.9 mm	.1535	22 mm	55 mm	63049	68974
23	.1540	1-3/8	2-1/2	53023	58027
5/32	.1562	1-3/8	2-1/2	53110	58028
22	.1570	1-3/8	2-1/2	53022	58029
4 mm	.1575	22 mm	55 mm	63004	68975
21	.1590	1-3/8	2-1/2	53021	58030
20	.1610	1-3/8	2-1/2	53020	58031
4.1 mm	.1614	22 mm	55 mm	63050	68976
4.2 mm	.1654	22 mm	55 mm	63005	68977
19	.1660	1-5/8	2-3/4	53019	58032
4.3 mm	.1693	24 mm	58 mm	63051	68978
18	.1695	1-5/8	2-3/4	53018	58033
11/64	.1719	1-5/8	2-3/4	53111	58034
17	.1730	1-5/8	2-3/4	53017	58035
4.4 mm	.1732	24 mm	58 mm	63052	68979
16	.1770	1-5/8	2-3/4	53016	58036
4.5 mm	.1772	24 mm	58 mm	63006	68980
15	.1800	1-5/8	2-3/4	53015	58037
4.6 mm	.1811	24 mm	58 mm	63053	68981
14	.1820	1-5/8	2-3/4	53014	58038
13	.1850	1-5/8	2-3/4	53013	58039
4.7 mm	.1850	26 mm	62 mm	63054	68982
3/16	.1875	1-5/8	2-3/4	53112	58040
12	.1890	1-5/8	2-3/4	53012	58041
4.8 mm	.1890	26 mm	62 mm	63055	68983
11	.1910	1-5/8	2-3/4	53011	58042
4.9 mm	.1929	26 mm	62 mm	63056	68984
10	.1935	1-5/8	2-3/4	53010	58043
9	.1960	1-3/4	3	53009	58044
5 mm	.1969	26 mm	62 mm	63007	68985
8	.1990	1-3/4	3	53008	58045
5.1 mm	.2008	26 mm	62 mm	63057	68986
7	.2010	1-3/4	3	53007	58046
13/64	.2031	1-3/4	3	53113	58047
6	.2040	1-3/4	3	53006	58048
5.2 mm	.2047	26 mm	62 mm	63008	68987

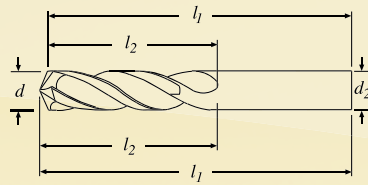
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3 Flute – Single End

TOLERANCES

$d = \pm .0000 - .0005$

$d_2 = h6$



Size d	Decimal Equiv.	Flute Length l ₂	Overall Length l ₁	Uncoated EDP No.	Ti-NAMITE-A (AlTiN) EDP No.
5	.2055	1-3/4	3	53005	58049
5.3 mm	.2087	26 mm	62 mm	63058	68988
4	.2090	1-3/4	3	53004	58050
5.4 mm	.2126	28 mm	66 mm	63059	68989
3	.2130	1-3/4	3	53003	58051
5.5 mm	.2165	28 mm	66 mm	63009	68990
7/32	.2188	1-3/4	3	53114	58052
5.6 mm	.2205	28 mm	66 mm	63060	68991
2	.2210	1-3/4	3	53002	58053
5.7 mm	.2244	28 mm	66 mm	63061	68992
1	.2280	1-3/4	3	53001	58054
5.8 mm	.2283	28 mm	66 mm	63062	68993
5.9 mm	.2323	28 mm	66 mm	63063	68994
A	.2340	2	3-1/4	53201	58055
15/64	.2344	2	3-1/4	53115	58056
6 mm	.2362	28 mm	66 mm	63010	68995
B	.2380	2	3-1/4	53202	58057
6.1 mm	.2402	31 mm	70 mm	63064	68996
C	.2420	2	3-1/4	53203	58058
6.2 mm	.2441	31 mm	70 mm	63011	68997
D	.2460	2	3-1/4	53204	58059
6.3 mm	.2480	31 mm	70 mm	63065	68998
E	.2500	2	3-1/4	53205	58060
1/4	.2500	2	3-1/4	53116	58061
6.4 mm	.2520	31 mm	70 mm	63066	68999
6.5 mm	.2559	31 mm	70 mm	63012	69000
F	.2570	2	3-1/4	53206	58062
6.6 mm	.2598	31 mm	70 mm	63067	69001
G	.2610	2-1/8	3-1/2	53207	58063
6.7 mm	.2638	31 mm	70 mm	63068	69002
17/64	.2656	2-1/8	3-1/2	53117	58064
H	.2660	2-1/8	3-1/2	53208	58065
6.8 mm	.2677	34 mm	74 mm	63013	69003
6.9 mm	.2717	34 mm	74 mm	63069	69004
I	.2720	2-1/8	3-1/2	53209	58066
7 mm	.2756	34 mm	74 mm	63014	69005
J	.2770	2-1/8	3-1/2	53210	58067
7.1 mm	.2795	34 mm	74 mm	63070	69006
K	.2810	2-1/8	3-1/2	53211	58068
9/32	.2812	2-1/8	3-1/2	53118	58069
7.2 mm	.2835	34 mm	74 mm	63015	69007
7.3 mm	.2874	34 mm	74 mm	63071	69008
L	.2900	2-1/8	3-1/2	53212	58070
7.4 mm	.2913	34 mm	74 mm	63072	69009
M	.2950	2-3/8	3-3/4	53213	58071
7.5 mm	.2953	34 mm	74 mm	63016	69010
19/64	.2969	2-3/8	3-3/4	53119	58072
7.6 mm	.2992	37 mm	79 mm	63073	69011
N	.3020	2-3/8	3-3/4	53214	58073
7.7 mm	.3031	37 mm	79 mm	63074	69012
7.8 mm	.3071	37 mm	79 mm	63075	69013
7.9 mm	.3110	37 mm	79 mm	63076	69014
5/16	.3125	2-3/8	3-3/4	53120	58074
8 mm	.3150	37 mm	79 mm	63017	69015
O	.3160	2-3/8	3-3/4	53215	58075
8.1 mm	.3189	37 mm	79 mm	63077	69016
8.2 mm	.3228	37 mm	79 mm	63018	69017
P	.3230	2-3/8	3-3/4	53216	58076
8.3 mm	.3268	37 mm	79 mm	63078	69018
21/64	.3281	2-1/2	4	53121	58077
8.4 mm	.3307	37 mm	79 mm	63019	69019

**Série 103 - Forets à
3 arêtes**



Carbure monobloc, micrograin
Pour fonte, aluminium à grande
teneur en silice, acier allié et
métaux non-ferreux Angle d'entrée,
150° - Hélice, 30° - Forets pour
fonte, aluminium à forte teneur en
silicium, acier allié et métaux non
ferreux - Plus grande précision de
dimension du trou à des vitesses
de production élevées - Réduit la
déviation du foret comparée aux
forets en aciers rapides, au cobalt et
autres forets au carbure.

