Minicut International

Leader in Cutting Tool Technology

Cyclone SF

Super Finishing sub-micron carbide end-mills for machining titanium and high temp alloys

- New Super-Speed Series with five, seven and nine flute geometry
- High helix with uneven flutes eliminating vibration
- AlTiN coated for the highest hot hardness and wear resistance
- Increased metal removal rates in finishing operations
- Exceptional performance in titanium, stainless steels and inconel
- Eccentric relief – corner radius – Sub-Micron carbide grade

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INCH SERIES

ROUGHING AND SUPERFINISHING IN TITANIUM AND HIGH TENSILE ALLOYS

Designed for exceptional performance in titanium, inconel, stainless steels and high tensile alloys.

Performances exceptionnelles dans titan, inconel,aciers inoxydables et matériaux exotiques.

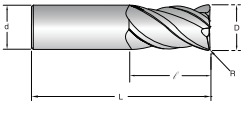
Excelentes prestaciones en titanio, aceros inoxidable, inconel y otras leaciones de alta temperatura.

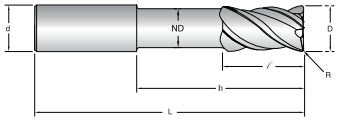
Überragende Leistungen bei derBearbeitung von titan, inconel, inox und anderen hochfesten Legierungen.

LIST 5045

D	d	ℓ	ℓ1	ND	L	EDP NUMBER						
						RADIUS	UNCOATED			COATED TiALN SUPREME		
							5 FLUTES	7 FLUTES	9 FLUTES	5 FLUTES	7 FLUTES	9 FLUTES
1/4	1/4	1/2	-	-	2	.010-.015	37300	-	-	37475	-	-
1/4	1/4	3/4	-	-	2-1/2	.010-.015	37305	-	-	37480	-	-
1/4	1/4	1-1/8	-	-	3	.010-.015	37310	-	-	37485	-	-
1/4	1/4	1-1/2	-	-	4	.010-.015	37315	-	-	37490	-	-
1/4	1/4	1-1/2	4-1/4	.230	6	.010-.015	37320	-	-	37495	-	-
5/16	5/16	13/16	-	-	2-1/2	.010-.015	37325	-	-	37500	-	-
5/16	5/16	1-1/8	-	-	3	.010-.015	37330	-	-	37505	-	-
5/16	5/16	1-5/8	-	-	4	.010-.015	37335	-	-	37510	-	-
5/16	5/16	1-1/2	4-1/4	.283	6	.010-.015	37340	-	-	37515	-	-
3/8	3/8	5/8	-	-	2	.010-.015	37345	-	-	37520	-	-
3/8	3/8	1	-	-	2-1/2	.010-.015	37350	-	-	37525	-	-
3/8	3/8	1-1/8	-	-	3	.010-.015	37355	-	-	37530	-	-
3/8	3/8	1-3/4	-	-	4	.010-.015	37360	-	-	37535	-	-
3/8	3/8	1-1/2	4-1/4	.355	6	.010-.015	37365	-	-	37540	-	-
1/2	1/2	5/8	-	-	2-1/2	.010-.015	37370	-	-	37545	-	-
1/2	1/2	1	-	-	3	.010-.015	37375	-	-	37550	-	-
1/2	1/2	2	-	-	4	.010-.015	37380	-	-	37555	-	-
1/2	1/2	3	-	-	6	.010-.015	37385	-	-	37560	-	-
1/2	1/2	1-1/2	4-1/4	.470	6	.010-.015	37390	-	-	37565	-	-
5/8	5/8	1	-	-	3	.010-.015	37395	-	-	37570	-	-
5/8	5/8	1-1/2	-	-	4	.010-.015	37400	-	-	37575	-	-
5/8	5/8	2-1/4	-	-	5	.010-.015	37405	-	-	37580	-	-
5/8	5/8	3	-	-	6	.010-.015	37410	-	-	37585	-	-
5/8	5/8	1-1/2	4-1/4	.595	6	.010-.015	37415	-	-	37590	-	-
3/4	3/4	1	-	-	3	.010-.015	37420	37660	-	37595	37790	-
3/4	3/4	1-1/2	-	-	4	.010-.015	37425	37665	-	37600	37795	-
3/4	3/4	2-1/4	-	-	5	.010-.015	37430	37670	-	37605	37800	-
3/4	3/4	3-1/4	-	-	6	.010-.015	37435	37675	-	37610	37805	-
3/4	3/4	4	-	-	7	.010-.015	37440	37680	-	37615	37810	-
3/4	3/4	1-1/2	4-1/4	.720	6	.010-.015	37445	37685	-	37620	37815	-
1	1	1-3/4	-	-	4	.010-.015	37450	37690	37755	37625	37820	37885
1	1	2-1/4	-	-	5	.010-.015	37455	37695	37760	37630	37825	37890
1	1	3-1/4	-	-	6	.010-.015	37460	37700	37765	37635	37830	37895
1	1	4-1/4	-	-	7	.010-.015	37465	37705	37770	37640	37835	37900
1	1	1-1/2	4-1/4	.960	6	.010-.015	37470	37710	37775	37645	37840	37905
1-1/4	1-1/4	4-1/4	-	-	7	.010-.015	37471	37715	37780	37650	37845	37910
1-1/4	1-1/4	1-1/2	4-1/4	1.210	7	.010-.015	37475	37720	37785	37655	37850	37915

Note: Other sizes and lengths are available upon request.





