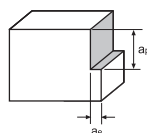


## ATORN® End milling cutter, torus milling cutter RockTec 52

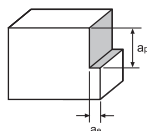
• Please adjust these guideline values according to clamping operation and machine set-up!



ISO	Materials group	Strength/ Hardness N/mm <sup>2</sup>	Material example chemical	Material number	ae max.	ap max.	Cutting speed Vc m/min	Feed fz in mm/tooth in relation to milling cutter diameter in mm					
								3	5	8	12	16	20
P	Machining steel	Up to 700	9 SMn 28	1.0715	0.2 x D	1.5 x D	120 - 140	0.02	0.04	0.06	0.09	0.12	0.15
	Tempering steel	500 - 950	42 CrMo4	1.7225	0.2 x D	1.5 x D	110 - 130	0.02	0.03	0.05	0.07	0.1	0.12
	Tempering steel	950 - 1300	43CrMo4	1.3563	0.2 x D	1.5 x D	100 - 120	0.02	0.03	0.04	0.06	0.08	0.1
	Tool steel	950 - 1400	X 38 CrMoV 5 1	1.2343	0.2 x D	1.5 x D	100 - 120	0.02	0.03	0.04	0.06	0.08	0.1
M	Stainless steel, ferr./marten.	500 - 950	X10Cr13	1.4006	0.2 x D	1.5 x D	90 - 110	0.02	0.03	0.05	0.06	0.08	0.1
K	Grey cast iron	Up to 260 HB	GG 25	0.6025	0.2 x D	1.5 x D	90 - 110	0.02	0.03	0.04	0.06	0.08	0.1
	Ductile iron	Up to 280 HB	GGG 60	0.7060	0.2 x D	1.5 x D	90 - 110	0.02	0.03	0.04	0.06	0.08	0.1
S	Malleable cast iron	Up to 280 HB	GTS 55	0.8155	0.2 x D	1.5 x D	90 - 110	0.02	0.03	0.04	0.06	0.08	0.1
	Titanium alloys	Up to 1300	TiAl6Sn 2	3.7174	0.2 x D	1.5 x D	70 - 90	0.02	0.03	0.04	0.06	0.08	0.1
H	Nickel-based alloys	Up to 1300	NiCr19Fe19NbMo	Inconel 718	0.2 x D	1.5 x D	70 - 90	0.02	0.03	0.04	0.06	0.08	0.1
	Superalloys	Up to 1300	X45CrSi 9 3	1.4718	0.2 x D	1.5 x D	60 - 80	0.02	0.03	0.04	0.06	0.08	0.1
H	Hardened materials up to 55 HRC		X40Cr14	1.2083	0.05 x D	1 x D	50 - 70	0.01	0.02	0.03	0.04	0.06	0.07
	Hardened materials up to 64 HRC		100Cr6	1.2067	0.03-0.05 x D	1 x D	50 - 80	0.015	0.025	0.05	0.06	0.07	0.08

## ATORN® End milling cutter, torus milling cutter RockTec 52

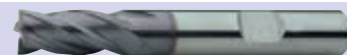
• Please adjust these guideline values according to clamping operation and machine set-up!



