

UBT | Ball Nose End Mills - 4 flutes

Ultra Fine Micro Grain Carbide

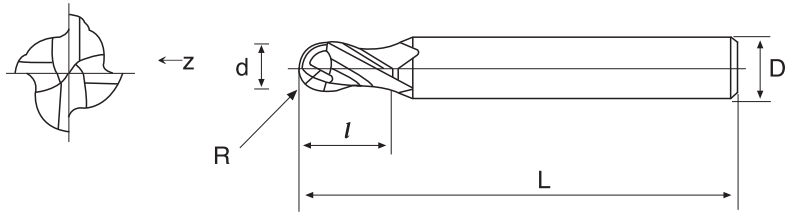
WC = 87 Co = 12 HRA = 92.1 Rupture = 3800N/mm² Grain Size = 0.4μm

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	Radius of Ball Nose R	Packing Quantity	Price
UBT0104-π HSC	1	2	50	4	0.5R	6	
UBT0204-π HSC	2	4	50	4	1R	6	
UBT0254-π HSC	2.5	5	50	4	1.25R	6	
UBT0304-π HSC	3	6	50	4	1.5R	6	
UBT0404-π HSC	4	8	50	4	2R	6	
UBT0454-π HSC	4.5	9	50	6	2.25R	6	
UBT0504-π HSC	5	10	50	6	2.5R	6	
UBT0604-π HSC	6	12	50	6	3R	6	
UBT0704-π HSC	7	14	60	8	3.5R	4	
UBT0804-π HSC	8	16	60	8	4R	4	
UBT0814-π HSC	8	16	75	8	4R	2	
UBT1004-π HSC	10	20	75	10	5R	2	
UBT1204-π HSC	12	24	75	12	6R	2	
UBT1404-π HSC	14	28	100	14	7R	1	
UBT1604-π HSC	16	32	100	16	8R	1	
UBT2004-π HSC	20	40	150	20	10R	1	
UBT2504-π HSC	25	50	150	25	12.5R	1	
ULBT0604-π HSC	6	12	75	6	3R	2	
ULBT0804-π HSC	8	16	100	8	4R	2	
ULBT1004-π HSC	10	20	100	10	5R	2	
ULBT1204-π HSC	12	24	100	12	6R	2	
ULBT1604-π HSC	16	32	150	16	8R	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.

UBT 4F Recommended Milling conditions

Working material hardness	HRC30°		HRC52°		HRC60°	
	Rotational speed	Feeding speed	Rotational speed	Feeding speed	Rotational speed	Feeding speed
	RPM	mm/min.	RPM	mm/min.	RPM	mm/min.
Radius of Ball Nose						
R0.5	18432	691	14976	461	12096	438
R0.75	17550	738	14130	612	11430	504
R1.0	17050	806	12845	668	10368	576
R1.25	15300	954	11520	855	9450	576
R1.5	13824	1267	10368	922	8986	576
R2.0	13248	1843	9792	864	8064	783
R2.5	12420	2304	8986	1152	6336	691
R3.0	11520	2304	8755	1094	5760	634
R3.5	8370	2412	6120	1278	4050	702
R4.0	7488	2534	4608	1382	2880	749
R4.5	5931	2340	3690	1241	2520	675
R5.0	4378	2189	2304	1037	1843	576
R6.0	3420	2070	2304	1152	1382	518
R7.0	1980	1125	1422	621	882	378
R8.0	1485	702	945	468	630	324
R10.0	990	540	612	369	441	221
R12.5	774	450	477	234	347	171

