



Solid carbide drills

Ratio drills with coolant ducts

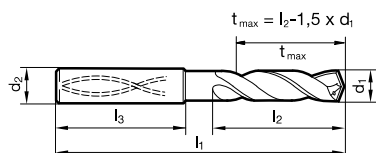
Article no. 6063



cutting data see page 59



Web thinning ≥ Ø 3,000 • relieved cone • main cutting edge is slightly concave • optimised cutting edge geometry • sharp cutting characteristics • polished functional surfaces for the prevention of built-up edges



Article no.

6063

Article no.

6063

Table with columns for d1 (mm, inch), d2 h6 (mm), l1, l2, l3 (mm), Order no., and corresponding values for Article no. 6063. The table lists various drill sizes and their dimensions.



Article no. 6063						
d1 mm	inch	d2 h6 mm	l1 mm	l2 mm	l3 mm	Order no.
14.500		16.0	204.0	152.0	48.0	6063 14.500
14.800		16.0	204.0	152.0	48.0	6063 14.800
15.000		16.0	204.0	152.0	48.0	6063 15.000
15.500		16.0	204.0	152.0	48.0	6063 15.500
15.800		16.0	204.0	152.0	48.0	6063 15.800
16.000		16.0	204.0	152.0	48.0	6063 16.000
16.500		18.0	223.0	171.0	48.0	6063 16.500
17.000		18.0	223.0	171.0	48.0	6063 17.000
17.500		18.0	223.0	171.0	48.0	6063 17.500
18.000		18.0	223.0	171.0	48.0	6063 18.000
18.500		20.0	244.0	190.0	50.0	6063 18.500
19.000		20.0	244.0	190.0	50.0	6063 19.000

Article no. 6063						
d1 mm	inch	d2 h6 mm	l1 mm	l2 mm	l3 mm	Order no.
19.500		20.0	244.0	190.0	50.0	6063 19.500
20.000		20.0	244.0	190.0	50.0	6063 20.000

Solid carbide drills



Ratio drills with coolant ducts RT 100 AL, 7xD



Cutting data

Machining group			f (mm/rev) with nom. Ø									
			3	4	6	8	10	12	14	16	20	
	v _c (m/min)											
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm ² , 125 HB												
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm ² , 125 HB												
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm ² , 190 HB												
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm ² , 190 HB												
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm ² , 250 HB												
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm ² , 270 HB												
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm ² , 300 HB												
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm ² , 180 HB												
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm ² , 275 HB												
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm ² , 300 HB												
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm ² , 350 HB												
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm ² , 200 HB												
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm ² , 325 HB												
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives												
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm ² , 200 HB												
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm ² , 240 HB												
M2.1.1 Stainless steel, austenitic, quenched, 180 HB												
M2.2.1 Duplex steel, high-strength stainless steels												
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB												
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB												
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB												
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB												
K1.3.1 Malleable cast iron, ferritic, 130 HB												
K1.3.2 Malleable cast iron, pearlitic, 230 HB												
K2.1.1 Vermicular graphite cast iron (GJV)												
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)												
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB	240	0.155	0.190	0.260	0.325	0.385	0.440	0.495	0.550	0.650		
N1.1.2 Wrought aluminium alloys, hardened, 100 HB	240	0.155	0.190	0.260	0.325	0.385	0.440	0.495	0.550	0.650		
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	220	0.190	0.240	0.325	0.405	0.480	0.550	0.620	0.685	0.815		
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	220	0.190	0.240	0.325	0.405	0.480	0.550	0.620	0.685	0.815		
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	185	0.165	0.205	0.275	0.345	0.410	0.470	0.525	0.585	0.690		
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %	160	0.125	0.155	0.210	0.260	0.305	0.355	0.395	0.440	0.520		
N3.1.2 Copper and copper alloys: CuZn, CuSnZn	135	0.105	0.130	0.175	0.220	0.260	0.300	0.335	0.375	0.440		
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte	130	0.100	0.120	0.165	0.205	0.245	0.280	0.315	0.350	0.415		
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics	90	0.040	0.050	0.065	0.080	0.095	0.110	0.125	0.135	0.165		
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.	90	0.040	0.050	0.065	0.080	0.095	0.110	0.125	0.135	0.165		
N4.1.3 Non-metallic materials: Graphite												
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB												
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB												
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB												
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB												
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB												
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm ²												
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm ²												
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC												
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC												
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC												
H2.1.1 Chilled cast iron, 400 HB												
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC												



RT 100 AL

Drilling specialist for non-ferrous metals

No built-up edges and
perfect chip removal





**The RT 100 AL is characterised by its round,
open point geometry and concave cutting edge shape.**

As a result, the drill ensures optimum chip formation and
safe chip removal in both wrought and cast aluminium alloys.

Furthermore, the sharp, micro-polished cutting edges
ensure smooth cutting characteristics and low process
temperatures. Combined with the polished flutes – which
further promote chip removal – the polished surfaces in
the web thinning and on the clearance faces prevent
material adhesion and minimise built-up edges.

Your advantages: With the RT 100 AL, you benefit
from maximum process reliability when machining
non-ferrous metals, even with high cutting values.

x **Tool life** increased by 16 %
x **Machining time** reduced by 25 %

-  X soft cut & low process temperature even in heat-treated AISi alloys
-  X fewer built-up edges & less material adhesion
-  X long tool life thanks to wear-resistant carbide grade
-  X optimum formation & removal of chips in non-ferrous metals



optimised open point geometry
for optimum chip removal

sharp, concave cutting edges
for smooth cutting characteristics & low process temperatures

polished functional surfaces
prevent material adhesion & minimise built-up edges

available in the diameter range
3xD | 5xD | 7xD, Ø 3.0–20.0 mm
12xD, Ø 3.0–16.0 mm

Application example

Component: Moulded part in the food industry, AlMg5 (3.3555)

Tool: #6062, Ø 11.8 mm

Customer target: Process-reliable and economical machining

Difficulty: Reliable chip removal with high machining parameters

Cutting data:	Gühring	Competition
v_c	250 m/min	220 m/min
f	0.35 mm/rev	0.30 mm/rev

Tool life:	4608 m	3974 m
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