MITSUBISHI MITSUBISHI MATERIALS

TOOLS NEWS

B248G
YOUR GLOBAL CRAFTSMAN STUDIO

Taper Ball End Mill for Aluminum Impellers

C4LATB

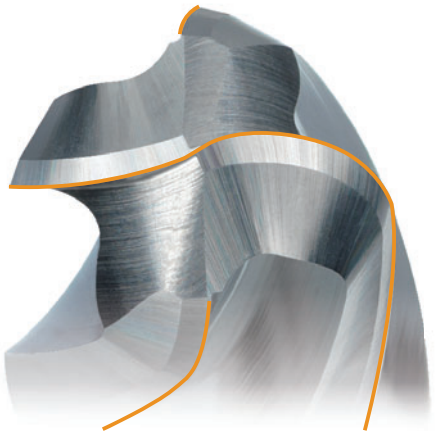
New Product

High-efficiency Roughing for Aluminum Impellers

Taper Ball End Mill for Aluminum Impellers

C4LATB

2 ball flutes and 4 peripheral flutes can maintain constant chip discharge and stable tool rigidity.



— : Cutting Edge

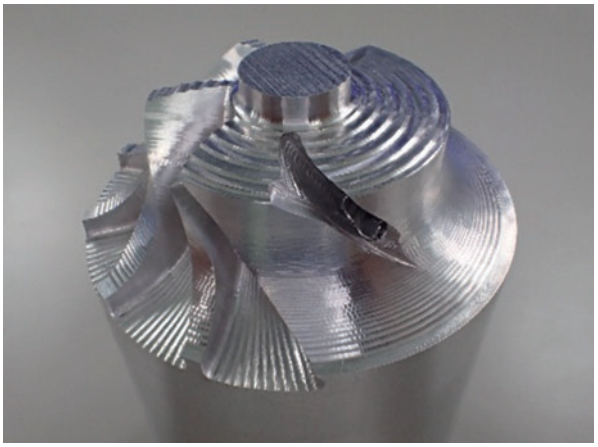
Please inquire with us regarding special items.

Application Example

High-efficiency Cutting for Aluminum Alloy Impellers

Excellent high depth of cut and high feed.

Conventional



Breakage During Grooving

C4LATB

High Durability

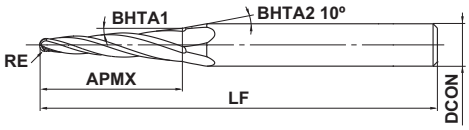
<Cutting Conditions>

Work Material	: Aluminum Alloy (A2618-T61)	Max. Feed Rate	: 2000mm/min
		Max. Depth of Cut	: ap=11.0mm
Tool	: C4LATBR100T040AP20	Cutting Mode	: Water Based
Revolution	: 20000min^{-1}	Machine	: Vertical M/C

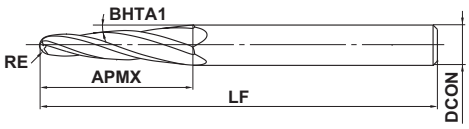
C4LATB NEW

Ball nose taper end mill, Long cut length, 4 flute, For aluminum impellers

Carbon Steel, Alloy Steel, Cast Iron (<30HRC)	Tool Steel, Pre-hardened Steel,Hardened Steel (≤45HRC)	Hardened Steel (≤55HRC)	Hardened Steel (>55HRC)	Austenitic Stainless Steel	Titanium Alloy, Heat Resistant Alloy	Copper Alloy	Aluminum Alloy
							◎



Type1



Type2

R	RE≤2				
	± 0.010				
	±5'				
h6	DCON=6	DCON=8			
	0 - 0.008	0 - 0.009			

● High-efficiency roughing for aluminum impellers.

(mm)

Order Number	RE	BHTA1	APMX	LF	DCON	No.F *	Stock	Type
C4LATBR050T040AP20	0.5	4°	20	70	6	4	●	1
C4LATBR100T040AP20	1	4°	20	70	6	4	●	1
C4LATBR150T040AP20	1.5	4°	20	75	8	4	●	1
C4LATBR200T040AP30	2	4°	30	75	8	4	●	2

* Number of Flutes

(Note) Please inquire with us regarding non-standard special shapes (ex.: RE sizes starting from a minimum of R0.3, half included taper angles) or coatings.

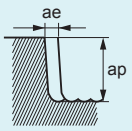
RE = Radius of Ball Nose
BHTA1 = Taper Angle
APMX = Length of Cut
LF = Overall Length
DCON = Shank Dia.

● : **Inventory maintained in Japan.**

Recommended Cutting Conditions

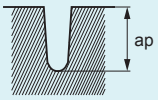
Side Milling

(mm)

Work material	Aluminum alloy			
RE	n (min-1)	vf (mm/min)	ap	ae
R0.5	20000	2000	15	0.75
R1	20000	4000	15	1.5
R1.5	20000	5200	15	2.25
R2	20000	5200	23	3
Depth of cut				

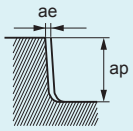
Slotting

(mm)

Work material	Aluminum alloy		
RE	n (min-1)	vf (mm/min)	ap
R0.5	20000	600	10
R1	20000	2800	10
R1.5	20000	4000	10
R2	20000	4000	15
Depth of cut			

Side Milling (For Finishing)

(mm)

Work material	Aluminum alloy			
RE	n (min-1)	vf (mm/min)	ap	ae
R0.5	20000	800	18	0.1
R1	20000	2000	18	0.2
R1.5	20000	2400	18	0.3
R2	20000	2400	27	0.3
Depth of cut				

Case Examples for Special Items

1) Water-soluble cutting fluid is recommended.
2) Climb cutting is recommended for side milling.
3) If the rigidity of the machine or the work materials installation is very low, or chattering and noise are generated, reduce the revolution and feed rate proportionately, or set the depth of cut smaller.

For Your Safety
●Don't handle inserts and chips without gloves. ●Please machine within the recommended application range and exchange expired tools with new ones in advance of breakage. ●Please use safety covers and wear safety glasses. ●When using compounded cutting oils, please take fire precautions. ●When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc.

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(Tools specifications subject to change without notice.)

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