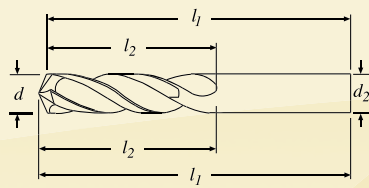


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3 Flute – Single End

Fractional
& Metric

103



TOLERANCES

$d = +.0000 - .0005$

$d_2 = h6$



Series 103 – 3 Flute Drills

Serie 103 – Brocas de 3 filos

Série 103 – Forets à 3 arêtes

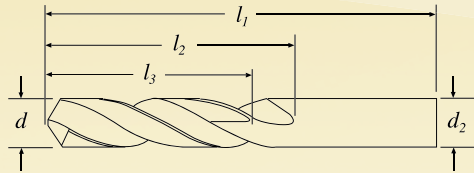
Size d	Decimal Equiv.	Flute Length l ₂	Overall Length l ₁	Uncoated EDP No.	Ti-NAMITE-A (AlTiN) EDP No.
Q	.3320	2-1/2	4	53217	58078
8.5 mm	.3346	37 mm	79 mm	63020	69020
8.6 mm	.3386	40 mm	84 mm	63021	69021
R	.3390	2-1/2	4	53218	58079
8.7 mm	.3425	40 mm	84 mm	63079	69022
11/32	.3438	2-1/2	4	53122	58080
8.8 mm	.3465	40 mm	84 mm	63022	69023
S	.3480	2-1/2	4	53219	58081
8.9 mm	.3504	40 mm	84 mm	63080	69024
9 mm	.3543	40 mm	84 mm	63023	69025
T	.3580	2-3/4	4-1/4	53220	58082
9.1 mm	.3583	40 mm	84 mm	63081	69026
23/64	.3594	2-3/4	4-1/4	53123	58083
9.2 mm	.3622	40 mm	84 mm	63024	69027
9.3 mm	.3661	40 mm	84 mm	63082	69028
U	.3680	2-3/4	4-1/4	53221	58084
9.4 mm	.3701	40 mm	84 mm	63083	69029
9.5 mm	.3740	40 mm	84 mm	63025	69030
3/8	.3750	2-3/4	4-1/4	53124	58085
V	.3770	2-3/4	4-1/4	53222	58086
9.6 mm	.3780	43 mm	89 mm	63084	69031
9.7 mm	.3819	43 mm	89 mm	63085	69032
9.8 mm	.3858	43 mm	89 mm	63086	69033
W	.3860	2-7/8	4-1/2	53223	58087
9.9 mm	.3898	43 mm	89 mm	63087	69034
25/64	.3906	2-7/8	4-1/2	53125	58088
10 mm	.3937	43 mm	89 mm	63026	69035
X	.3970	2-7/8	4-1/2	53224	58089
10.1 mm	.3976	43 mm	89 mm	63088	69036
10.2 mm	.4016	43 mm	89 mm	63027	69037
Y	.4040	2-7/8	4-1/2	53225	58090
13/32	.4062	2-7/8	4-1/2	53126	58091
10.4 mm	.4094	43 mm	89 mm	63028	69038
Z	.4130	2-7/8	4-1/2	53226	58092
10.5 mm	.4134	43 mm	89 mm	63029	69039
10.7 mm	.4213	47 mm	95 mm	63030	69040
27/64	.4219	2-7/8	4-1/2	53127	58093
10.8 mm	.4252	47 mm	95 mm	63031	69041
11 mm	.4331	47 mm	95 mm	63032	69042
7/16	.4375	2-7/8	4-1/2	53128	58094
11.5 mm	.4528	47 mm	95 mm	63033	69043
29/64	.4531	3	4-3/4	53129	58095
15/32	.4688	3	4-3/4	53130	58096
12 mm	.4724	51 mm	102 mm	63034	69044
31/64	.4844	3	4-3/4	53131	58097
12.5 mm	.4921	51 mm	102 mm	63035	69045
1/2	.5000	3	4-3/4	53132	58098
12.8 mm	.5039	51 mm	102 mm	63036	69046
13 mm	.5118	51 mm	102 mm	63089	69047
33/64	.5156	3	4-3/4	53135	58099
13.1 mm	.5157	51 mm	102 mm	63037	69048
13.5 mm	.5315	54 mm	107 mm	63090	69049
14 mm	.5512	54 mm	107 mm	63038	69050
9/16	.5625	3	4-3/4	53136	58100
14.3 mm	.5630	56 mm	111 mm	63039	69051
14.5 mm	.5709	56 mm	111 mm	63040	69052
15 mm	.5906	56 mm	111 mm	63091	69053
5/8	.6250	3-1/2	5-3/4	53133	58101
11/16	.6875	3-1/2	5-3/4	53137	58102
17.5 mm	.6890	62 mm	123 mm	63041	69054
3/4	.7500	4-1/2	5-3/4	53134	58103
19.5 mm	.7677	66 mm	131 mm	63042	69055
20 mm	.7874	66 mm	131 mm	63043	69056



2 Flute – Single End – Short Length –
DIN 6539

d TOLERANCES h7

mm	mm
≤ 3	+0,000/-0,010
> 3 – 6	+0,000/-0,012
> 6 – 10	+0,000/-0,015
> 10 – 18	+0,000/-0,018
> 18 – 30	+0,000/-0,021
d ₂ =h6	



Size	Overall Length	Flute Length	Length of Cut	Uncoated EDP No.	Ti-NAMITE-A (AlTiN) EDP No.
d mm	l ₁ mm	l ₂ mm	l ₃ mm		
0,5	20	3	–	62001	68643
0,55	21	3,5	–	62003	68644
0,6	21	3,5	–	62005	68645
0,65	22	4	–	62007	68646
0,7	23	4,5	–	62009	68647
0,75	23	4,5	–	62011	68648
0,8	24	5	–	62013	68649
0,85	24	5	–	62015	68650
0,9	25	5,5	–	62017	68651
0,95	25	5,5	–	62019	68652
1,0	26	6	–	62021	68653
1,05	26	6	–	62023	68654
1,1	28	7	–	62025	68655
1,15	28	7	–	62027	68656
1,2	30	8	–	62029	68657
1,25	30	8	–	62031	68658
1,3	30	8	–	62033	68659
1,35	32	9	–	62035	68660
1,4	32	9	–	62037	68661
1,45	32	9	–	62039	68662
1,5	32	9	–	62041	68663
1,6	34	10	–	62043	68664
1,7	34	10	–	62045	68665
1,8	36	11	–	62047	68666
1,9	36	11	–	62049	68667
2,0	38	12	9	62051	68668
2,1	38	12	9	62053	68669
2,2	40	13	10	62055	68670
2,3	40	13	10	62057	68671
2,4	43	14	11	62059	68672
2,5	43	14	11	62061	68673
2,6	43	14	11	62063	68674
2,7	46	16	12	62065	68675
2,8	46	16	12	62067	68676
2,9	46	16	12	62069	68677
3,0	46	16	12	62071	68678
3,1	49	18	14	62073	68679
3,2	49	18	14	62075	68680
3,3	49	18	14	62077	68681
3,4	52	20	15	62079	68682
3,5	52	20	15	62081	68683
3,6	52	20	15	62083	68684
3,7	52	20	15	62085	68685
3,8	55	22	17	62087	68686
3,9	55	22	17	62089	68687
4,0	55	22	17	62091	68688
4,1	55	22	17	62093	68689
4,2	55	22	17	62095	68690

Series 108M



DIN 6539 – Short Length Drills
Micrograin Solid Carbide
Short Length, 145° Four Facet Point,
27° Spiral

Serie 108M



Brocas DIN 6539 serie corta
Metal duro con micrograno
Longitud corta, punta de cuatro
caras y 145°, hélice derecha (27°)

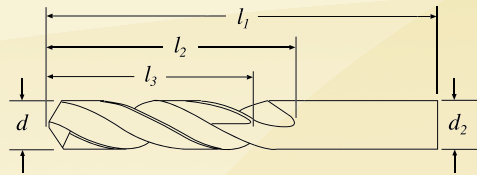
Série 108M



Forets courts – DIN 6539
Carbure monobloc, micrograin
Court–Angle d'entrée à quatre
facettes, 145° – Hélice à droite, 27°



2 Flute – Single End – Short Length – DIN 6539



Metric Series **108M Plus**

d TOLERANCES h7

mm	mm
≤ 3	+0,000/-0,010
> 3 – 6	+0,000/-0,012
> 6 – 10	+0,000/-0,015
> 10 – 18	+0,000/-0,018
> 18 – 30	+0,000/-0,021
d ₂ =h6	

Series 108M



DIN 6539 – Short Length Drills
Micrograin Solid Carbide
Short Length, 145° Four Facet Point,
27° Spiral

Serie 108M



Brocas DIN 6539 serie corta
Metal duro con micrograno
Longitud corta, punta de cuatro
caras y 145°, hélice derecha (27°)

Série 108M



Forets courts – DIN 6539
Carbure monobloc, micrograin
Court–Angle d'entrée à quatre
facettes, 145° – Hélice à droite, 27°

