Cutting data recommendations
for fineboring tools and cartridges

The cutting data recommendations in the table are guide values
and depend to a high degree on the stability of the machine, fixture and workpiece.

Cutting groups	Material group	Composition / structure	Tensile strength RM (MPa)	Hardness HB HRC	Cutting speed V_c m/min	Recom. cutting grade	Feed rate fz mm/z								
							Insert type								
							W 1035-	W 1730-	W 1733-	W 2850-	W 2853-	W 3570-	W 3573-	W 4090-	W 4093-
1.1		C = 0.1 -0.25 annealed, long cutt.	420	125	100-160	G26/G16	0.02-0.08	0.02-0.08	0.02-0.10	0.04-0.12	0.04-0.12	0.05-0.15	0.05-0.15	0.07-0.20	0.07-0.20
1.2		C = 0.1 -0.25 annealed, short chip	420	125	100-160										
2.1	Unalloyed steel	C = 0.25-0.55 annealed, long cutt.	620	190	90-150										
2.2	Cast steel	C = 0.25-0.55 annealed, short chip	640	190	100-160										
3	Machining steel	C = 0.25 -0.55 tempered	850	250	90-150										
4		C = 0.25 -0.8 annealed	915	270	80-140										
5		C = 0.25 -0.8 tempered	1020	300	75-125										
6		annealed	610	180	90-140										
7	Low-alloy steel Cast steel	tempered	930	275	60-110										
8	Machining steel	tempered	1020	300	60-110										
9		tempered	1190	350	60-100										
10	High-alloy steel Cast steel	annealed	680	200	60-110										
11	High-alloy tool steel	hardened and tempered	1100	325	50-90										
12-13	Stainless steel and cast steel	ferritic/martensitic annealed	680	200	50-90										
		martensitic	810	240	40-80										
14.1	Stainless steel	austenitic quenched	610	180	40-80	G26/G12									
14.2		austenitic/ferritic (duplex)	880	260	40-80										
15	Grey cast iron	perlitic/ferritic		180	110-160	G12/K10									
16		perlitic (martensitic)		260	100-150										
17	Cast iron with nodular cast iron	ferritic		160	80-130	G26/G16/									
18		perlitic		250	70-120	G12									
19	Malleable	ferritic		130	90-150	G26/G16									
20		perlitic		230	80-140										
21	Aluminium forging alloys	not heat treatable		60	-1000	K10/PKD									
22		heat treatable/heat treated		100	-800										
23	Aluminium casting alloys	<12% Si not heat treatable		75	-1000										
24		<12% Si heat treatable/heat treated		90	-800										
25		>12% Si not heat treatable		130	-600	PKD									
26	Copper Copper alloys (bronze, brass)	Machined alloys, Pb >1%		110	70-120	G12/K10									
27		CuZn, CuSnZn		90	70-120										
28		Cu, lead free copper/electrolyte copper		100	70-120										
29	Non metallic materials	Duroplastic			-200	K10/PKD									
30		Reinforced materials			-200										
31	Heat resistant alloys	Fe-based annealed		200	30-50	G26/G16									
32		heat treated		230	30-50										
33		Ni- or Co-based annealed		250	20-40										
34		heat treated		350	20-40										
35		cast		320	20-40										
36	Titanium alloys	Pure titanium	400		20-40	K10									
37		Alpha-beta alloys	1050		20-30										
38	Hardened steels			50-62	80-150	PCBN									
39															