



Speed & Feed Cheat Sheet

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End Mills			CLPT					
Material	SFM	1/8" DIA	3/16" DIA	1/4" DIA	3/8" DIA	1/2" DIA	3/4" DIA	1" DIA
Stainless Steel (300 Series)	175-250	.0003"-.0007"	.0004"-.001"	.0006"-.0012"	.001"-.002"	.001"-.003"	.0018"-.004"	.002"-.0055"
Stainless Steel (PH)	120-225	.0004"-.0006"	.0004"-.0009"	.0005"-.0012"	.001"-.0018"	.001"-.0025"	.0015"-.0035"	.002"-.005"
Carbon Steel (1018)	400-450	.0004"-.0011"	.0006"-.002"	.0008"-.0028"	.0015"-.004"	.0018"-.0055"	.0025"-.008"	.0035"-.011"
Low Alloy Steel (4140)	200-400	.0003"-.0007"	.0004"-.001"	.0006"-.0012"	.001"-.002"	.001"-.003"	.0018"-.004"	.002"-.0055"
Aluminum (6061)	800-2200	.0005"-.0012"	.0008"-.0018"	.001"-.0022"	.0015"-.0035"	.002"-.0045"	.003"-.007"	.004"-.009"

Carbide Dream Drills			IPR			
Material	SFM	1/8" DIA	3/16" DIA	1/4" DIA	3/8" DIA	1/2" DIA
Stainless Steels	200	.002"	.002"	.002"	.004"	.005"
Carbon Steel (<30 HRc)	290	.005"	.005"	.006"	.009"	.011"
Alloy Steel (30-42 HRc)	250	.005"	.005"	.006"	.009"	.011"

HSS/Cobalt Drills			IPR			
Material	SFM	1/8" DIA	3/16" DIA	1/4" DIA	3/8" DIA	1/2" DIA
Stainless Steels	70	.003"	.004"	.005"	.007"	.008"
Carbon Steel (<30 HRc)	125	.003"	.004"	.006"	.0087"	.0087"
Alloy Steel (30-42 HRc)	80	.003"	.004"	.005"	.007"	.008"
Aluminum	300	.004"	.005"	.006"	.0087"	.009"

Spade Drills (Indexable)			IPR					
Material	SFM	3/8"-1/2" DIA	33/64"-11/16"	45/64"-1"	1"-1.375"	1.406"-1.875"	1.906"-12.562"	2.562"-4.5"
Stainless Steels	90-105	.005"	.007"	.008"	.010"	.012"	.014"	.018"
Carbon Steel (<30 HRc)	195-280	.005"	.008"	.010"	.014"	.018"	.021"	.024"
Alloy Steel (30-42 HRc)	155-210	.005"	.007"	.009"	.013"	.016"	.017"	.020"
Aluminum	450-850	.008"	.013"	.016"	.018"	.022"	.025"	.025"

Taps	Cut Tap	Form Tap
Material	SFM	SFM
Stainless Steels	15-25	50-100
Carbon Steel (<30 HRc)	25-60	60-130
Alloy Steel (30-42 HRc)	20-50	50-90
Aluminum	75-95	200-250

Thread Mills		CLPT	CLPT
Material	SFM	Dia < 5/16"	Dia > 5/16"
Stainless Steels	150-250	.0004"-.0008"	.0008"-.0024"
Carbon Steel (<30 HRc)	250-400	.0008"-.0016"	.0016"-.004"
Alloy Steel (30-42 HRc)	250-300	.0008"-.0016"	.0016"-.004"
Aluminum	350-1000	.0012"-.002"	.002"-.004"

Indexable End Mill (Kyocera M-Four 90°)			
Material	SFM	CLPT	DOC
Stainless Steels	325-650	.002"-.005"	.010"-.390"
Carbon Steel (<30 HRc)	390-820	.002"-.010"	.010"-.390"
Alloy Steel (30-42 HRc)	325-720	.002"-.008"	.010"-.390"
Aluminum	350-1300	.003"-.010"	.010"-.390"

Indexable Face Mill (Kyocera M-Six 90°)			
Material	SFM	CLPT	DOC
Stainless Steels	325-650	.002"-.010"	.010"-.315"
Carbon Steel (<30 HRc)	390-820	.004"-.012"	.010"-.315"
Alloy Steel (30-42 HRc)	325-720	.004"-.012"	.010"-.315"
Aluminum	350-1300	.004"-.016"	.010"-.315"

Turning Inserts		Finishing IPR	Medium IPR	Roughing IPR
Material	SFM	.008"-.030" DOC	.031"-.079" DOC	.059"-.177" DOC
Stainless Steels	260-590	.002"-.006"	.004"-.012"	.008"-.016"
Carbon Steel (<30 HRc)	490-850	.003"-.008"	.007"-.012"	.008"-.016"
Alloy Steel (30-42 HRc)	330-790	.002"-.008"	.007"-.012"	.008"-.016"
Aluminum	980-2300	.002"-.008"	.007"-.012"	.008"-.016"

Cutoff/Grooving Inserts		IPR	IPR	IPR
Material	SFM	.051" Width	.079" Width	.118" Width
Stainless Steels	200-390	.0004"-.0016"	.0012"-.0028"	.0016"-.0031"
Carbon Steel (<30 HRc)	230-490	.0004"-.002"	.0012"-.0031"	.0016"-.0039"
Alloy Steel (30-42 HRc)	230-490	.0004"-.002"	.0012"-.0031"	.0016"-.0039"
Aluminum	660-1640	.0004"-.002"	.0012"-.0031"	.0016"-.0039"

Formulas
$RPM = 3.82 \times SFM / DIA$
$SFM = .262 \times RPM \times DIA$
$IPM \text{ (Milling)} = CLPT \times \# \text{ of Flutes} \times RPM$
$IPM \text{ (Turning/Drilling)} = IPR \times RPM$

Indexable Face Mill (Kyocera MFPN 45°)			
Material	SFM	CLPT	DOC
Stainless Steels	325-650	.004"-.016"	.010"-.240"
Carbon Steel	390-820	.004"-.016"	.010"-.240"
Alloy Steel	325-720	.004"-.016"	.010"-.240"
Aluminum	350-1300	.004"-.016"	.010"-.240"



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The Parameters listed are Starting Parameters, Contact us with any questions regarding the Parameters at the link below

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