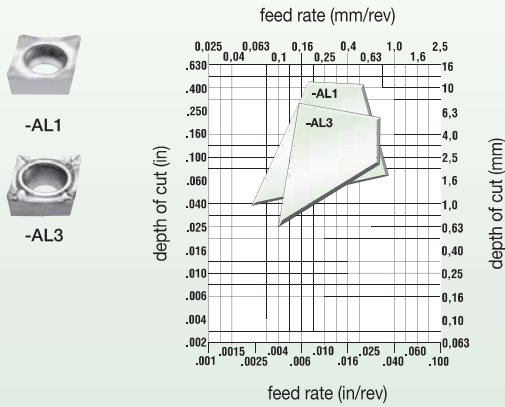


■ **Step 1 • Select the insert geometry**

**Positive Inserts**



■ **Step 2 • Select the grade**

**Positive Insert Geometry**

cutting condition		-AL1	-AL3
heavily interrupted cut		HCK10/HWK10	HCK10/HWK15
lightly interrupted cut		HCK10/HWK10	HCK10/HWK15
varying depth of cut, casting, or forging skin		HCK10/HWK10	HCK10/HWK15
smooth cut, pre-turned surface		HCK10/HWK10	HCK10/HWK15

■ **Step 3 • Selecting the cutting speed**

**Low-Silicon Aluminum Alloys**

(hypo-eutectic <12.2% Si) and Magnesium Alloys

speed – m/min (SFM)

Starting Conditions

Material Group	grade	speed – m/min (SFM)										Starting Conditions	
		250 (800)	500 (1600)	750 (2400)	1000 (3200)	1250 (4000)	1500 (4800)	1750 (5600)	2000 (6400)	2250 (7200)	2500 (8000)	m/min	SFM
N2	HCK10	◊										550	1800

**High-Silicon Aluminum Alloys**

(hyper-eutectic >12.2% Si) and Magnesium Alloys

speed – m/min (SFM)

Starting Conditions

Material Group	grade	speed – m/min (SFM)										Starting Conditions	
		250 (800)	500 (1600)	750 (2400)	1000 (3200)	1250 (4000)	1500 (4800)	1750 (5600)	2000 (6400)	2250 (7200)	2500 (8000)	m/min	SFM
N3	HCK10	◊										550	1800

■ Additional cutting speed recommendations for miscellaneous workpiece materials

Copper-, Brass-, Zinc-Based on a Machinability Index Range of 70–100

		speed – m/min (SFM)				Starting Conditions	
Material Group	grade	250 (800)	500 (1600)	750 (2400)	1000 (3200)	m/min	SFM
N4	HCK10	◊				275	900
	HWK10/HWK15	◊				260	850

Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass, and Glass

		speed – m/min (SFM)				Starting Conditions	
Material Group	grade	250 (800)	500 (1600)	750 (2400)	1000 (3200)	m/min	SFM
N5	HCK10	◊				275	900

Carbon and Graphite Composites:  
 Brush Alloys, Kevlar, and Graphite (280–400 HB) (30–43 HRC)

		speed – m/min (SFM)				Starting Conditions	
Material Group	grade	250 (800)	500 (1600)	750 (2400)	1000 (3200)	m/min	SFM
N6	HCK10	◊				200	650

MMCs (Aluminum-Based Metal Matrix Composites)

		speed – m/min (SFM)				Starting Conditions	
Material Group	grade	250 (800)	500 (1600)	750 (2400)	1000 (3200)	m/min	SFM
N7	HCK10	◊				170	550

Tin Alloys, Cast: ASTM 823, Alloys 1, 2, 3, 11

		speed – m/min (SFM)				Starting Conditions	
Material Group	grade	250 (800)	500 (1600)	750 (2400)	1000 (3200)	m/min	SFM
N8	HCK10	◊				215	700
	HWK10/HWK15	◊				180	600