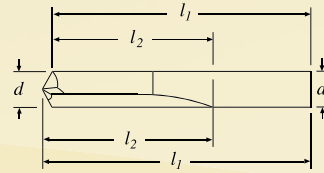
Size	Overall Length	Flute Length	Length of Cut	Uncoated EDP No.	Ti-NAMITE-A (AlTiN) EDP No.
d mm	l ₁ mm	l ₂ mm	l ₃ mm		
4,3	58	24	18	62097	68691
4,4	58	24	18	62099	68692
4,5	58	24	18	62101	68693
4,6	58	24	18	62103	68694
4,7	58	24	18	62105	68695
4,8	62	26	20	62107	68696
4,9	62	26	20	62109	68697
5,0	62	26	20	62111	68698
5,1	62	26	20	62113	68699
5,2	62	26	20	62115	68700
5,3	62	26	20	62117	68701
5,4	66	28	21	62119	68702
5,5	66	28	21	62121	68703
5,6	66	28	21	62123	68704
5,7	66	28	21	62125	68705
5,8	66	28	21	62127	68706
5,9	66	28	21	62129	68707
6,0	66	28	21	62131	68708
6,1	70	31	23	62133	68709
6,2	70	31	23	62135	68710
6,3	70	31	23	62137	68711
6,4	70	31	23	62139	68712
6,5	70	31	23	62141	68713
6,8	70	31	23	62142	68603
7,0	74	34	25	62143	68718
7,5	74	34	25	62145	68723
7,8	79	37	27	62146	68604
8,0	79	37	27	62147	68728
8,5	79	37	27	62149	68733
9,0	84	40	29	62151	68738
9,5	84	40	29	62153	68743
9,8	89	43	31	62154	68606
10,0	89	43	31	62155	68748
10,2	89	43	31	62156	68607
10,5	89	43	31	62066	68753
11,0	95	47	33	62157	68758
11,5	95	47	33	62084	68763
11,8	102	51	35	62158	68608
12,0	102	51	35	62159	68768
12,5	102	51	35	62102	68773
13	102	51	35	62112	68778
13,8	107	54	37	62164	68609
14	107	54	37	62116	68780
14,5	111	56	38	62166	68611
14,8	111	56	38	62167	68612
15,0	111	56	38	62168	68613
15,8	115	58	38	62170	68614
16,0	115	58	38	62171	68616



2 Flute – Single End – Straight Flute

TOLERANCES

d=+.0000-.0005



Size d	Decimal Equiv.	Flute Length l ₂	Overall Length l ₁	Uncoated EDP No.	Ti-NAMITE-A (AlTiN) EDP No.
1 mm	.0394	6 mm	26 mm	66001	66002
60	.0400	1/2	1-1/2	56060	56269
59	.0410	1/2	1-1/2	56059	56268
58	.0420	1/2	1-1/2	56058	56267
57	.0430	1/2	1-1/2	56057	56266
56	.0465	1/2	1-1/2	56056	56265
3/64	.0469	1/2	1-1/2	56103	56135
55	.0520	1/2	1-1/2	56055	56264
54	.0550	1/2	1-1/2	56054	56263
1,5 mm	.0591	9 mm	32 mm	66003	66004
53	.0595	1/2	1-1/2	56053	56262
1/16	.0625	5/8	1-1/2	56104	56136
52	.0635	11/16	1-11/16	56052	56261
51	.0670	11/16	1-11/16	56051	56260
50	.0700	11/16	1-11/16	56050	56259
49	.0730	11/16	1-11/16	56049	56258
48	.0760	11/16	1-11/16	56048	56257
5/64	.0781	11/16	1-11/16	56105	56137
47	.0785	3/4	1-3/4	56047	56256
2 mm	.0787	12 mm	38 mm	66005	66006
46	.0810	3/4	1-3/4	56046	56255
45	.0820	3/4	1-3/4	56045	56254
44	.0860	3/4	1-3/4	56044	56253
43	.0890	3/4	1-3/4	56043	56252
42	.0935	3/4	1-3/4	56042	56251
3/32	.0938	3/4	1-3/4	56106	56138
41	.0960	13/16	1-13/16	56041	56250
40	.0980	13/16	1-13/16	56040	56249
2,5 mm	.0984	14 mm	43 mm	66007	66008
39	.0995	13/16	1-13/16	56039	56248
38	.1015	13/16	1-13/16	56038	56247
37	.1040	13/16	1-13/16	56037	56246
36	.1065	13/16	1-13/16	56036	56245
7/64	.1094	13/16	1-13/16	56107	56139
35	.1100	7/8	1-7/8	56035	56244
34	.1110	7/8	1-7/8	56034	56243
33	.1130	7/8	1-7/8	56033	56242
32	.1160	7/8	1-7/8	56032	56241
3 mm	.1181	16 mm	46 mm	66009	66010
31	.1200	7/8	1-7/8	56031	56240
1/8	.1250	7/8	1-7/8	56108	56140
30	.1285	15/16	1-15/16	56030	56239
29	.1360	15/16	1-15/16	56029	56238
3,5 mm	.1378	20 mm	52 mm	66011	66012
28	.1405	15/16	1-15/16	56028	56237
9/64	.1406	15/16	1-15/16	56109	56141
27	.1440	1	2-1/16	56027	56236
26	.1470	1	2-1/16	56026	56235
25	.1495	1	2-1/16	56025	56234
24	.1520	1	2-1/16	56024	56233
23	.1540	1	2-1/16	56023	56232
5/32	.1562	1	2-1/16	56110	56142
22	.1570	1-1/16	2-1/8	56022	56231
4 mm	.1575	22 mm	55 mm	66013	66014
21	.1590	1-1/16	2-1/8	56021	56230
20	.1610	1-1/16	2-1/8	56020	56229
19	.1660	1-1/16	2-1/8	56019	56228

continued on next page

**Series 106 – Straight
Flute Drills**



Micrograin Solid Carbide
For Drilling Hardened Materials –
Straight Flute – 140° Point Angle

**Serie 106 – con
filos rectos**



Carburo sólido con micrograno
Para el mecanizado de materiales
duro – Angulo punta 140°

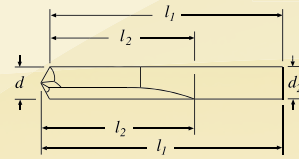
**Série 106 – Forets à
arête droite**



Carbure monobloc, micrograin
Pour le perçage des matières
trempés – Arête droite – Angle
d'entrée, 140°



2 Flute – Single End – Straight Flute



TOLERANCES

d = +.0000 - .0005

Series 106 – Straight Flute Drills



Micrograin Solid Carbide
For Drilling Hardened Materials –
Straight Flute – 140° Point Angle

Serie 106 – con filos rectos



Carburo sólido con micrograno
Para el mecanizado de materiales
duro – Angulo punta 140°

Série 106 – Forets à arête droite



Carbure monobloc, micrograin
Pour le perçage des matières
trempés – Arête droite – Angle
d'entrée, 140°

