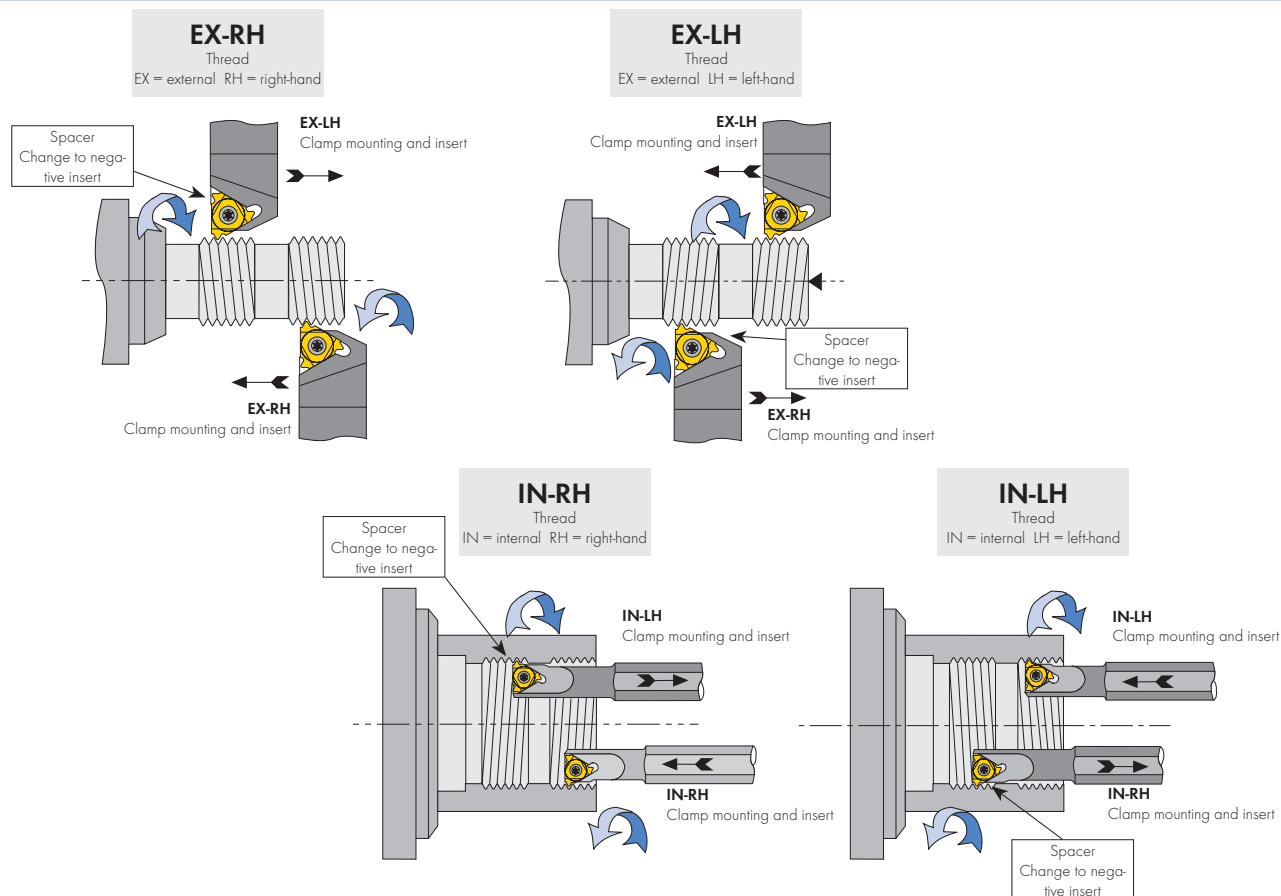


ATORN Thread cutter holder applications



Carbide qualities and cutting speed recommendations (m/min.)

