

CUTTING PARAMETERS

3512SUH MINI

	Material Group ISO 513	P1 P2			P3 P4			P5			P6		
	Hardness/Rm	500-700 N/mm ²			600-1000 N/mm ²			900-1200 N/mm ²			1200-1400 N/mm ²		
	Vc (m/min)	50-70*			40-60*			30-50*			20-40*		
	D (mm)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)
	1.0	19110	0.0077	150	15920	0.0069	110	12740	0.0061	80	9550	0.0054	51
	1.1	17370	0.0085	150	14480	0.0077	110	11580	0.0068	80	8690	0.0060	52
	1.2	15920	0.0094	150	13270	0.0084	110	10620	0.0075	80	7960	0.0065	52
	1.3	14700	0.0102	150	12250	0.0092	110	9800	0.0082	80	7350	0.0071	52
	1.4	13650	0.0111	150	11370	0.0099	110	9100	0.0088	80	6820	0.0077	53
	1.5	12740	0.0128	160	10620	0.0115	120	8490	0.0102	90	6370	0.0089	57
	1.6	11940	0.0145	170	9950	0.0130	130	7960	0.0116	90	5970	0.0101	60
	1.7	11240	0.0162	180	9370	0.0145	140	7490	0.0129	100	5620	0.0113	60
	1.8	10620	0.0179	190	8850	0.0161	140	7080	0.0143	100	5310	0.0125	70
	1.9	10060	0.0196	200	8380	0.0176	150	6700	0.0156	100	5030	0.0137	70
	2.0	9550	0.0213	200	7960	0.0191	150	6370	0.0170	110	4780	0.0149	70
	2.1	9100	0.0230	210	7580	0.0207	160	6070	0.0184	110	4550	0.0161	70
	2.2	8690	0.0247	210	7240	0.0222	160	5790	0.0197	110	4340	0.0173	70
	2.3	8310	0.0264	220	6920	0.0237	160	5540	0.0211	120	4150	0.0184	80
	2.4	7960	0.0281	220	6630	0.0252	170	5310	0.0224	120	3980	0.0196	80
	2.5	7640	0.0298	230	6370	0.0268	170	5100	0.0238	120	3820	0.0208	80
	2.6	7350	0.0315	230	6120	0.0283	170	4900	0.0252	120	3670	0.0220	80
	2.7	7080	0.0332	230	5900	0.0298	180	4720	0.0265	130	3540	0.0232	80
	2.8	6820	0.0349	240	5690	0.0314	180	4550	0.0279	130	3410	0.0244	80
	2.9	6590	0.0366	240	5490	0.0329	180	4390	0.0292	130	3290	0.0256	80
	3.0	6370	0.0383	240	5310	0.0344	180	4250	0.0306	130	3180	0.0268	90

*if the machine tool or the equipment wouldn't allow to reach the requested rpm, please use the max. available rpm recalculating the Vf value
(Vf=n available x fn)

	Material Group ISO 513	M1 M2			M3			M4			M5		
	Hardness/Rm	< 750 N/mm ²			550-850 N/mm ²			650-950 N/mm ²			850-1200 N/mm ²		
	Vc (m/min)	20-40*			20-30*			20-30*			15-25*		
	D (mm)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)
	1.0	9550	0.0057	55	7960	0.0049	39	7960	0.0040	32	6370	0.0034	22
	1.1	8690	0.0064	55	7240	0.0054	39	7240	0.0045	32	5790	0.0038	22
	1.2	7960	0.0070	56	6630	0.0060	40	6630	0.0049	33	5310	0.0042	22
	1.3	7350	0.0077	56	6120	0.0065	40	6120	0.0054	33	4900	0.0046	22
	1.4	6820	0.0083	57	5690	0.0070	40	5690	0.0058	33	4550	0.0050	23
	1.5	6370	0.0096	60	5310	0.0081	43	5310	0.0067	36	4250	0.0057	24
	1.6	5970	0.0108	60	4980	0.0092	46	4980	0.0076	38	3980	0.0065	26
	1.7	5620	0.0121	70	4680	0.0103	48	4680	0.0085	40	3750	0.0073	27
	1.8	5310	0.0134	70	4420	0.0114	50	4420	0.0094	41	3540	0.0080	28
	1.9	5030	0.0147	70	4190	0.0125	52	4190	0.0103	43	3350	0.0088	29
	2.0	4780	0.0159	80	3980	0.0135	54	3980	0.0112	44	3180	0.0096	30
	2.1	4550	0.0172	80	3790	0.0146	55	3790	0.0120	46	3030	0.0103	31
	2.2	4340	0.0185	80	3620	0.0157	57	3620	0.0129	47	2900	0.0111	32
	2.3	4150	0.0198	80	3460	0.0168	58	3460	0.0138	48	2770	0.0119	33
	2.4	3980	0.0210	80	3320	0.0179	59	3320	0.0147	49	2650	0.0126	33
	2.5	3820	0.0223	90	3180	0.0190	60	3180	0.0156	50	2550	0.0134	34
	2.6	3670	0.0236	90	3060	0.0200	60	3060	0.0165	51	2450	0.0142	35
	2.7	3540	0.0249	90	2950	0.0211	60	2950	0.0174	51	2360	0.0149	35
	2.8	3410	0.0261	90	2840	0.0222	60	2840	0.0183	52	2270	0.0157	36
	2.9	3290	0.0274	90	2750	0.0233	60	2750	0.0192	53	2200	0.0164	36
	3.0	3180	0.0287	90	2650	0.0244	60	2650	0.0201	53	2120	0.0172	36

