

GENERAL PURPOSE TECHNICAL

GENERAL PURPOSE ENDMILL TECHNICAL DATA / SPEADS & FEEDS

MATERIAL	MILLING SFM			GENERAL PURPOSE ENDMILLS FEED (INCHES PER TOOTH)					
	STUB, REGULAR & CORNER RAD	BALLNOSE & LONG LENGTH	CHAMFER & DRILL MILL	1/32 - 1/8	1/8 - 1/4	1/4 - 3/8	3/8 - 1/2	1/2 - 3/4	3/4 - 1
Aluminums	500-1100	300-900	400-950	.0007-.0016	.0009-.0020	.0015-.0040	.0025-.0045	.0035-.0080	.0050-.0100
Aluminum Cast	400-950	200-800	300-850	.0006-.0015	.0008-.0018	.0015-.0040	.0025-.0045	.0035-.0080	.0050-.0100
Brass	300-500	200-350	250-450	.0006-.0015	.0008-.0018	.0015-.0030	.0025-.0035	.0030-.0045	.0040-.0055
Bronze	250-400	180-320	220-380	.0005-.0014	.0006-.0015	.0012-.0025	.0018-.0030	.0020-.0040	.0030-.0050
Cast Irons									
Soft	150-350	120-320	150-300	.0005-.0009	.0006-.0020	.0012-.0028	.0020-.0040	.0030-.0060	.0040-.0080
Medium	100-300	80-250	130-280	.0004-.0005	.0005-.0010	.0010-.0020	.0015-.0030	.0020-.0050	.0030-.0075
Copper	400-1000	250-800	300-900	.0006-.0015	.0008-.0018	.0015-.0030	.0025-.0035	.0030-.0050	.0040-.0060
Monel & High Nickel Steel	100-300	50-200	80-280	.0003-.0006	.0003-.0010	.0006-.0015	.0010-.0020	.0015-.0030	.0020-.0040
Plastics	400-1000	200-600	400-800	.0010-.0020	.0010-.0030	.0020-.0045	.0025-.0060	.0040-.0100	.0050-.0120
Stainless Stl (Soft)	250-350	150-250	200-350	.0005-.0008	.0006-.0010	.0008-.0015	.0010-.0020	.0018-.0040	.0025-.0055
Stainless Stl (Hard)	200-300	100-200	160-250	.0003-.0005	.0004-.0007	.0006-.0012	.0008-.0017	.0014-.0035	.0020-.0050
Steels									
Low Carbon	250-500	150-350	200-400	.0008-.0012	.0010-.0020	.0012-.0028	.0020-.0040	.0025-.0050	.0040-.0060
Med Carbon	200-400	120-300	150-350	.0005-.0010	.0006-.0018	.0010-.0025	.0015-.0035	.0020-.0040	.0025-.0050
High Tensile (25-45 Rc)	150-350	80-200	120-300	.0004-.0009	.0005-.0015	.0008-.0018	.0010-.0020	.0015-.0030	.0018-.0040
Tool Steel	150-400	80-250	120-350	.0004-.0010	.0005-.0015	.0010-.0020	.0012-.0025	.0018-.0035	.0020-.0045
Titanium									
Soft	100-250	70-200	100-250	.0005-.0009	.0005-.0010	.0008-.0015	.0010-.0020	.0015-.0040	.0025-.0055
Hard	80-220	50-180	80-220	.0003-.0008	.0004-.0009	.0006-.0013	.0008-.0017	.0012-.0032	.0015-.0040

- RPM = (SFM / DIA) x 3.8
- Make all work holding components as rigid as possible.
- Strong Coolant blast is essential.
- Cutting tool performance is affected by rigidity of setup, spindle, tool holder & collet, tool stickout, material, etc.
- These approximate numbers are a good starting point.

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