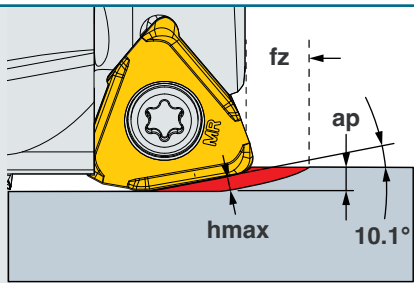
11mm • Operating Guidelines

AXIAL CHIP THINNING

NOTE: The operating guidelines table below includes a column for feed-per-tooth (fz). That column accounts for the axial chip thinning that's generated by the cutting-edge angle (lead angle). All WinFeedHF high-feed cutters have a 10.1° cutting edge angle resulting in an fz that is approximately 5x the recommended chip thickness (hex).



Materials				Vc Cutting Speed SFM	Hex Max. Chip Thickness (inch)	fz* Feed/Tooth (inch)	Harder «---» Tougher		Coolant	Geometry
ISO	Mat'l Group #VDI 3323	Type	Examples				IN2505	IN2530		MR
P	1-5	Non-alloy steel	1018, A36, 1045, A572, 1070	450-900	.006-.020	.029-.096	1	2	No	1
	6-9	Low-alloy steel	4140, 4340, P20, 8620, 300M	350-800	.005-.017	.024-.082	1	2	No	1
	10, 11	High-alloy steel	H13, A2, D2, M2, T1	250-600	.004-.014	.019-.067	1	2	No	1
K	15, 16	Gray cast iron	CLS. 20, 30, 45	500-1100	.006-.022	.029-.106	1	2	No	1
	17-20	Nodular cast iron	60-40-18, 100-70-03	350-850	.005-.018	.024-.087	1	2	No	1

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.

11 mm • Programming Tips

» The shape of the insert nose can be approximated by programming as-if the insert had a **.101"** corner radius (REEQ). The difference will result in an un-machined area that's approximately **.041"** deep.

» The recommendations for cutting speed, chip-thickness grade, and insert geometry are starting recommendations and should be optimized based on the type and rate of edge failure.

» The **Machining Calculator App**, on Ingersoll's website, is another resource for estimating and optimizing parameters. There are additional inputs like the radial width of cut and the effective rake angle can be included into the estimates.