ISO	Materials group	Strength/ Hardness N/mm²	Material example chemical	Material number	HC5625	HC5615	HC5630	HC5640	HC5620	HC5110	SPU20T
					PVD TiN	PVD TiN	PVD TiN	PVD TiN	PVD TiN	PVD TiN	PVD
Cutting speed Vc m/min											
P	Machining steel	Up to 700	9 SMn 28	1.0715	80 - 160	90 - 160	100 - 180	20 - 100	110 - 210		120-200
	Unalloyed structural steel	Up to 700	St-52	1.0052	80 - 160	90 - 160	100 - 180	20 - 100	110 - 210		120-200
	Structural steel	700 - 950	Ck45	1.1191	80 - 160	90 - 160	100 - 180	20 - 100	110 - 210		120-200
	Tempering steel	500 - 950	42 CrMo4	1.7225	80-120	80 - 150	90 - 160	30 - 80	90 - 140		110-180
	Cast steel	Up to 950	GS 40	1.0416	80 - 140	100 - 140	120 - 160	40 - 80	110 - 210		70-120
	Case-hardened steel	Up to 1200	16 MnCr 5	1.7131	80-120	80 - 150	90 - 160	30 - 80	90 - 140		100-170
	Tempering steel	950 - 1300	43CrMo4	1.3563	50 - 100	80-120	90 - 120	40 - 90	70 - 90		50-90
	Nitriding steel	950 - 1300	31CrMoV9	1.8519	50 - 100	80-120	90 - 120	40 - 90	70 - 90		50-90
	Tool steel	950 - 1400	X 38 CrMoV 5 1	1.2343	50 - 100	80-120	90 - 120	40 - 90	70 - 90		50-90
M	Stainless steel, ferr./marten.	500 - 950	X10 Cr13	1.4006	60 - 90	70 - 120	90 - 130	30 - 90	100 - 160		70-140
	Stainless steel, austenitic	500 - 950	X5 CrNi 18 10	1.4301	60 - 90	70 - 120	90 - 130	30 - 90	100 - 140		80-120
	Duplex	700 - 950	X2 CrNiMoN 22-5-3	1.4462	30 - 60	30 - 70	30 - 90	20 - 40	60 - 100		50-110
K	Grey cast iron	Up to 260 HB	GG 25	0.6025		80 - 130	80 - 150	30 - 90	140 - 150		70-150
	Alloyed grey cast iron	Up to 310 HB	GGLNiCr 35 2	0.6678		60 - 100	80-120	20 - 50	100 - 120		70-150
	Ductile iron	Up to 280 HB	GGG 60	0.7060		80 - 130	80 - 150	30 - 90	140 - 150		90-150
	Malleable cast iron	Up to 280 HB	GTS 55	0.8155		80 - 130	80 - 150	30 - 90	140 - 150		90-150
N	Al. alloy long-chipping	Up to 500	AlMg 3	3.3535		300 - 600		20 - 200	700 - 1000		100-400
	Al. alloy short-chipping	Up to 500	G-AlSi 12	3.2581		300 - 600		20 - 200	700 - 1000		150-400
	Copper alloy (bronze) long-chipping	Up to 1200	CuSn4	2.1016		300 - 600		20 - 200	700 - 1000		80-180
	Copper alloy (bronze) short-chipping	Up to 850	CuNi12Zn24	2.0730		300 - 600		20 - 200	700 - 1000		80-180
	Copper alloy (brass) long-chipping	Up to 600	Cu Zn 20	2.0250		300 - 600		20 - 200	700 - 1000		80-180
	Copper alloy (brass) short-chipping	Up to 600	Cu Zn 39 Pb 3	2.0381		300 - 600		20 - 200	700 - 1000		80-180
	Thermoplastic		PVC			300 - 600		20 - 200	700 - 1000		200-500
	Thermoset		Melamine			300 - 600		20 - 200	700 - 1000		200-500
	Fibre-reinforced plastics		CFRP, GFRP			300 - 600		20 - 200	700 - 1000		200-500
	Graphite		C8000			300 - 600		20 - 200	700 - 1000		200-500
	Composite materials		Honeycomb			300 - 600		20 - 200	700 - 1000		200-500
S	Titanium alloys	Up to 1300	TiAl6Sn 2	3.7174			25 - 40		15 - 40	15 - 40	30-50
	Nickel-based alloys	Up to 1300	NiCr19Fe19NbMo	Inconel 718			25 - 60		30 - 65	30 - 70	20-40
	Superalloys	Up to 1300	X45CrSi 9 3	1.4718			25 - 60		30 - 65	30 - 70	30-60
H	Hardened materials up to 55 HRC		X40Cr14	1.2083		20 - 40	20 - 30		30 - 40	20 - 50	

Choice of number of cuts

- The number of cuts should be increased for the mini or ultra-mini system, as well as for hard materials.

Pitch	mm TPI	0.5 48	1.0 24	1.5 16	2.0 12	2.5 10	3.0 8	4.0 6	6.0 4
Number of cuts		3 - 6	4 - 9	5 - 11	6 - 13	7 - 15	8 - 17	10 - 20	11 - 22