



ULET ■ Square Long Flute Type End Mills - 2 flutes

Ultra Fine Micro Grain Carbide

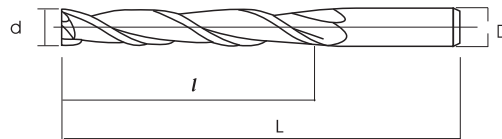
WC = 87 Co = 12 HRA = 92.1 Rupture = 3800N/mm² Grain Size = 0.4μm

Application

Iron, Carbon steel, Cast Iron, Alloy Steel, Tool Steel, Heat treatment Steel, Welding Steel

Main Character

Ultra fine micro grain carbide that has high toughness, coating ALTiN (TiAlN) and wear-resisting, non-general titanium aluminium is specialized in milling on M/C high hardness at a high speed and can carry on rough machining get to detailed process directly for heat treatment mould to reduce change times, improve machine flexible rate and shorten producing time.



MODE	Diameter d	Flute Length l	Full Length L	Shank Diameter D	Packing Quantity	Price
ULET0102-HSC	1	5	50	4	6	
ULET0152-HSC	1.5	6	50	4	6	
ULET0202-HSC	2	8	50	6	6	
ULET0252-HSC	2.5	10	50	6	6	
ULET0302-HSC	3	12	60	6	4	
ULET0352-HSC	3.5	14	60	6	4	
ULET0402-HSC	4	16	60	6	4	
ULET0452-HSC	4.5	16	60	6	4	
ULET0502-HSC	5	20	60	6	4	
ULET0552-HSC	5.5	20	60	6	4	
ULET0602-HSC	6	25	75	6	2	
ULET0702-HSC	7	26	75	8	2	
ULET0802-HSC	8	26	75	8	2	
ULET0812-HSC	8	36	100	8	2	
ULET1002-HSC	10	40	100	10	2	
ULET1102-HSC	11	40	100	12	2	
ULET1202-HSC	12	46	100	12	2	
ULET1402-HSC	14	46	100	14	1	
ULET1502-HSC	15	46	100	16	1	
ULET1602-HSC	16	46	100	16	1	

Attention: In order to get better cutting surface and lengthen the life-time of the end mill, please use high accuracy, high rigidity and dynamic equilibrium of holder.

1. Before using the end mill, please examine the end mill to lean towards and put, when the precision of the leaning towards of end mill exceeds 0.01mm, please cut after correcting.
2. It is better that end mill stretches out shorter from chuck, when the end mill stretches out longer, please adjust the rotational speed, feeding speed or cutting amount.
3. Unusual vibrations or sound happen when cutting, please adjust and lower the rotational speed of the main shaft one by one, feeding speed and cutting amount until improving the situation, or change the high-quality end mill.
4. It is the best way to cool steel material by spraying or air in order to make TiAlN efficiently; we commend to adopt non-water cutting liquid to cool the stainless steel, titanium alloy or heat-resisting alloy liquid.
5. Cutting will be influenced by work piece, machine and software; the above-mentioned data are only for reference, please improve feeding speed by 30%~50% up after cutting situation steadily.

ULET 2F Recommended Milling conditions

Working material hardness	HRC30°		HRC50°		HRC60°	
	Rotational speed	Feeding speed	Rotational speed	Feeding speed	Rotational speed	Feeding speed
	RPM	mm/min.	RPM	mm/min.	RPM	mm/min.
Shank Diameter						
φ 1.0	6900	307	5338	230	4032	195
φ 1.5	6480	684	4950	304	3840	232
φ 2.0	5683	358	4915	307	3456	256
φ 2.5	5460	400	4830	336	3360	256
φ 3.0	4608	440	4290	384	2995	256
φ 3.5	4320	488	4110	416	2808	280
φ 4.0	4170	544	3810	464	2688	280
φ 4.5	3996	560	3660	480	2700	288
φ 5.0	3840	560	3510	480	2586	288
φ 5.5	3720	600	3540	520	2460	304
φ 6.0	3720	600	3540	520	2340	304
φ 6.5	3600	640	3420	568	2280	328
φ 7.0	3540	680	3000	608	2220	336
φ 7.5	3540	680	2760	608	2160	336
φ 8.0	2700	760	1728	640	1110	376
φ 8.5	2460	816	1470	720	1050	400
φ 10.0	1740	1120	900	600	660	304
φ 10.5	1680	1120	810	544	600	280
φ 11.0	1620	1040	750	400	570	240
φ 11.5	1560	1040	660	360	510	200
φ 12.0	1470	800	612	336	474	168
φ 12.5	1260	720	570	304	408	160
φ 13.0	1080	560	522	280	372	144
φ 14.0	1008	520	444	256	342	136
φ 15.0	900	480	420	256	312	136
φ 16.0	840	480	402	240	294	136
φ 17.0	780	480	378	232	270	136
φ 18.0	714	440	348	216	258	136
φ 19.0	630	440	294	200	237	120
φ 20.0	552	400	264	168	186	96
φ 25.0	468	320	228	132	168	96