ISO	Materials group	Strength/ Hardness N/mm <sup>2</sup>	Material example chemical	Material number	ae max.	ap max.	Cutting speed Vc m/min	Feed fz in mm/tooth in relation to milling cutter diameter in mm					
								3	5	8	12	16	20
P	Tempering steel	950 - 1300	43CrMo4	1.3563	0.2 x D	1.5 x D	120 - 140	0.02	0.04	0.08	0.1	0.11	0.12
	Tool steel	950 - 1400	X 38 CrMoV 5 1	1.2343	0.2 x D	1.5 x D	120 - 140	0.02	0.04	0.08	0.1	0.11	0.12
S	Titanium alloys	Up to 1300	TiAl6Sn 2	3.7174	0.2 x D	1.5 x D	130 - 170	0.02	0.04	0.08	0.1	0.1	0.1
	Nickel-based alloys	Up to 1300	NiCr19Fe19NbMo	Inconel 718	0.2 x D	1.5 x D	130 - 170	0.02	0.04	0.08	0.1	0.1	0.1
H	Hardened materials up to 55 HRC		X40Cr14	1.2083	0.05 x D	1 x D	80 - 110	0.02	0.03	0.06	0.08	0.09	0.1
	Hardened materials up to 64 HRC		100Cr6	1.2067	0.03-0.05 x D	1 x D	50 - 80	0.015	0.025	0.05	0.06	0.07	0.08

## SARA® End milling cutter

• Please adjust these guideline values according to clamping operation and machine set-up!



254005.... 254006....  
254007....

ISO	Materials group	Strength/ Hardness N/mm <sup>2</sup>	Material example chemical	Material number	Cutting speed Vc m/min	Feed fz in mm/tooth in relation to milling cutter diameter in mm							
						2 - 3	4 - 5	6 - 8	10 - 12	14 - 16	18 - 20	22-24	25
P	Machining steel	Up to 700	9 SMn 28	1.0715	80	310 - 505	530 - 620	590 - 615	590	550 - 575	520 - 540	440 - 480	420
	Unalloyed structural steel	Up to 700	Sr52	1.0052	80	310 - 505	530 - 620	590 - 615	590	550 - 575	520 - 540	440 - 480	420
	Structural steel	700 - 950	Ck45	1.1191	70	280 - 355	370 - 425	420 - 425	420	415	370 - 405	315 - 340	300
	Cast steel	Up to 950	GS 40	1.0416	70	280 - 355	370 - 425	420 - 425	420	415	370 - 405	315 - 340	300
	Case-hardened steel	Up to 1200	16 MnCr 5	1.7131	70	280 - 355	370 - 425	420 - 425	420	415	370 - 405	315 - 340	300
	Tool steel	950 - 1400	X 38 CrMoV 5 1	1.2343	70	280 - 355	370 - 425	420 - 425	420	415	370 - 405	315 - 340	300
M	Stainless steel, ferr./marten.	500 - 950	X10Cr13	1.4006	35 - 45	95 - 105	110 - 120	125	125	110 - 120	90 - 100	70 - 80	70
	Stainless steel, austenitic	500 - 950	X 5 CrNi 18 10	1.4301	40 - 50	100 - 110	115 - 125	130	130	115 - 125	95 - 105	75 - 85	75
K	Grey cast iron	Up to 260 HB	GG 25	0.6025	100	370 - 595	635 - 740	710 - 735	710	655 - 680	620 - 655	520 - 560	500
	Alloyed grey cast iron	Up to 310 HB	GG-LNiCr 35 2	0.6678	90	360 - 585	625 - 730	700 - 725	700	645 - 670	610 - 645	510 - 550	490
	Ductile iron	Up to 280 HB	GGG 60	0.7060	95	365 - 590	630 - 735	705 - 730	705	650 - 675	615 - 650	515 - 555	495
	Malleable cast iron	Up to 280 HB	GTS 55	0.8155	95	365 - 590	630 - 735	705 - 730	705	650 - 675	615 - 650	515 - 555	495
H	Hardened materials up to 55 HRC		X40Cr14	1.2083	25 - 30	60	70 - 75	65-70	60 - 65	45 - 50	35 - 40	30	30
	Hardened materials up to 60 HRC		X153CrMoV12	1.2379	15-20	40 - 45	40 - 45	35 - 40	30 - 35	20 - 25	19 - 20	16 - 17	15

	ap	ae
Material up to 45 HRC D up to 3 mm D more than 3 mm	1.5 x D 1.5 x D	0.05 x D 0.1 x D
Material from 45-60 HRC	1 x D	0.02 x D