



End Mills & Face Mills

Speed v_c (m/min.)		Wear Resistance															
7690VA & 7690VAP Series		Speed min. - max.															
Coolant Recommendation		PVD X Grade		CVD X Grade		PVD X Grade		PVD Standard		PVD Standard		CVD Standard		CVD Standard		Uncoated Micrograin	
ISO	Materials	Rm and Hardness	Water	Oil	Water	Oil	Water	Oil	Water	Oil	Water	Oil	Water	Oil	Water	Oil	
P	Unalloyed Steel	<600 N/mm ² <180 HBN															
		<950 N/mm ² <280 HBN															
	Alloyed Steel	700-950 N/mm ² 200-280 HBN															
		950-1200 N/mm ² 280-355 HBN															
M	Stainless Steel	Austenitic + Ferritic 300 series															
		Martensitic 400 series															
	PH Stainless	Refractory P.H.															
K	Cast Iron	Grey GG-Ft															
		Spheroidal-Ductile GGG-FGS															
		Malleable GTS - MN/MP															
N	Aluminium & Alloys	Aluminium & Alloys < 16% Si 116 HBN															
		Aluminium + Silicon > 16% Si 92 HBN															
S	High Temperature Alloys	Iron Based															
		Cobalt Based															
		Nickel Based															
		Titanium Based															
H	Hard Materials	Hard Steel >1400 N/mm ² >415 HBN															
		Chilled Cast Iron >1400 N/mm ² > 400 HBN															

Calculation of the average chip thickness in relation with the a_e (Radial Engagement) if a_e is less than 50% of dia.

Formula: Programme Feed Rate (f_z)

$$f_z = h_m \times \sqrt{\frac{d}{a_e}}$$

h_m = Average chip thickness

a_e = Radial engagement

f_z = Feed per tooth

d = Cutter diameter

Formula: Average Chip Thickness (h_m)

$$h_m = f_z \times \sqrt{\frac{a_e}{d}}$$