

Recommended cutting datas

Short hole with indexable insert

ISO	Material		Brinell hardness HB	Cutting speed Vc [m/min]				
				AM35C	AR27C	AR37C	AK10	AP40
P	Unalloyed steel and cast steel	ca. 0,15% C annealed	100	220-300	250-350	220-300	–	–
		ca. 0,45% C annealed	190	180-250	200-280	200-280	–	–
		ca. 0,45% C hardened and tempered	250	180-250	200-280	180-250	–	–
		ca. 0,75% C annealed	270	180-240	200-270	200-270	–	–
		ca. 0,75% C hardened and tempered	300	180-240	200-270	200-270	–	–
	Low alloyed steel and cast steel	annealed	180	200-280	220-300	200-280	–	–
		hardened and tempered	275	180-220	200-250	180-250	–	–
		hardened and tempered	300	160-220	180-250	180-220	–	–
		hardened and tempered	350	120-200	160-220	120-200	–	–
	High alloyed steel, high alloyed tool-steel and cast steel	annealed	200	140-220	200-275	140-220	–	–
		hardened and tempered	325	120-160	130-180	120-160	–	–
Stainless steel and cast steel	ferritic / martensitic, annealed	200	180-250	200-280	180-250	–	–	
	martensitic, hardened and tempered	300	100-150	120-170	100-150	–	–	
M	Stainless steel and cast steel	austenitic and austenitic/ferritic, chilled	135-185 185-275	180-250 100-140	– –	180-250 100-140	– –	60-150 50-100
K		Cast iron	pearlitic, ferritic	150-200	–	180-280	–	–
	pearlitic, martensitic		200-260 250-320	– –	160-260 150-250	– –	– –	– –
	Cast iron with nodular graphite		ferritic	160	–	120-190	–	–
		pearlitic	250	–	100-180	–	–	–
	Malleable cast iron	ferritic	130	–	140-210	–	–	–
		pearlitic	230	–	100-150	–	–	–
N	Aluminium alloys, long chipping	not heat treatable	60	–	–	–	200-500	–
		heat treatable, heat - treated	100	–	–	–	200-500	–
	Casted aluminium alloys	≤ 12% Si, hardened	75	–	–	–	200-500	–
		≤ 12% Si, heat treatable, hardened	90	–	–	–	200-500	–
		≤ 12% Si, not heat treatable	130	–	–	–	200-500	–
	Copper and copper alloys (brass / bronze)	Lead alloys, Pb > 1%	110	–	–	–	250-350	–
		Brass, bronze	90	–	–	–	180-240	–
		Aluminium bronze	150	–	–	–	180-240	–
		Copper and electrolyte copper	60	–	–	–	180-240	–
	Non ferrous materials	Duroplastics		–	–	–	50-180	–
Re - inforced plastics			–	–	–	50-150	–	
Hard rubber			–	–	–	50-200	–	
S	High temperature resistant alloys	Fe-alloyed annealed	200	–	–	20-80	–	20-40
		heat - treated	280	–	–	20-80	–	20-40
		Ni- or annealed	250	–	–	20-80	–	20-40
		Co based casting	320	–	–	20-80	–	20-40
		heat - treated	350	–	–	20-80	–	20-40
	Titanium alloys, high strength Alpha- and Beta- alloys, hardened	Pure titan	150-200 200-300	– –	– –	40-100 40-100	40-120 40-120	30-80 30-80
H	Hardened steel	hardened and tempered	300-400	–	–	–	–	–
		hardened and tempered	400-500	–	–	–	–	–
	Hard cast iron	casting	400	–	–	–	–	–
	Hardened cast iron	hardened and tempered	55 HRC	–	–	–	–	–

The datas given are only approximate values. It can be necessary to adjust these datas to the individual machining operation.