Size d	Decimal Equiv.	Flute Length l ₂	Overall Length l ₁	Uncoated EDP No.	Ti-NAMITE-A (AlTiN) EDP No.
18	.1695	1-1/16	2-1/8	56018	56227
11/64	.1719	1-1/16	2-1/8	56111	56143
17	.1730	1-1/8	2-3/16	56017	56226
16	.1770	1-1/8	2-3/16	56016	56225
4,5 mm	.1772	24 mm	58 mm	66015	66016
15	.1800	1-1/8	2-3/16	56015	56224
14	.1820	1-1/8	2-3/16	56014	56223
13	.1850	1-1/8	2-3/16	56013	56222
3/16	.1875	1-1/8	2-3/16	56112	56144
12	.1890	1-1/8	2-3/16	56012	56221
11	.1910	1-1/8	2-3/16	56011	56220
10	.1935	1-1/8	2-3/16	56010	56219
9	.1960	1-3/16	2-1/4	56009	56218
5 mm	.1969	26 mm	62 mm	66017	66018
8	.1990	1-3/16	2-1/4	56008	56217
7	.2010	1-3/16	2-1/4	56007	56216
13/64	.2031	1-3/16	2-1/4	56113	56145
6	.2040	1-1/4	2-3/8	56006	56215
5	.2055	1-1/4	2-3/8	56005	56214
4	.2090	1-1/4	2-3/8	56004	56213
3	.2130	1-1/4	2-3/8	56003	56212
5,5 mm	.2165	28 mm	66 mm	66019	66020
7/32	.2188	1-1/4	2-3/8	56114	56146
2	.2210	1-5/16	2-7/16	56002	56211
1	.2280	1-5/16	2-7/16	56001	56210
15/64	.2344	1-5/16	2-7/16	56115	56147
6 mm	.2362	28 mm	66 mm	66021	66045
1/4	.2500	1-3/8	2-1/2	56116	56148
6,5 mm	.2559	31 mm	70 mm	66022	66046
17/64	.2656	1-7/16	2-5/8	56117	56149
7 mm	.2756	34 mm	74 mm	66023	66024
9/32	.2812	1-1/2	2-11/16	56118	56150
7,5 mm	.2953	34 mm	74 mm	66025	66026
19/64	.2969	1-9/16	2-3/4	56119	56151
5/16	.3125	1-5/8	2-13/16	56120	56152
8 mm	.3150	37 mm	79 mm	66027	66028
21/64	.3281	1-11/16	2-15/16	56121	56153
8,5 mm	.3346	37 mm	79 mm	66029	66030
11/32	.3438	1-11/16	3	56122	56154
9 mm	.3543	40 mm	84 mm	66031	66032
23/64	.3594	1-3/4	3-1/16	56123	56155
9,5 mm	.3740	40 mm	84 mm	66033	66034
3/8	.3750	1-13/16	3-1/8	56124	56156
25/64	.3906	1-7/8	3-1/4	56125	56157
10 mm	.3937	43 mm	89 mm	66035	66036
13/32	.4062	1-15/16	3-5/16	56126	56158
10,5 mm	.4134	43 mm	89 mm	66037	66038
27/64	.4219	2	3-3/8	56127	56159
11 mm	.4331	47 mm	95 mm	66039	66040
7/16	.4375	2-1/16	3-7/16	56128	56160
11,5 mm	.4528	47 mm	95 mm	66041	66042
29/64	.4531	2-1/8	3-9/16	56129	56161
15/32	.4688	2-1/8	3-5/8	56130	56162
12 mm	.4724	51 mm	102 mm	66043	66044
31/64	.4844	2-3/16	3-11/16	56131	56163
1/2	.5000	2-1/4	3-3/4	56132	56164



Metric Series

301M

Double End – Combined Drill and Countersink – DIN 333



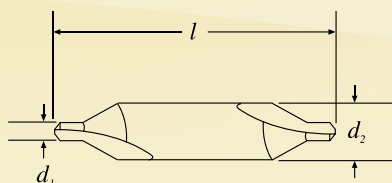
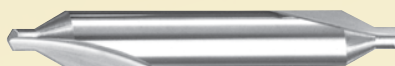
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d_1 TOLERANCES

mm	mm
0,5 – 2,5	$=+0,140-0,000$
>2,5 – 5	$=+0,000-0,012$

d_2 TOLERANCES h9

mm	mm
0,5 – 3	$=+0,000-0,025$
>3 – 5	$=+0,000-0,030$



Size	Body Diameter	Overall Length	Uncoated EDP No.
d mm	d_2 mm	l mm	
0,5	3,15	20	67005
0,8	3,15	20	67007
1	3,15	31,5	67009
1,25	3,15	31,5	67011
1,6	4	35,5	67013
2	5	40	67015
2,5	6,3	45	67017
3,15	8	50	67019
4	10	56	67021
5	12,5	63	67023

301M DIN 333 – Combined Drill and Countersink

Micrograin Solid Carbide
60° Included Angle, Double End

301M DIN 333 – Broca de centros

Carburo sólido con micrograno
Angulo doble punta 60°

301M DIN 333 – Foret à centrer

Carbure monobloc, micrograin
Angle de dégagement, 60°



Hi-PerCarb® Series 135 and 135L Speed and Feed Recommendations – Fractional and Metric



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Material Classification	Hardness Bhn RC		Speed sfm m/min		Drill Diameter					
					.015 – .111 in. (.4 – 2.5 mm)	.018 – .197 in. (3 – 5 mm)	.203 – .316 in. (5.5 – 8 mm)	.328 – .500 in. (8.5 – 12.5 mm)	.512 – .640 in. (13 – 16 mm)	.650 – .875 in. (16.5 – 20 mm)
					Feed per Revolution					
low carbon steel	≤ 170	≤ 5	400	120	.0005 – .005	.005 – .008	.008 – .012	.012 – .016	.016 – .020	.020 – .024
1018	–	–	–	–	(.013 – .13)	(.13 – .21)	(.21 – .31)	(.31 – .40)	(.40 – .50)	(.50 – .60)
alloyed steel	≤ 270	≤ 28	300	90	.0003 – .004	.004 – .006	.006 – .009	.009 – .012	.012 – .015	.015 – .018
4140	–	–	–	–	(.008 – .10)	(.10 – .15)	(.15 – .23)	(.23 – .31)	(.31 – .38)	(.38 – .45)
cast iron	150-200	1-15	400	120	.007 – .010	.010 – .014	.014 – .017	.017 – .020	.020 – .024	.024 – .028
–	–	–	–	–	(.018 – .25)	(.25 – .36)	(.36 – .43)	(.43 – .51)	(.51 – .61)	(.61 – .71)
–	200-300	15-30	245	75	.0005 – .008	.008 – .012	.012 – .014	.014 – .017	.017 – .020	.020 – .024
–	–	–	–	–	(.013 – .21)	(.21 – .31)	(.31 – .36)	(.36 – .43)	(.43 – .51)	(.51 – .61)
–	300-400	30-45	190	60	.0004 – .006	.006 – .010	.010 – .012	.012 – .015	.015 – .018	.018 – .020
–	–	–	–	–	(.010 – .15)	(.15 – .25)	(.25 – .31)	(.31 – .38)	(.38 – .46)	(.46 – .51)
tool steel	≤ 170	≤ 5	230	70	.0003 – .003	.003 – .005	.005 – .007	.007 – .010	.010 – .013	.013 – .016
H-13	–	–	–	–	(.008 – .75)	(.75 – .13)	(.13 – .18)	(.18 – .25)	(.25 – .33)	(.33 – .40)
stainless steel	≤ 170	≤ 5	70-140	20-45	.0002 – .002	.002 – .004	.004 – .006	.006 – .008	.008 – .010	.010 – .012
300 Series	–	–	–	–	(.005 – .05)	(.05 – .10)	(.10 – .15)	(.15 – .21)	(.21 – .25)	(.25 – .31)
titanium	≤ 280	≤ 29	100	30	.0002 – .002	.002 – .003	.003 – .004	.004 – .006	.006 – .008	.008 – .010
6Al4V	–	–	–	–	(.005 – .050)	(.050 – .075)	(.075 – .100)	(.10 – .15)	(.15 – .21)	(.21 – .25)
high temp alloys	≤ 220	≤ 18	50	15	.0001 – .001	.001 – .002	.002 – .003	.003 – .004	.004 – .005	.005 – .006
Inconel 718	–	–	–	–	(.002 – .025)	(.025 – .050)	(.050 – .075)	(.075 – .100)	(.10 – .13)	(.13 – .15)



Resharpener service available upon request.
Reduce Speed 20% when hole depth exceeds 3 diameters.



Servicio de reafilado disponible por pedido.
Reduzca la velocidad en 20% cuando la profundidad del agujero supere 3 diámetros.



Service de réaffûtage disponible sur demande.
Réduire la vitesse de 20% lorsque la profondeur du trou dépasse 3 diamètres.

