

Application / Specification Data for Tungsten ToolWorks' Series End Mills: Metric



Peripheral Milling data based on axial depth of cut $\leq 100\%$ of tool diameter & radial depth of cut $\leq 25\%$ of tool diameter.



Slot Milling data based on axial depth of cut = 50% of tool diameter.

The milling data presented below is for all "standard" Series of TTW end mills (data is presented separately on each respective product page for our application-specific high performance designs). Note: When using SmoothCoat & SmoothEdge surface treatments, Surface Feet or Meters Per Minute can be increased from the stated levels by at least 25%.

Material	SMPM	SMPM	2 mm	3 mm	4 mm	6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
Steel	Peripheral	Slotting	Feed Per Tooth (FPT)									
1018 / 1020	45 to 110	45 to 90	0.010	0.012	0.025	0.038	0.045	0.050	0.080	0.090	0.100	0.120
4140 / 4340 / P20	45 to 90	40 to 70	0.010	0.012	0.018	0.025	0.030	0.038	0.050	0.065	0.080	0.100
Stainless Steel												
303 / 304 / 316	45 to 90	40 to 75	0.010	0.012	0.018	0.025	0.030	0.038	0.050	0.080	0.100	0.100
410 / 420 / 440C	45 to 90	40 to 75	0.010	0.012	0.018	0.025	0.030	0.038	0.050	0.065	0.080	0.100
15-5/17-4 \leq 32HRc	38 to 75	30 to 70	0.010	0.012	0.018	0.025	0.030	0.038	0.050	0.065	0.080	0.100
15-5/17-4 \geq 32HRc	30 to 45	30 to 45	0.005	0.007	0.012	0.025	0.030	0.038	0.038	0.050	0.080	0.100
13-8 / 316L	38 to 90	40 to 75	0.010	0.012	0.018	0.025	0.030	0.038	0.050	0.080	0.100	0.100
Tool Steel												
A2/D2/H13 \leq 32HRc	38 to 75	30 to 60	0.010	0.012	0.018	0.025	0.030	0.038	0.050	0.065	0.080	0.090
A2/D2/H13 \geq 32HRc	30 to 45	30 to 40	0.005	0.007	0.012	0.025	0.030	0.038	0.038	0.050	0.080	0.090
Titanium												
6Al-4V	35 to 75	30 to 53	0.010	0.012	0.018	0.025	0.030	0.038	0.050	0.065	0.080	0.100
High Temp Alloys												
Inconel 625	15 to 45	15 to 38	0.010	0.012	0.018	0.025	0.030	0.038	0.050	0.050	0.065	0.070
Inconel 718	15 to 45	15 to 38	0.005	0.007	0.012	0.025	0.030	0.038	0.038	0.050	0.065	0.065
Cast Iron												
Gray Iron \leq 32HRc	45 to 110	40 to 90	0.010	0.012	0.018	0.025	0.030	0.038	0.050	0.080	0.100	0.120
Ductile Iron	45 to 90	40 to 75	0.010	0.012	0.018	0.025	0.030	0.038	0.050	0.065	0.090	0.120
Non-Ferrous												
6061 T6 Aluminum	up to 600	up to 450	0.020	0.025	0.050	0.050	0.064	0.080	0.100	0.130	0.150	0.180
Copper, Brass, Bronze	up to 365	up to 300	0.020	0.025	0.025	0.050	0.056	0.065	0.080	0.100	0.100	0.130
Plastic	up to 600	up to 450	0.020	0.025	0.050	0.080	0.089	0.100	0.150	0.200	0.250	0.300

End Mill Specifications:

Cutting Diameter	+0.000/-0.002
Shank Diameter	+0.0000/-0.0003
Radius	± 0.01
LOC	+0.060/-0.000
OAL	± 0.120
Neck Diameter	95% of Diam ± 0.010



Metric

Cutting Diameter	+0.000/-0.051 mm
Shank Diameter	+0.000/-0.008 mm
Radius	± 0.025 mm
LOC	+1.5/-0.0 mm
OAL	± 3.0 mm
Neck Diameter	95% of Diam ± 0.25 mm

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