

# 545 SPEEDS AND FEEDS (SFM) CHIP-LOAD PER/TOOTH CHART

MATERIALS	Carbon Steels	Alloy Steel	Stainless Steels 300 Series	Stainless Steels 400 Series	Precipitation Stainless Steels	Gray Cast Iron	Ductile Cast Iron	High Temp Alloys	Titanium Pure	Titanium Cast/Wrought
DESCRIPTION	10XX, 11XX, 13XX, 15XX,	40XX, 41XX, 42XX, 43XX, 44XX, 46XX, 86XX, Series	304, 304L, 316, 316L, 312	420, 420F, 416, 440C	15-PH, 16-6PH, 17-4PH, AM-xx Series	Gray	Ductile	Inconel 625/718, A286, Haynes	Pure	Cast/Wrought 6AL4V, ASTM 1,2,3 Alpha-Beta
SFM < 32 Rc	200 - 450	150 - 300	150 - 350	200 - 450	80 - 250	250 - 450	120 - 350	70 - 120	140 - 220	140 - 200
SFM > 32 Rc	100 - 250	80 - 200	80 - 200	100 - 250	90 - 125	130 - 300	80 - 140	40 - 90	90 - 160	90 - 160
1/8 HP	0.0008	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0005	0.0007	0.0007
LP	0.0011	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0007	0.0010	0.0010
FINISH	0.0014	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0010	0.0013	0.0013
1/4 HP	0.0017	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0010	0.0014	0.0014
LP	0.0021	0.0019	0.0019	0.0019	0.0019	0.0019	0.0019	0.0014	0.0019	0.0019
FINISH	0.0028	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0020	0.0025	0.0025
5/16 HP	0.0021	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0012	0.0018	0.0018
LP	0.0034	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0025	0.0031	0.0031
FINISH	0.0034	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0025	0.0031	0.0031
3/8 HP	0.0025	0.0021	0.0021	0.0021	0.0021	0.0021	0.0021	0.0014	0.0021	0.0021
LP	0.0032	0.0029	0.0029	0.0029	0.0029	0.0029	0.0029	0.0021	0.0029	0.0029
FINISH	0.0041	0.0038	0.0038	0.0038	0.0038	0.0038	0.0038	0.0030	0.0038	0.0038
1/2 HP	0.0035	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0020	0.0030	0.0030
LP	0.0045	0.0040	0.0040	0.0040	0.0040	0.0040	0.0040	0.0030	0.0040	0.0040
FINISH	0.0055	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0040	0.0050	0.0050
5/8 HP	0.0042	0.0036	0.0036	0.0036	0.0036	0.0036	0.0036	0.0024	0.0036	0.0036
LP	0.0053	0.0048	0.0048	0.0048	0.0048	0.0048	0.0048	0.0036	0.0048	0.0048
FINISH	0.0065	0.0059	0.0059	0.0059	0.0059	0.0059	0.0059	0.0048	0.0059	0.0059
3/4 HP	0.0050	0.0043	0.0043	0.0043	0.0043	0.0043	0.0043	0.0029	0.0043	0.0043
LP	0.0064	0.0057	0.0057	0.0057	0.0057	0.0057	0.0057	0.0043	0.0057	0.0057
FINISH	0.0078	0.0071	0.0071	0.0071	0.0071	0.0071	0.0071	0.0057	0.0071	0.0071
1" HP	0.0090	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0060	0.0080	0.0080
LP	0.0090	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0060	0.0080	0.0080
FINISH	0.0110	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0080	0.0100	0.0100
1-1/4 HP	0.0079	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0045	0.0068	0.0068
LP	0.0101	0.0090	0.0090	0.0090	0.0090	0.0090	0.0090	0.0068	0.0090	0.0090
FINISH	0.0124	0.0113	0.0113	0.0113	0.0113	0.0113	0.0113	0.0090	0.0113	0.0113

HP=HEAVY PERIPHERAL  
Axial Depth up to 1 x Diameter,  
Radial width .2 x Diameter

LP=LIGHT PERIPHERAL  
Axial Depth up to Effective Length  
Radial width .05 x Diameter

FINISH=FINISH OPERATION  
Axial Depth up to Effective Length of Cut  
Radial width .02 x Diameter

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