

STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Hardness	Selection criteria	Grades	Max.axial depth of cut (mm)	Cutting speed Vc (m/min)	Feed per tooth : fz (mm/t)		
							D12	D16	D20
P	Low carbon steel, alloy steel	85 - 180 HB	First choice	AH725	$\leq 0.04D$	180 - 260	0.20	0.25	0.25
		85 - 180 HB	For wear resistance	AH710	$\leq 0.04D$	180 - 260	0.20	0.25	0.25
	High carbon steel, alloy steel	180 - 280 HB	First choice	AH725	$\leq 0.03D$	150 - 230	0.20	0.25	0.25
		180 - 280 HB	For wear resistance	AH710	$\leq 0.03D$	180 - 230	0.20	0.25	0.25
	Prehardened steel Die & mold tool steel	HRC 40 - 48	First choice	AH710	$\leq 0.03D$	180 - 300	0.20	0.20	0.25
		HRC 40 - 48	For fracture resistance	AH725	$\leq 0.03D$	180 - 300	0.20	0.20	0.25
M	Stainless steel	135 - 200 HB	First choice	AH725	$\leq 0.03D$	100 - 250	0.20	0.20	0.25
K	Cast iron	150 - 240 HB	First choice	AH710	$\leq 0.04D$	90 - 350	0.25	0.30	0.30
		150 - 240 HB	For fracture resistance	AH725	$\leq 0.04D$	90 - 350	0.25	0.30	0.30
N	Aluminium	-	First choice	AH725	$\leq 0.03D$	200 - 400	0.35	0.35	0.35
H	High hardened steel	HRC 48 - 65	First choice	AH710	$\leq 0.02D$	100 - 350	0.10	0.13	0.15

Note: See page 9 for more information about grades.

- Remove excessive chip accumulation with an air blast.
- For the operation with depth of cut which varies (ex.casting skin) and machining of workpiece materials with interrupted surface, the feed per tooth (fz) should be set to the lower recommended value shown in the above table.

- Cutting conditions maybe limited depending on machine power, workpiece rigidity, and spindle output. When the cutting width, depth, or overhang length is large, set Vc and fz to the lower recommended values and check the machine power and vibration.

How to clamp the insert

1. Clear chips and dust from the pocket.
2. Place the insert in the pocket. The insert can be placed only in one direction.
3. Tighten the screw while pressing the insert into the pocket.

How to check the run-out

1. Clamp the insert on the shank.
2. Clamp the shank on a high-precision arbor.
3. Measure the run-out on tool presetter or by dial gauge.

Notes:

1. Due to the helical cutting edge, it is important that the run-out is inspected with the insert clamped on the shank.
2. Do not use micrometer or caliper to inspect the insert diameter as inaccurate dimensions may be provided.