

Speeds and Feeds



How to use this chart

1. Find the material group row that corresponds to your work piece
2. Using the provided SFM calculate the proper RPM, or reference the chart if the exact drill size is listed.
3. Start in the middle range of the Speed and Feed
4. Adjust Speed or Feed based on your cutting conditions
5. In case of chattering, lower Speed and Feed, or try using Spindle Speed Variation (See machine manual for details)

Workpiece Material	Insert Grade	Standards	Tool Width			
			.030" [0.76mm]	.040" [1.0mm]	.060" [1.5mm]	.100" [2.5mm]
Carbon steel	HU30	vc(sfm)	100~330	100~330	100~330	100~330
		fn(ipr)	0.0004~0.001	0.0004~0.0014	0.0008~0.0020	0.0008~0.003
Alloy steel	HU30	vc(sfm)	100~330	100~330	100~330	100~330
		fn(ipr)	0.0004~0.0008	0.0004~0.0012	0.0008~0.0016	0.0008~0.0024
Cast iron	HU30	vc(sfm)	100~330	100~330	100~330	100~330
		fn(ipr)	0.0004~0.0015	0.0004~0.0020	0.0008~0.0024	0.0008~0.003
Stainless steel	HU30	vc(sfm)	100~260	100~260	100~260	100~260
		fn(ipr)	0.0004~0.001	0.0004~0.0012	0.0008~0.0017	0.0008~0.0026
HRSA	HU30	vc(sfm)	65~130	65~130	65~130	65~130
		fn(ipr)	0.0004~0.0008	0.0004~0.001	0.0007~0.0013	0.0007~0.002
Non-ferrous alloy	HU30	vc(sfm)	330~490	330~490	330~490	330~490
		fn(ipr)	0.0008~0.0022	0.0008~0.0025	0.0008~0.003	0.0008~0.0035

Formulas

Speed in **RPM** = $(3.82 * \text{SFM}) / \text{Cutter } \varnothing$

Feed in **IPM** = $\text{RPM} * \text{IPR}$

Convert speed to **SMM** = $\text{SFM} / 3.28$

Convert feed to **MPM** = $\text{IPM} * 25.4$

Glossary

SFM = Surface Feet per Minute (Speed)

IPM = Inch per Minute (Feed)

RPM = Revolutions per Minute (Speed)

SMM = Surface Meters per Minute (Speed)

IPR = Inch per Revolution (Feed)

MPM = Millimeters per Minute (Feed)