ICeCarb Series 140M Speed and Feed Recommendations – Metric



Material Classification	Hardness		Speed		Drill Diameter			
	Bhn	Rc	sfm	m / min	3 – 5 mm (.118 – .197 in.)	>5 – 8 mm (.203 – .316 in.)	>8 – 12 mm (.328 – .500 in.)	12 – 16 mm (.512 – .640 in.)
Low Carbon Steel 1018	≤ 170	≤ 5	450	135	.10 – .15 (.004 – .006)	.15 – .25 (.006 – .010)	.25 – .40 (.010 – .016)	.40 – .50 (.016 – .020)
Alloyed Steel 4140	≤ 270	≤ 28	300	90	.075 – .12 (.003 – .005)	.12 – .20 (.005 – .008)	.20 – .30 (.008 – .012)	.30 – .40 (.012 – .016)
High-Strength Steel 4340, 300M	≤ 400	≤ 43	190	60	.05 – .10 (.002 – .004)	.10 – .15 (.004 – .006)	.15 – .23 (.006 – .009)	.23 – .30 (.009 – .012)
Tool Steel H-13	≤ 170	≤ 5	230	70	.05 – .10 (.002 – .004)	.10 – .18 (.004 – .007)	.18 – .25 (.007 – .010)	.25 – .33 (.010 – .013)
Cast Iron	150 – 200	1 – 15	400	120	.12 – .20 (.005 – .008)	.20 – .33 (.008 – .013)	.33 – .50 (.013 – .020)	.50 – .65 (.020 – .026)
	200 – 300	15 – 30	245	75	.10 – .18 (.004 – .007)	.18 – .28 (.007 – .011)	.28 – .43 (.011 – .017)	.43 – .55 (.017 – .022)
	300 – 400	30 – 45	190	60	.075 – .15 (.003 – .006)	.15 – .25 (.006 – .010)	.25 – .38 (.010 – .015)	.38 – .50 (.015 – .020)
Stainless Steel 316, 17-4PH, 15-5PH	≤ 225	≤ 20	140	45	.050 – .075 (.002 – .003)	.075 – .12 (.003 – .005)	.12 – .20 (.005 – .008)	.20 – .25 (.008 – .010)
Stainless Steel 304, 410, 420	≤ 170	≤ 5	180	55	.075 – .10 (.003 – .004)	.10 – .15 (.004 – .006)	.15 – .25 (.006 – .010)	.25 – .33 (.010 – .013)
Titanium 6Al4V	≤ 380	≤ 40	100	30	.050 – .075 (.002 – .003)	.075 – .10 (.003 – .004)	.10 – .15 (.004 – .006)	.15 – .20 (.006 – .008)
High-Temperature Alloys Inconel 718	≤ 400	≤ 43	50	15	.025 – .050 (.001 – .002)	.050 – .075 (.002 – .003)	.075 – .10 (.003 – .004)	.10 – .12 (.004 – .005)



Resharpener service available upon request.



Servicio de reafilado disponible por pedido.



Service de réaffutage disponible sur demande.

Series 101, 125 Carbide Drills – Fractional



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Serie 101, 125 Brocas de carburo sólido Série 101, 125 Forets carbure monobloc

101, 125						
material	speed in sfm	feed per revolution (in / rev)				
		1/16 – 1/8	> 1/8 – 1/4	> 1/4 – 3/8	> 3/8 – 1/2	> 1/2 – 3/4
Structural Steel / Aceros de construcción / Acier à construction						
< 150 Bhn	315	.0020 – .0031	.0033 – .0039	.0039 – .0059	.0059 – .0079	.0079 – .0098
< 190 Bhn	280	.0020 – .0031	.0033 – .0039	.0039 – .0059	.0059 – .0079	.0079 – .0098
< 250 Bhn	245	.0012 – .0020	.0020 – .0033	.0033 – .0047	.0039 – .0071	.0059 – .0079
Case Hardening Steel / Aceros de cementación y temple / Aciers à cémentation						
< 235 Bhn	260	.0020 – .0031	.0033 – .0039	.0039 – .0059	.0059 – .0079	.0079 – .0098
< 300 Bhn	250	.0012 – .0020	.0020 – .0033	.0033 – .0047	.0039 – .0071	.0059 – .0079
Nitriding Steel / Aceros de nitruración / Aciers à nitruration						
< 300 Bhn	250	.0012 – .0020	.0020 – .0033	.0033 – .0047	.0039 – .0071	.0059 – .0079
< 40 Rc	215	.0012 – .0020	.0020 – .0033	.0033 – .0047	.0039 – .0071	.0059 – .0079
Heat Treatable Steel / Aceros de temple / Acier trempé						
< 200 Bhn	300	.0020 – .0031	.0033 – .0039	.0039 – .0059	.0059 – .0079	.0079 – .0098
< 240 Bhn	260	.0020 – .0031	.0033 – .0039	.0039 – .0059	.0059 – .0079	.0079 – .0098
< 40 Rc	215	.0004 – .0008	.0008 – .0024	.0024 – .0035	.0033 – .0051	.0039 – .0059
< 45 Rc	165	.0004 – .0008	.0008 – .0024	.0024 – .0035	.0033 – .0051	.0039 – .0059
Tool Steel / Aceros de herramientas / Acier à outils						
< 235 Bhn	165	.0004 – .0012	.0008 – .0024	.0020 – .0031	.0030 – .0039	.0031 – .0047
< 300 Bhn	130	.0004 – .0012	.0008 – .0024	.0020 – .0031	.0030 – .0039	.0031 – .0047
< 40 Rc	115	.0004 – .0008	.0006 – .0016	.0014 – .0022	.0018 – .0031	.0030 – .0039
< 45 Rc	100	.0004 – .0008	.0006 – .0016	.0014 – .0022	.0018 – .0031	.0030 – .0039
> 45 Rc	80	.0004 – .0008	.0006 – .0016	.0014 – .0022	.0018 – .0031	.0030 – .0039
Stainless Steel / Acero inoxidable / Acier inoxydable						
< 200 Bhn	165	.0006 – .0012	.0008 – .0024	.0020 – .0039	.0030 – .0051	.0039 – .0067
< 250 Bhn	100	.0004 – .0008	.0006 – .0016	.0014 – .0022	.0018 – .0031	.0030 – .0039
< 280 Bhn	80	.0004 – .0008	.0006 – .0016	.0014 – .0022	.0018 – .0031	.0030 – .0039
Cast Steel / Aceros de fundición blanda / Fonte tendre						
< 150 Bhn	250	.0008 – .0024	.0020 – .0035	.0028 – .0047	.0035 – .0059	.0039 – .0071
< 190 Bhn	200	.0008 – .0024	.0020 – .0035	.0028 – .0047	.0035 – .0059	.0039 – .0071
> 190 Bhn	130	.0008 – .0024	.0020 – .0035	.0028 – .0047	.0035 – .0059	.0039 – .0071
Cast Steel – Hard / Aceros de fundición dura / Fonte dure						
–	130	.0004 – .0012	.0008 – .0024	.0020 – .0031	.0024 – .0035	.0028 – .0039
High Temp. Alloys / Aceros resistentes a altas temp. / Alliage à haute temp.						
< 200 Bhn	115	.0004 – .0012	.0008 – .0020	.0016 – .0022	.0020 – .0030	.0024 – .0039
< 240 Bhn	75	.0004 – .0012	.0008 – .0020	.0016 – .0022	.0020 – .0030	.0024 – .0039
< 300 Bhn	65	.0004 – .0012	.0008 – .0020	.0016 – .0022	.0020 – .0030	.0024 – .0039
< 40 Rc	60	.0004 – .0008	.0006 – .0016	.0014 – .0018	.0016 – .0024	.0020 – .0031
< 45 Rc	50	.0003 – .0004	.0004 – .0012	.0008 – .0014	.0012 – .0016	.0014 – .0020
> 45 Rc	30	.0003 – .0004	.0004 – .0012	.0008 – .0014	.0012 – .0016	.0014 – .0020
Titanium Alloys / Aleaciones de titanio / Alliage de titane						
< 160 Bhn	130	.0004 – .0012	.0008 – .0020	.0016 – .0022	.0020 – .0030	.0024 – .0039

continued on next page



All recommendations should be considered a starting point, with possible variations to achieve optimum results. Increase the speed 20% when using coated drills.