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(Vf=n available x fn)

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	Material Group ISO 513	K1			K2			K3			K4		
	Hardness/Rm	150-250 HB			150-350 HB			120-260 HB			250-500 HB		
	Vc (m/min)	50-70*			40-60*			30-50*			20-40*		
	D (mm)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)
	1.0	19110	0.0077	150	15920	0.0069	110	12740	0.0061	80	9550	0.0054	51
	1.1	17370	0.0085	150	14480	0.0077	110	11580	0.0068	80	8690	0.0060	52
	1.2	15920	0.0094	150	13270	0.0084	110	10620	0.0075	80	7960	0.0065	52
	1.3	14700	0.0102	150	12250	0.0092	110	9800	0.0082	80	7350	0.0071	52
	1.4	13650	0.0111	150	11370	0.0099	110	9100	0.0088	80	6820	0.0077	53
	1.5	12740	0.0128	160	10620	0.0115	120	8490	0.0102	90	6370	0.0089	57
	1.6	11940	0.0145	170	9950	0.0130	130	7960	0.0116	90	5970	0.0101	60
	1.7	11240	0.0162	180	9370	0.0145	140	7490	0.0129	100	5620	0.0113	60
	1.8	10620	0.0179	190	8850	0.0161	140	7080	0.0143	100	5310	0.0125	70
	1.9	10060	0.0196	200	8380	0.0176	150	6700	0.0156	100	5030	0.0137	70
	2.0	9550	0.0213	200	7960	0.0191	150	6370	0.0170	110	4780	0.0149	70
	2.1	9100	0.0230	210	7580	0.0207	160	6070	0.0184	110	4550	0.0161	70
	2.2	8690	0.0247	210	7240	0.0222	160	5790	0.0197	110	4340	0.0173	70
	2.3	8310	0.0264	220	6920	0.0237	160	5540	0.0211	120	4150	0.0184	80
	2.4	7960	0.0281	220	6630	0.0252	170	5310	0.0224	120	3980	0.0196	80
	2.5	7640	0.0298	230	6370	0.0268	170	5100	0.0238	120	3820	0.0208	80
	2.6	7350	0.0315	230	6120	0.0283	170	4900	0.0252	120	3670	0.0220	80
	2.7	7080	0.0332	230	5900	0.0298	180	4720	0.0265	130	3540	0.0232	80
	2.8	6820	0.0349	240	5690	0.0314	180	4550	0.0279	130	3410	0.0244	80
	2.9	6590	0.0366	240	5490	0.0329	180	4390	0.0292	130	3290	0.0256	80
	3.0	6370	0.0383	240	5310	0.0344	180	4250	0.0306	130	3180	0.0268	90

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(Vf=n available x fn)

