











Cutting data for solid carbide drilling and reaming tools

Solid carbide drills – with internal coolant

B 1

Material group	 = Wet machining (E = emulsion, O = oil)  = Dry machining is possible (M = MQL, L = dry) The cutting data must be selected from Walter GPS v _c = Cutting speed VRR = Feed rate chart, see page 59 * The classification of the machining groups can be found in the material group comparison table						Drilling depth			3 x D _c			5 x D _c		
	Designation						DC150 Perform			DC150 Perform					
	Standard						DIN 6537 K			DIN 6537 L					
	Coating/grade						WJ30RE			WJ30RE					
Dia. range (mm)						3–20			3–20						
Page						27			31						
Overview of the main material groups and code letters															
Brinell hardness HB						v _c			VRR			 			
Tensile strength R _m (N/mm ²)						v _c			VRR			 			
Machining group *						v _c			VRR			 			
P	Non-alloyed steel	C ≤ 0.25%	Annealed	125	62	P1	120	12	E 0		110	12	E 0		
		C > 0.25 to ≤ 0.55%	Annealed	190	93	P2	100	10	E 0		100	10	E 0		
		C > 0.25 to ≤ 0.55%	Heat-treated	210	103	P3	80	9	E 0		80	9	E 0		
		C > 0.55%	Annealed	190	93	P4	90	9	E 0		90	9	E 0		
		C > 0.55%	Heat-treated	300	146	P5	71	8	E 0		71	8	E 0		
		Free-machining steel (short-chipping)	Annealed	220	109	P6	120	12	E 0		110	12	E 0		
	Low-alloy steel	Annealed		175	86	P7	100	12	E 0		100	12	E 0		
		Heat-treated		285	139	P8	71	9	E 0		71	9	E 0		
		Heat-treated		380	186	P9	45	6	E 0		45	6	E 0		
		Heat-treated		430	215	P10	40	4	E 0		36	4	E 0		
High-alloy steel and high-alloy tool steel	Annealed		200	99	P11	80	9	E 0		80	9	E 0			
	Hardened and tempered		300	146	P12	63	10	E 0		63	10	E 0			
	Hardened and tempered		380	186	P13	50	6	E 0		50	6	E 0			
Stainless steel	Ferritic/martensitic, annealed		200	99	P14	80	10	E 0		80	10	E 0			
	Martensitic, heat-treated		330	161	P15	50	9	E 0		50	9	E 0			
M	Stainless steel	Austenitic, quench hardened		200	99	M1	40	5	E 0		40	5	E 0		
		Austenitic, precipitation hardened (PH)		300	146	M2	56	6	E 0		56	6	E 0		
		Austenitic/ferritic, duplex		230	113	M3	32	4	E 0		32	4	E 0		
K	Malleable cast iron	Ferritic		200	58	K1	100	16	E 0		100	16	E 0		
		Pearlitic		260	102	K2	71	16	E 0		71	16	E 0		
	Grey cast iron	Low tensile strength		180	29	K3	110	16	E 0		110	16	E 0		
		High tensile strength/austenitic		245	51	K4	90	16	E 0		90	16	E 0		
	Cast iron with spheroidal graphite	Ferritic		155	58	K5	110	16	E 0		100	16	E 0		
		Pearlitic		265	102	K6	71	16	E 0		71	16	E 0		
	GGV (CGI)		230	58	K7	80	16	E 0		80	16	E 0			
N	Wrought aluminium alloys	Not hardenable		30	-	N1	400	16	E 0		400	16	E 0		
		Hardenable, hardened		100	49	N2	400	16	E 0		400	16	E 0		
	Cast aluminium alloys	≤ 12% Si, not hardenable		75	38	N3	250	16	E 0	M	250	16	E 0	M	
		≤ 12% Si, hardenable, hardened		90	45	N4	220	16	E 0	M	220	16	E 0	M	
		> 12% Si, not hardenable		130	65	N5	200	16	E 0	M	200	16	E 0	M	
		Magnesium-based alloys		70	36	N6									
	Copper and copper alloys (bronze/brass)	Unalloyed, electrolytic copper		100	49	N7	180	8	E 0		180	8	E 0		
Brass, bronze, red brass			90	45	N8	160	10	E 0		160	10	E 0			
Cu alloys, short-chipping			110	55	N9	180	16	E 0		180	16	E 0			
High tensile, Ampco			300	146	N10	45	5	E 0		45	5	E 0			
S	Heat-resistant alloys	Fe-based	Annealed	200	99	S1	32	4	E 0		32	4	E 0		
			Hardened	280	136	S2	22	3	E 0		22	3	E 0		
		Ni- or Co-based	Annealed	250	122	S3	32	4	E 0		32	4	E 0		
			Hardened	350	171	S4	11	3	E 0		11	3	E 0		
			Cast	320	157	S5	18	3	E 0		18	3	E 0		
	Titanium alloys	Pure titanium		200	99	S6	45	6	E 0		45	6	E 0		
		α and β alloys, hardened		375	183	S7	32	4	E 0		32	4	E 0		
		β alloys		410	203	S8	28	4	E 0		25	4	E 0		
		Tungsten alloys		300	146	S9	18	3	E 0		18	3	E 0		
		Molybdenum alloys		300	146	S10	18	3	E 0		18	3	E 0		
H	Hardened steel	Hardened and tempered	50 HRC	-	H1	28	3	O E		28	3	O E			
		Hardened and tempered	55 HRC	-	H2										
		Hardened and tempered	60 HRC	-	H3										
		Hardened cast iron	Hardened and tempered	55 HRC	-	H4									
O	Thermoplastics	Without abrasive fillers			O1	90	16	E 0		90	16	E 0			
	Thermosets	Without abrasive fillers			O2										
	Plastic, glass-fibre reinforced	GFRP			O3										
	Plastic, carbon-fibre reinforced	CFRP			O4										
	Plastic, aramid-fibre reinforced	AFRP			O5										
	Graphite (technical)		80 Shore			O6									