Todas la recomendaciones deberían ser consideradas como punto de partida, con posibles variaciones para conseguir óptimos resultados. Incrementar la velocidad un 20% al utilizar brocas recubiertas.



Les informations techniques mentionnées sont des valeurs moyennes données à titre indicatif et sont modifiables pour optimiser les résultats. Augmenter la vitesse de 20% lorsque vous utilisez des forets monobloc revêtues.



Series 101, 125 Carbide Drills – Fractional



All recommendations should be considered a starting point, with possible variations to achieve optimum results. Increase the speed 20% when using coated drills.



Todas la recomendaciones deberían ser consideradas como punto de partida, con posibles variaciones para conseguir óptimos resultados. Incrementar la velocidad un 20% al utilizar brocas recubiertas.



Les informations techniques mentionnées sont des valeurs moyennes données à titre indicatif et sont modifiables pour optimiser les résultats. Augmenter la vitesse de 20% lorsque vous utilisez des forets monobloc revêtus.



Serie 101, 125 Brocas de carburo sólido Série 101, 125 Forets carbure monobloc

101, 125						
material	speed in sfm	feed per revolution (in / rev)				
		1/16 – 1/8	> 1/8 – 1/4	> 1/4 – 3/8	> 3/8 – 1/2	> 1/2 – 3/4
< 280 Bhn	100	.0004 – .0008	.0006 – .0016	.0014 – .0018	.0016 – .0024	.0020 – .0031
> 40 Rc	65	.0004 – .0008	.0006 – .0016	.0014 – .0018	.0016 – .0024	.0020 – .0031
Malleable Cast iron / Fundición maleable / Fonte aciérée malléable						
< 200 Bhn	260	.0012 – .0024	.0016 – .0039	.0031 – .0059	.0035 – .0067	.0047 – .0091
> 200 Bhn	200	.0012 – .0024	.0016 – .0039	.0031 – .0059	.0035 – .0067	.0047 – .0091
Gray Cast Iron / Fundición gris / Fonte aciérée grise						
< 200 Bhn	330	.0012 – .0024	.0016 – .0039	.0031 – .0059	.0035 – .0067	.0047 – .0091
> 200 Bhn	260	.0012 – .0024	.0016 – .0039	.0031 – .0059	.0035 – .0067	.0047 – .0091
Copper / Cobre / Cuivre						
< 150 Bhn	260	.0006 – .0012	.0008 – .0024	.0020 – .0031	.0030 – .0035	.0031 – .0047
Copper Alloys – Brittle / Aleación de cobre fragil / Alliage de cuivre - mou						
–	360	.0006 – .0012	.0008 – .0020	.0020 – .0032	.0030 – .0035	.0032 – .0047
Aluminum – Low Silicon / Aluminio – bajo contenido de silicio / Aluminium – faible teneur en silice						
–	600	.0012 – .0020	.0020 – .0049	.0039 – .0071	.0059 – .0079	.0067 – .0118
Aluminum – High Silicon / Aluminio – alto contenido de silicio / Aluminium à forte teneur de silice						
–	360	.0012 – .0020	.0020 – .0049	.0039 – .0071	.0059 – .0079	.0067 – .0118
Magnesium Alloys / Aleaciones de magnesio / Alliage de magnésium						
–	525	.0012 – .0024	.0016 – .0039	.0031 – .0059	.0035 – .0067	.0047 – .0091
Zinc Alloys / Aleaciones de zinc / Alliage de zinc						
–	400	.0012 – .0020	.0020 – .0033	.0033 – .0047	.0039 – .0071	.0059 – .0079
Plastic / Plásticos / Matières Synthétiques						
–	400	.0012 – .0024	.0016 – .0039	.0031 – .0059	.0035 – .0067	.0047 – .0091
Fiber Plastic / Fibra de plástico / Fibre de plastique						
–	330	.0004 – .0008	.0006 – .0016	.0014 – .0022	.0018 – .0031	.0030 – .0039

Cutting Conditions – Series 103, 106 Carbide Drills – Fractional



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Condiciones de corte
Conditions de coupe

Serie 103 y 106 Brocas de carburo sólido
Série 103 et 106 Forets carbure monobloc

103						
material	speed in sfm	feed per revolution (in / rev)				
		1/8	>1/8 – 1/4	>1/4 – 3/8	>3/8 – 1/2	>1/2 – 3/4
Heat Treatable Steel / Aceros de temple / Acier trempé						
< 200 Bhn	300	.0033 – .0039	.0039 – .0059	.0059 – .0079	.0079 – .0098	.0098 – .0120
< 240 Bhn	260	.0033 – .0039	.0039 – .0059	.0059 – .0079	.0079 – .0098	.0098 – .0120
< 40 Rc	215	.0008 – .0024	.0024 – .0035	.0033 – .0051	.0039 – .0059	.0049 – .0060
< 45 Rc	165	.0008 – .0024	.0024 – .0035	.0033 – .0051	.0039 – .0059	.0049 – .0060
Tool Steel / Aceros de herramientas / Acier à outils						
< 235 Bhn	165	.0008 – .0024	.0020 – .0031	.0030 – .0039	.0031 – .0047	.0047 – .0058
< 300 Bhn	130	.0008 – .0024	.0020 – .0031	.0030 – .0039	.0031 – .0047	.0047 – .0058
< 40 Rc	115	.0006 – .0016	.0014 – .0022	.0018 – .0031	.0030 – .0039	.0039 – .0050
< 45 Rc	100	.0006 – .0016	.0014 – .0022	.0018 – .0031	.0030 – .0039	.0039 – .0050
> 45 Rc	80	.0006 – .0016	.0014 – .0022	.0018 – .0031	.0030 – .0039	.0039 – .0050
Titanium Alloys / Aleaciones de titanio / Alliage de titane						
< 160 Bhn	130	.0008 – .0020	.0016 – .0022	.0020 – .0030	.0024 – .0039	.0040 – .0062
< 280 Bhn	100	.0006 – .0016	.0014 – .0018	.0016 – .0024	.0020 – .0031	.0030 – .0045
> 40 Rc	65	.0006 – .0016	.0014 – .0018	.0016 – .0024	.0020 – .0031	.0030 – .0045
Malleable Cast Iron / Fundición maleable / Fonte aciérée malléable						
< 200 Bhn	260	.0016 – .0039	.0031 – .0059	.0035 – .0067	.0047 – .0091	.0090 – .0110
> 200 Bhn	200	.0016 – .0039	.0031 – .0059	.0035 – .0067	.0047 – .0091	.0090 – .0110
Gray Cast Iron / Fundición Gris / Fonte aciérée grise						
< 200 Bhn	330	.0016 – .0039	.0031 – .0059	.0035 – .0067	.0047 – .0091	.0090 – .0120
> 200 Bhn	260	.0016 – .0039	.0031 – .0059	.0035 – .0067	.0047 – .0091	.0090 – .0120
Copper Alloys – Brittle / Aleación de cobre fragil / Alliage de cuivre - mou						
–	360	.0010 – .0022	.0020 – .0032	.0030 – .0035	.0032 – .0047	.0045 – .0060
Aluminum – High Silicon / Aluminio – alto contenido de silicio / Aluminium à forte teneur de silice						
–	360	.0020 – .0049	.0039 – .0071	.0059 – .0079	.0067 – .0118	.0110 – .0130
Magnesium Alloys / Aleaciones de magnesio / Alliage de magnésium						
–	525	.0016 – .0039	.0031 – .0059	.0035 – .0067	.0047 – .0091	.0090 – .0120



All recommendations should be considered a starting point, with possible variations to achieve optimum results. Increase the speed 20% when using coated drills.



Todas la recomendaciones deberían ser consideradas como punto de partida, con posibles variaciones para conseguir óptimos resultados. Incrementar la velocidad un 20% al utilizar brocas recubiertas.



