

RECOMMENDED INSERT

ISO	Workpiece material	First choice	Wear resistance	Fracture resistance
P	Low carbon steel (C ≤ 0.3%)	DS AH7030	DS AH7020	DJ AH3135
	Carbon steel (C > 0.3%)	DJ AH7030	DJ AH7020	DJ AH3135
	Low alloy steel	DS AH7030	DS AH7020	DJ AH3135
	Alloy steel	DJ AH7030	DJ AH7020	DJ AH3135
M	Stainless steel	DS AH7030	DS AH7020	DJ AH3135
K	Grey cast irons	DJ AH7030	DJ AH7020	-
	Ductile cast irons	DJ AH7020	-	DJ AH7030
N	Aluminium alloy	DS AH7030	-	-
S	Heat-resistant alloys	DS AH7020	-	DJ AH7020
	Titanium alloys	DS AH7030	DS AH7020	DJ AH3135
H	Hardened steel	DJ AH7020	-	DJ AH7030

STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Hardness	Cutting speed Vc (m/min)	Series L/D	Feed: f (mm/rev)		
					ø20 ~ ø27.5	ø28 ~ ø38	ø39 ~ ø54
P	Low carbon steels (C < 0.3) SS400, SM490, S25C, etc. st42-1, St52-3, C25, etc.	- 200 HB	160 - 320	2D, 3D	0.04 - 0.1	0.04 - 0.1	0.04 - 0.1
				4D	0.04 - 0.1	0.04 - 0.1	0.04 - 0.1
	Carbon steels (C > 0.3) S45C, S55C, etc. C45, C55, etc.	- 300 HB	80 - 250	2D, 3D	0.06 - 0.15	0.06 - 0.16	0.06 - 0.18
				4D	0.06 - 0.15	0.06 - 0.15	0.06 - 0.17
	Low alloy steels SCM415, etc.	- 200 HB	160 - 250	2D, 3D	0.06 - 0.12	0.06 - 0.12	0.06 - 0.14
				4D	0.06 - 0.12	0.06 - 0.12	0.06 - 0.14
M	Alloy steels SCM440, SCr420, etc. 42CrMo4, 20Cr4, etc.	- 300 HB	80 - 200	2D, 3D	0.06 - 0.13	0.06 - 0.15	0.06 - 0.18
				4D	0.06 - 0.1	0.06 - 0.12	0.06 - 0.14
	Stainless steels (Austenitic) SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-2, etc.	- 200 HB	100 - 200	2D, 3D	0.04 - 0.1	0.04 - 0.12	0.04 - 0.12
				4D	0.04 - 0.1	0.04 - 0.12	0.04 - 0.12
	Stainless steels (Martensitic and ferritic) SUS430, SUS416, etc. X6Cr17, X20Cr13, etc.	- 200 HB	100 - 220	2D, 3D	0.04 - 0.1	0.04 - 0.12	0.04 - 0.12
				4D	0.04 - 0.1	0.04 - 0.12	0.04 - 0.12
K	Stainless steels (Precipitation hardening) SUS630, etc. X5CrNiCuNb16-4, etc.	-	80 - 120	2D, 3D	0.04 - 0.08	0.04 - 0.1	0.06 - 0.1
				4D	0.04 - 0.08	0.04 - 0.1	0.06 - 0.1
	Grey cast irons FC250, etc., 250, etc.	150 - 250 HB	80 - 250	2D, 3D	0.06 - 0.15	0.06 - 0.18	0.08 - 0.2
				4D	0.06 - 0.12	0.06 - 0.14	0.08 - 0.16
	Ductile cast irons FCD700, etc., 600-3, etc.	150 - 250 HB	80 - 200	2D, 3D	0.06 - 0.15	0.06 - 0.18	0.08 - 0.2
				4D	0.06 - 0.12	0.06 - 0.14	0.08 - 0.16
N	Aluminium alloy A2017, ADC12, etc. AlCu4SiMg, AlSi11Cu3, etc.	-	200 - 400	2D, 3D	0.15 - 0.2	0.15 - 0.2	0.15 - 0.25
				4D	0.12 - 0.16	0.12 - 0.16	0.12 - 0.2
S	Heat-resistant alloys Inconel 718, etc.	- 40 HRC	20 - 60	2D, 3D	0.04 - 0.1	0.04 - 0.1	0.04 - 0.1
				4D	0.04 - 0.1	0.04 - 0.1	0.04 - 0.1
	Titanium alloys Ti-6Al-4V, etc.	- 40 HRC	40 - 120	2D, 3D	0.06 - 0.12	0.06 - 0.12	0.06 - 0.12
				4D	0.06 - 0.1	0.06 - 0.1	0.06 - 0.1
H	Hardened steel	- 50 HRC	40 - 100	2D, 3D	0.04 - 0.1	0.04 - 0.1	0.04 - 0.1
				4D	0.04 - 0.08	0.04 - 0.08	0.04 - 0.08