	Material Group ISO 513	N1			N2			N3 N4			N5		
	Hardness/Rm												
	Vc (m/min)	80-120*			80-120*			80-120*			100-140*		
	D (mm)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)
	1.0	31850	0.0096	300	31850	0.0086	270	31850	0.0077	240	38220	0.0105	400
	1.1	28950	0.0106	310	28950	0.0096	280	28950	0.0085	250	34740	0.0117	410
	1.2	26540	0.0117	310	26540	0.0105	280	26540	0.0094	250	31850	0.0129	410
	1.3	24500	0.0128	310	24500	0.0115	280	24500	0.0102	250	29400	0.0140	410
	1.4	22750	0.0138	310	22750	0.0124	280	22750	0.0111	250	27300	0.0152	410
	1.5	21230	0.0159	340	21230	0.0143	300	21230	0.0128	270	25480	0.0175	450
	1.6	19900	0.0181	360	19900	0.0163	320	19900	0.0145	290	23890	0.0199	470
	1.7	18730	0.0202	380	18730	0.0182	340	18730	0.0162	300	22480	0.0222	500
	1.8	17690	0.0223	390	17690	0.0201	360	17690	0.0179	320	21230	0.0245	520
	1.9	16760	0.0244	410	16760	0.0220	370	16760	0.0196	330	20110	0.0269	540
	2.0	15920	0.0266	420	15920	0.0239	380	15920	0.0213	340	19110	0.0292	560
	2.1	15170	0.0287	440	15170	0.0258	390	15170	0.0230	350	18200	0.0316	570
	2.2	14480	0.0308	450	14480	0.0277	400	14480	0.0247	360	17370	0.0339	590
	2.3	13850	0.0329	460	13850	0.0296	410	13850	0.0264	360	16620	0.0362	600
	2.4	13270	0.0351	470	13270	0.0316	420	13270	0.0281	370	15920	0.0386	610
	2.5	12740	0.0372	470	12740	0.0335	430	12740	0.0298	380	15290	0.0409	630
	2.6	12250	0.0393	480	12250	0.0354	430	12250	0.0315	390	14700	0.0432	640
	2.7	11800	0.0414	490	11800	0.0373	440	11800	0.0332	390	14150	0.0456	640
	2.8	11370	0.0436	500	11370	0.0392	450	11370	0.0349	400	13650	0.0479	650
	2.9	10980	0.0457	500	10980	0.0411	450	10980	0.0366	400	13180	0.0503	660
	3.0	10620	0.0478	510	10620	0.0430	460	10620	0.0383	410	12740	0.0526	670

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(Vf=n available x fn)

CUTTING PARAMETERS

3512SUH MINI

 Ø RUN OUT <0.02mm	Material Group ISO 513	S1 S2			S3			S4			S5		
	Hardness/Rm	< 35 HRC			35-45 HRC								
	Vc (m/min)	20-40*			10-20*			30-50*			20-40*		
	D (mm)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)	n (rpm)	fn (mm/rev)	Vf (mm/min)
	1.0	9550	0.0054	51	4780	0.0037	18	12740	0.0051	60	9550	0.0043	41
	1.1	8690	0.0060	52	4340	0.0042	18	11580	0.0057	70	8690	0.0048	41
	1.2	7960	0.0065	52	3980	0.0046	18	10620	0.0062	70	7960	0.0052	42
	1.3	7350	0.0071	52	3670	0.0050	18	9800	0.0068	70	7350	0.0057	42
	1.4	6820	0.0077	53	3410	0.0054	18	9100	0.0073	70	6820	0.0062	42
	1.5	6370	0.0089	57	3180	0.0062	20	8490	0.0085	70	6370	0.0071	45
	1.6	5970	0.0101	60	2990	0.0071	21	7960	0.0096	80	5970	0.0081	48
	1.7	5620	0.0113	60	2810	0.0079	22	7490	0.0107	80	5620	0.0090	51
	1.8	5310	0.0125	70	2650	0.0087	23	7080	0.0119	80	5310	0.0100	53
	1.9	5030	0.0137	70	2510	0.0096	24	6700	0.0130	90	5030	0.0109	55
	2.0	4780	0.0149	70	2390	0.0104	25	6370	0.0141	90	4780	0.0119	57
	2.1	4550	0.0161	70	2270	0.0112	26	6070	0.0153	90	4550	0.0129	58
	2.2	4340	0.0173	70	2170	0.0121	26	5790	0.0164	90	4340	0.0138	60
	2.3	4150	0.0184	80	2080	0.0129	27	5540	0.0175	100	4150	0.0148	60
	2.4	3980	0.0196	80	1990	0.0137	27	5310	0.0187	100	3980	0.0157	60
	2.5	3820	0.0208	80	1910	0.0146	28	5100	0.0198	100	3820	0.0167	60
2.6	3670	0.0220	80	1840	0.0154	28	4900	0.0209	100	3670	0.0176	60	
2.7	3540	0.0232	80	1770	0.0162	29	4720	0.0220	100	3540	0.0186	70	
2.8	3410	0.0244	80	1710	0.0171	29	4550	0.0232	110	3410	0.0195	70	
2.9	3290	0.0256	80	1650	0.0179	30	4390	0.0243	110	3290	0.0205	70	
3.0	3180	0.0268	90	1590	0.0187	30	4250	0.0254	110	3180	0.0214	70	

*if the machine tool or the equipment wouldn't allow to reach the requested rpm, please use the max. available rpm recalculating the Vf value
(Vf=n available x fn)

INFO
TYPHOON TA-HTA-4HTA
TYPHOON PU-HPU
TYPHOON SUH
TYPHOON ALH
TYPHOON HRC
TYPHOON SUH MINI
TYPHOON HL
C-SD-TA
LFTA
SUTA
HSS-HSS/CO DRILLS
G2
MDTA
HF-VH/UP
MEF
ALU
MEX
UH
HSS/CO-HSSP END MILLS
CARBIDE BURRS