Les informations techniques mentionnées sont des valeurs moyennes données à titre indicatif et sont modifiables pour optimiser les résultats. Augmenter la vitesse de 20% lorsque vous utilisez des forets monobloc revêtues.



106						
material	speed in sfm	feed per revolution (in / rev)				
		≤ 1/16	>1/16 – 1/8	>1/8 – 1/4	>1/4 – 3/8	>3/8 – 1/2
Tool Steel / Aceros de herramientas / Acier à outils						
> 45 Rc	80	.0002 – .0004	.0004 – .0008	.0006 – .0016	.0014 – .0022	.0018 – .0031
Malleable Cast Iron / Fundición maleable / Fonte aciérée malléable						
< 200 Bhn	260	.0006 – .0012	.0012 – .0024	.0016 – .0039	.0031 – .0059	.0035 – .0067
> 200 Bhn	200	.0006 – .0012	.0012 – .0024	.0016 – .0039	.0031 – .0059	.0035 – .0067
Gray Cast Iron / Fundición Gris / Fonte aciérée grise						
< 200 Bhn	330	.0006 – .0012	.0012 – .0024	.0016 – .0039	.0031 – .0059	.0035 – .0067
> 200 Bhn	260	.0006 – .0012	.0012 – .0024	.0016 – .0039	.0031 – .0059	.0035 – .0067

Cutting Conditions – Series 103M, 106M Carbide Drills – Metric

Serie 103M y 106M Brocas de carburo sólido Série 103M et 106M Forets carbure monobloc

Condiciones de corte Conditions de coupe



All recommendations should be considered a starting point, with possible variations to achieve optimum results. Increase the speed 20% when using coated drills.



Todas la recomendaciones deberían ser consideradas como punto de partida, con posibles variaciones para conseguir óptimos resultados. Incrementar la velocidad un 20% cuando se utilicen brocas recubiertas.



Les informations techniques mentionnées sont des valeurs moyennes données à titre indicatif et sont modifiables pour optimiser les résultats. Augmenter la vitesse de 20% lorsque vous utilisez des forets revêtues.



103M								
material	speed in m/min	feed (mm / rev)					material number	description
		≤3	>3-6	>6-9,5	>9,5-12	>12-20		
Heat Treatable Steel / Aceros de temple / Acier trempé								
< 700 N/mm ²	90	0,085 – 0,1	0,1 – 0,15	0,15 – 0,2	0,2 – 0,25	0,25 – 0,3	1.0406	C 25
< 900 N/mm ²	80	0,085 – 0,1	0,1 – 0,15	0,15 – 0,2	0,2 – 0,25	0,25 – 0,3	1.0540	C 50
< 1200 N/mm ²	65	0,025 – 0,06	0,06 – 0,09	0,085 – 0,13	0,1 – 0,15	0,12 – 0,15	1.5122	37 MnSi 4
< 1400 N/mm ²	50	0,025 – 0,06	0,06 – 0,09	0,085 – 0,13	0,1 – 0,15	0,12 – 0,15	1.6582	34 CrNiMo 6
Tool Steel / Aceros de herramientas / Acier à outil								
< 800 N/mm ²	50	0,02 – 0,06	0,05 – 0,08	0,075 – 0,1	0,08 – 0,12	0,11 – 0,14	–	–
< 1000 N/mm ²	40	0,02 – 0,06	0,05 – 0,08	0,075 – 0,1	0,08 – 0,12	0,11 – 0,14	–	–
< 1200 N/mm ²	35	0,015 – 0,04	0,035 – 0,055	0,045 – 0,08	0,075 – 0,1	0,1 – 0,13	–	–
< 1400 N/mm ²	30	0,015 – 0,04	0,035 – 0,055	0,045 – 0,08	0,075 – 0,1	0,1 – 0,13	–	–
> 1400 N/mm ²	25	0,015 – 0,04	0,035 – 0,055	0,045 – 0,08	0,075 – 0,1	0,1 – 0,13	–	–
Titanium Alloys / Aleaciones de titanio / Alliage de titane								
< 550 N/mm ²	40	0,02 – 0,05	0,04 – 0,055	0,05 – 0,075	0,06 – 0,1	0,1 – 0,16	–	–
< 950 N/mm ²	30	0,015 – 0,04	0,035 – 0,045	0,04 – 0,06	0,05 – 0,08	0,075 – 0,11	–	–
> 1200 N/mm ²	20	0,015 – 0,04	0,035 – 0,045	0,04 – 0,06	0,05 – 0,08	0,075 – 0,11	–	–
Malleable Cast Iron / Fundición maleable / Fonte aciérée malléable								
< 200 HB	80	0,04 – 0,1	0,08 – 0,15	0,09 – 0,17	0,12 – 0,23	0,22 – 0,28	–	–
> 200 HB	60	0,04 – 0,1	0,08 – 0,15	0,09 – 0,17	0,12 – 0,23	0,22 – 0,28	–	–
Gray Cast Iron / Fundición Gris / Fonte aciérée grise								
< 200 HB	100	0,04 – 0,1	0,08 – 0,15	0,09 – 0,17	0,12 – 0,23	0,22 – 0,31	–	–
> 200 HB	80	0,04 – 0,1	0,08 – 0,15	0,09 – 0,17	0,12 – 0,23	0,22 – 0,31	–	–
Copper Alloys – Brittle / Aleaciones de cobre fragiles / Alliage de cuivre - mou								
–	110	0,025 – 0,06	0,05 – 0,08	0,075 – 0,09	0,08 – 0,12	0,11 – 0,15	–	–
Aluminum – High Silicon / Aluminio alto contenido de silicio / Aluminium – haute teneur en silice								
–	110	0,05 – 0,125	0,1 – 0,18	0,15 – 0,2	0,17 – 0,3	0,29 – 0,33	–	–
Magnesium Alloys / Aleaciones de magnesio / Alliage de magnésium								
–	160	0,04 – 0,1	0,08 – 0,15	0,09 – 0,17	0,12 – 0,23	0,22 – 0,31	–	–

106M						
material	speed in m/min	feed (mm / rev)				
		≤1,5	>1,5-3	>3-6	>6-9,5	>9,5-12
Tool Steel / Aceros de herramientas / Acier à outils						
> 1400 N/mm ²	25	0,005 – 0,01	0,01 – 0,02	0,015 – 0,04	0,035 – 0,055	0,045 – 0,08
Malleable Cast Iron / Fundición maleable / Fonte aciérée malléable						
< 200 HB	80	0,015 – 0,03	0,03 – 0,06	0,04 – 0,1	0,08 – 0,15	0,09 – 0,17
> 200 HB	60	0,015 – 0,03	0,03 – 0,06	0,04 – 0,1	0,08 – 0,15	0,09 – 0,17
Gray Cast Iron / Fundición Gris / Fonte aciérée grise						
< 200 HB	100	0,015 – 0,03	0,03 – 0,06	0,04 – 0,1	0,08 – 0,15	0,09 – 0,17
> 200 HB	80	0,015 – 0,03	0,03 – 0,06	0,04 – 0,1	0,08 – 0,15	0,09 – 0,17

Cutting Conditions Series – 101M, 108M Carbide Drills – Metric

Condiciones de corte
Conditions de coupe

Serie 101M, 108M Brocas de carburo sólido
Série 101M, 108M Forets carbure monobloc



