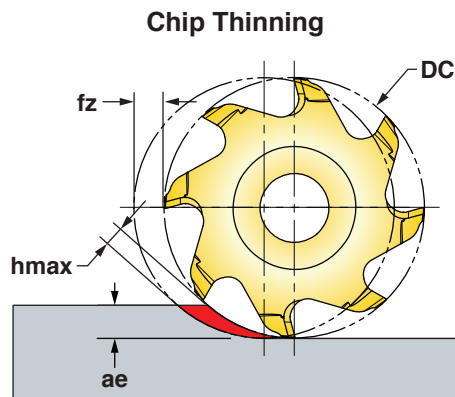


MULTISURFER™ OPERATING GUIDELINES



* When ae is less than 25% DC, recommend use of Chip Thinning Calculator to ensure hmax is within fz range.

| Materials | | | | Vc Cutting Speed SFM | fz* Feed/Tooth (inch) | Coolant |
|-----------|--------------------------|---|------------------------------------|----------------------------|-----------------------------|------------------------------------|
| ISO | Mat'l Group #VDI 3323 | Type | Examples | | | |
| P | 1 thru 5 | Non-alloy Steel | 1018, A36, 1045, A572, 1070 | 450-650 | .002-.007 | No |
| | 6 thru 9 | Low-alloy Steel | 4140, 4340, P20, 8620, 300M | 450-650 | | |
| | 10, 11 | High-alloy Steel | H13, A2, D2, M2, T1 | 400-600 | | |
| M | 12 thru 13 | Stainless Steel (Fer- ritic & Martensitic) | 410, 416, 440 | 200-450 | .002-.005 | Yes |
| | 14 | Stainless Steel (Austenitic) | 303, 304, 316, 15-5, 17-4 | | | May not be required at high speeds |
| K | 15 thru 16 | Gray Cast Iron | CLS. 20, 30, 45 | 500-800 | .002-.008 | No |
| | 17 thru 20 | Nodular Cast Iron | 60-40-18, 100-70-03 | | | |
| S | 31 thru 35 | High-Temp Alloys | Inconel, Hastelloy, Nimonic, Monel | 65-150 | .002-.005 | Yes |
| | 36 thru 37 | Titanium Alloys | 6Al-4V, 5Al-5Mo-5V-3Cr | | | |

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.