

## Application values

Screw tap, HSSE-PM Ultra HL M ISO 2X (6HX) 0° 376 B (Art. no. 1014347 109-117)



Material groups for cutting values	Strength Class [N/mm²]	Description regarding DIN	Vc [m/min]
<b>1. Steels</b>			
1.1 Free machining steel	< 900	9 S 20	16-30
1.2 Structural steel	<500	ST 37-2	16-30
1.3 Structural steel	> 500	ST 60-2	14-25
1.4 Heat-treated steel	<1000	42 CrMo 4	10-18
1.5 Cast iron	<1000	GS-45	10-18
1.6 Case-hardened steel	<1200	16 MnCr 5	10-16
1.7 Ferritic/martensitic stainless steel	<1100	X 10 Cr 13	10-14
1.8 Heat-treated steel	>1000	43 CrMo 4	10-16
1.9 Nitriding steel	<1300	31 CrMoV 9	10-16
1.10 Tool steel	<1300	X 38 CrMoV 5 1	6-12
<b>2. Stainless steels</b>			
2.1 Austenitic stainless steel	<1100	G-X 2 CrNiMo 18 15	10-14
<b>3. Non-ferrous metals</b>			
3.1 Long-chipping aluminium	<500	Al99.9	20-30
3.2 Short-chipping aluminium	<500	G-AlSi12	12-16
3.3 Copper alloy bronze, long-chipping	<1200	CuSn4	15-25
3.4 Copper alloy bronze, short-chipping	<850	CuNi12Zn24	8-16
3.5 Copper alloy brass, long-chipping	<600	Cu Zn 20	15-25
3.7 Thermoplastic	<600	Cu Zn 39 Pb 3	15-20
	<100	PVC, Acrylglas	10-30
3.8 Duroplast	<150	Bakelit, Melamin	8-25
3.9 Fibre-reinforced plastics	<1500	CFK, GFK	5-12
3.10 Graphite	<60	C8000	10-20
3.11 Composite materials			
<b>4. Cast metal</b>			
4.1 Grey cast iron	<260 HB	GG10	15-25
4.2 Spheroidal graphite iron	<310 HB	GGG 40	15-25
4.3 Ductile iron	<280 HB	GTW-55	15-25
<b>5. Special alloys</b>			
5.1 Titanium alloy	<1200	TiAl5Sn2,5	4-8
5.2 Nickel-based alloy	<1400	NiCr21Mo	2-8
5.3 Super alloys	<1400	X45CrSi 9 3	2-8