SUB-MICRON CARBIDE | 5-7-9 FLUTES | CORNER RADIUS | STRAIGHT SHANK | 45°

METRIC SERIES

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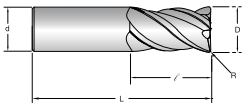
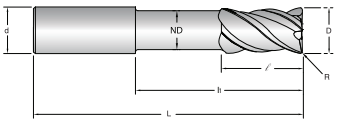
LIST 5045M

D	d	ℓ	ℓ1	ND	L	RADIUS	EDP NUMBER					
							UNCOATED			COATED TiALN SUPREME		
							5 FLUTES	7 FLUTES	9 FLUTES	5 FLUTES	7 FLUTES	9 FLUTES
6	6	10	21	5.7	57	0.5	33520	-	-	33530	-	-
8	8	16	24	7.7	63	0.5	33525	-	-	33535	-	-
10	10	22	-	-	72	0.5	33315	-	-	33465	-	-
10	10	32	-	-	83	0.5	33320	-	-	33470	-	-
10	10	16	30	9.7	83	0.5	33323	-	-	33473	-	-
12	12	25	-	-	83	0.5	33325	-	-	33475	-	-
12	12	50	-	-	104	0.5	33330	-	-	33480	-	-
12	12	18	38	11.4	83	0.5	33333	-	-	33483	-	-
16	16	32	-	-	92	0.5	33335	-	-	33485	-	-
16	16	50	-	-	104	0.5	33340	-	-	33490	-	-
16	16	24	42	15.4	92	0.5	33343	-	-	33493	-	-
20	20	38	-	-	104	0.5	33345	33368	-	33495	33412	-
20	20	50	-	-	104	0.5	33350	33372	-	33500	33414	-
20	20	30	52	19.4	104	0.5	33353	33374	-	33503	33416	-
25	25	38	-	-	104	0.5	33355	33376	33396	33505	33418	33436
25	25	75	-	-	150	0.5	33360	33378	33398	33510	33420	33438
25	25	38	100	24.4	150	0.5	33363	33382	33402	33513	33422	33442
32	32	110	-	-	180	0.5	33364	33384	33404	33515	33424	33444
32	32	38	110	31.4	180	0.5	33366	33386	33406	33520	33426	33446

Note: Other sizes and lengths are available upon request.





SUB-MICRON CARBIDE | 5-7-9 FLUTES | CORNER RADIUS | STRAIGHT SHANK | 45°

TECHNICAL DATA
Recommended Cutting Paramaters
Vitesses de coupe sugérées
Velocidades y Avances Recomendados
Empfohlene Schnittparameter

INCH SERIES

Ø		Titanium 6AL4V	Titanium 5553	Stainless Steels Inconel	Alloy Steels Tool Steels	Ductile and Malleable Cast Iron
		165-200 SFM	100-165 SFM	290-370 SFM	460-520 SFM	360-420 SFM
		CHIP LOAD PER TOOTH				
1/4		0.0010	0.0010	0.0011	0.0015	0.0013
		0.0011	0.0011	0.0013	0.0017	0.0019
5/16		0.0012	0.0012	0.0014	0.0018	0.0016
		0.0014	0.0014	0.0016	0.0020	0.0019
3/8		0.0015	0.0015	0.0016	0.0020	0.0024
		0.0017	0.0017	0.0019	0.0023	0.0028
1/2		0.0020	0.0020	0.0023	0.0025	0.0032
		0.0023	0.0023	0.0028	0.0030	0.0038
5/8		0.0023	0.0023	0.0024	0.0025	0.0033
		0.0027	0.0027	0.0029	0.0030	0.0040
3/4		0.0024	0.0024	0.0027	0.0032	0.0039
		0.0028	0.0028	0.0032	0.0038	0.0047
1		0.0030	0.0030	0.0032	0.0040	0.0046
		0.0034	0.0034	0.0038	0.0045	0.0056
1 1/4		0.0034	0.0034	0.0038	0.0040	0.0050
		0.0040	0.0040	0.0045	0.0048	0.0060

METRIC SERIES

Ø		Titanium 6AL4V	Titanium 5553	Stainless Steels Inconel	Alloy Steels Tool Steels	Ductile and Malleable Cast Iron
		50-75 M/min	30-50 M/min	90-110 M/min	140-160 M/min	120-200 M/min
		CHIP LOAD PER TOOTH				
6		0.025	0.025	0.028	0.038	0.033
		0.028	0.028	0.033	0.043	0.048
8		0.030	0.030	0.036	0.046	0.041
		0.036	0.036	0.041	0.051	0.048
10		0.038	0.038	0.041	0.051	0.061
		0.043	0.043	0.048	0.058	0.071
12		0.051	0.051	0.058	0.064	0.081
		0.058	0.058	0.071	0.076	0.097
16		0.058	0.058	0.061	0.064	0.084
		0.069	0.069	0.074	0.076	0.102
20		0.061	0.061	0.069	0.081	0.099
		0.071	0.071	0.081	0.097	0.119
25		0.076	0.076	0.081	0.102	0.117
		0.086	0.086	0.097	0.114	0.142
32		0.086	0.086	0.097	0.102	0.127
		0.102	0.102	0.114	0.122	0.152

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