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material	speed in m/min	feed (mm / rev)					material number	description
		1-3	>3-6	>6-9	>9-12	>12-20		
Structural Steel / Aceros de construcción / Acier à construction								
< 500 N/mm ²	95	0,05-0,08	0,085-0,1	0,1-0,15	0,15-0,2	0,2-0,25	1.0037	St 37-2
< 650 N/mm ²	85	0,05-0,08	0,085-0,1	0,1-0,15	0,15-0,2	0,2-0,25	1.0050	St 50-2
< 850 N/mm ²	75	0,03-0,05	0,05-0,085	0,085-0,12	0,1-0,18	0,15-0,2	1.0070	St 70-2
Case Hardening Steel / Aceros de cementación y temple / Aciers à cémentation								
< 800 N/mm ²	80	0,05-0,08	0,085-0,1	0,1-0,15	0,15-0,2	0,2-0,25	1.0301	C 10
< 1000 N/mm ²	75	0,03-0,05	0,05-0,085	0,085-0,12	0,1-0,18	0,15-0,2	1.7012	13 Cr 2
Nitriding Steel / Aceros de nitruración / Aciers à nitruration								
< 1000 N/mm ²	75	0,03-0,05	0,05-0,085	0,085-0,12	0,1-0,18	0,15-0,2	1.8509	41 CrAlMo 7
< 1300 N/mm ²	65	0,03-0,05	0,05-0,085	0,085-0,12	0,1-0,18	0,15-0,2	1.8519	31 CrMoV 9
Heat Treatable Steel / Aceros de temple / Acier trempé								
< 700 N/mm ²	90	0,05-0,08	0,085-0,1	0,1-0,15	0,15-0,2	0,2-0,25	1.0406	C 25
< 900 N/mm ²	80	0,05-0,08	0,085-0,1	0,1-0,15	0,15-0,2	0,2-0,25	1.0540	C 50
< 1200 N/mm ²	65	0,01-0,02	0,025-0,06	0,06-0,09	0,085-0,13	0,1-0,15	1.5122	37 MnSi 4
< 1400 N/mm ²	50	0,01-0,02	0,025-0,06	0,06-0,09	0,085-0,13	0,1-0,15	1.6582	34 CrNiMo 6
Tool Steel / Aceros de herramientas / Acier à outils								
< 700 N/mm ²	50	0,01-0,03	0,02-0,06	0,05-0,08	0,075-0,1	0,08-0,12	-	-
< 1000 N/mm ²	40	0,01-0,03	0,02-0,06	0,05-0,08	0,075-0,1	0,08-0,12	-	-
< 1200 N/mm ²	35	0,01-0,02	0,015-0,04	0,035-0,055	0,045-0,08	0,075-0,1	-	-
< 1400 N/mm ²	30	0,01-0,02	0,015-0,04	0,035-0,055	0,045-0,08	0,075-0,1	-	-
> 1400 N/mm ²	25	0,01-0,02	0,015-0,04	0,035-0,055	0,045-0,08	0,075-0,1	-	-
Stainless Steel / Acero inoxidable / Acier inoxydable								
< 700 N/mm ²	50	0,015-0,03	0,025-0,06	0,05-0,1	0,075-0,13	0,1-0,17	1.4301	X 5 CrNi 18 10
< 850 N/mm ²	30	0,01-0,02	0,015-0,04	0,035-0,055	0,045-0,08	0,075-0,1	1.4006	X 10 Cr 13
< 950 N/mm ²	25	0,01-0,02	0,015-0,04	0,035-0,055	0,045-0,08	0,075-0,1	1.4122	X 35 CrMo 17
Cast Steel / Aceros de fundición blanda / Fonte tendre								
< 500 N/mm ²	75	0,02-0,06	0,05-0,09	0,07-0,12	0,09-0,15	0,1-0,18	1.0446	GS-38
< 650 N/mm ²	60	0,02-0,06	0,05-0,09	0,07-0,12	0,09-0,15	0,1-0,18	1.0553	GS-60
> 650 N/mm ²	40	0,02-0,06	0,05-0,09	0,07-0,12	0,09-0,15	0,1-0,18	1.0554	GS-70
Cast Steel – Hard / Aceros de fundición dura / Fonte dure								
	40	0,01-0,03	0,02-0,06	0,05-0,08	0,06-0,09	0,07-0,1	-	-
High Temp. Alloys / Aceros resistentes a altas temp. / Alliage à haute temp.								
< 700 N/mm ²	35	0,01-0,03	0,02-0,05	0,04-0,055	0,05-0,075	0,06-0,1	2.4816	NiCr 15 Fe
< 900 N/mm ²	23	0,01-0,03	0,02-0,05	0,04-0,055	0,05-0,075	0,06-0,1	1.4921	X 20 CrMoV 12 1
< 1100 N/mm ²	20	0,01-0,03	0,02-0,05	0,04-0,055	0,05-0,075	0,06-0,1	1.4911	X 8 CrCoNiMo 10 6
< 1250 N/mm ²	18	0,01-0,02	0,015-0,04	0,035-0,045	0,04-0,06	0,05-0,08	1.4980	X 5 NiCrTi 26 15
< 1400 N/mm ²	15	0,008-0,01	0,01-0,03	0,025-0,035	0,03-0,04	0,035-0,05	2.4973	NiCr 19 CoMo
> 1400 N/mm ²	10	0,008-0,01	0,01-0,03	0,025-0,035	0,03-0,04	0,035-0,05	2.4969	NiCr 20 Co 18 Ti
Titanium Alloys / Aleaciones de titanio / Alliage de titane								
< 550 N/mm ²	40	0,01-0,03	0,02-0,05	0,04-0,055	0,05-0,075	0,06-0,1	-	-
< 950 N/mm ²	30	0,01-0,025	0,015-0,04	0,035-0,045	0,04-0,06	0,05-0,08	-	-
> 1200 N/mm ²	20	0,01-0,025	0,015-0,04	0,035-0,045	0,04-0,06	0,05-0,08	-	-
Malleable Cast Iron / Fundición maleable / Fonte acérée malléable								
< 200 HB	80	0,03-0,06	0,04-0,1	0,08-0,15	0,09-0,17	0,12-0,23	-	-
> 200 HB	60	0,03-0,06	0,04-0,1	0,08-0,15	0,09-0,17	0,12-0,23	-	-
Gray Cast Iron / Fundición gris / Fonte acérée grise								
< 200 HB	100	0,03-0,06	0,04-0,1	0,08-0,15	0,09-0,17	0,12-0,23	-	-
> 200 HB	80	0,03-0,06	0,04-0,1	0,08-0,15	0,09-0,17	0,12-0,23	-	-
Copper / Cobre / Cuivre								
< 500 N/mm ²	80	0,015-0,03	0,025-0,06	0,05-0,08	0,075-0,09	0,08-0,12	-	-
Copper Alloys – Brittle / Aleación de cobre fragil / Alliage de cuivre - mou								
-	110	0,015-0,03	0,025-0,06	0,05-0,08	0,075-0,09	0,08-0,12	-	-
Aluminum – Low Silicon / Aluminio - bajo contenido de silicio / Aluminium – faible teneur en silice								
-	180	0,03-0,05	0,05-0,125	0,1-0,18	0,15-0,2	0,17-0,3	-	-
Aluminum – High Silicon / Aluminio - alto contenido de silicio / Aluminium à forte teneur de silice								
-	110	0,03-0,05	0,05-0,125	0,1-0,18	0,15-0,2	0,17-0,3	-	-
Magnesium Alloys / Aleaciones de magnesio / Alliage de magnésium								
-	160	0,03-0,06	0,04-0,1	0,08-0,15	0,09-0,17	0,12-0,23	-	-
Zinc Alloys / Aleaciones de zinc / Alliage de zinc								
-	120	0,03-0,05	0,05-0,085	0,085-0,12	0,1-0,18	0,15-0,2	-	-
Plastic / Plásticos / Matières Synthétiques								
-	120	0,03-0,06	0,04-0,1	0,08-0,15	0,09-0,17	0,12-0,23	-	-
Fiber Plastic / Fibra de plástico / Fibre de plastique								
-	100	0,01-0,02	0,015-0,04	0,035-0,055	0,045-0,08	0,075-0,1	-	-



All recommendations should be considered a starting point, with possible variations to achieve optimum results. Increase the speed 20% when using coated drills.



Todas las recomendaciones deberían ser consideradas como punto de partida, con posibles variaciones para conseguir óptimos resultados. Incrementar la velocidad un 20% cuando se utilicen brocas recubiertas.



Les informations techniques mentionnées sont des valeurs moyennes données à titre indicatif et sont modifiables pour optimiser les résultats. Augmenter la vitesse de 20% lorsque vous utilisez des forets revêtues.

