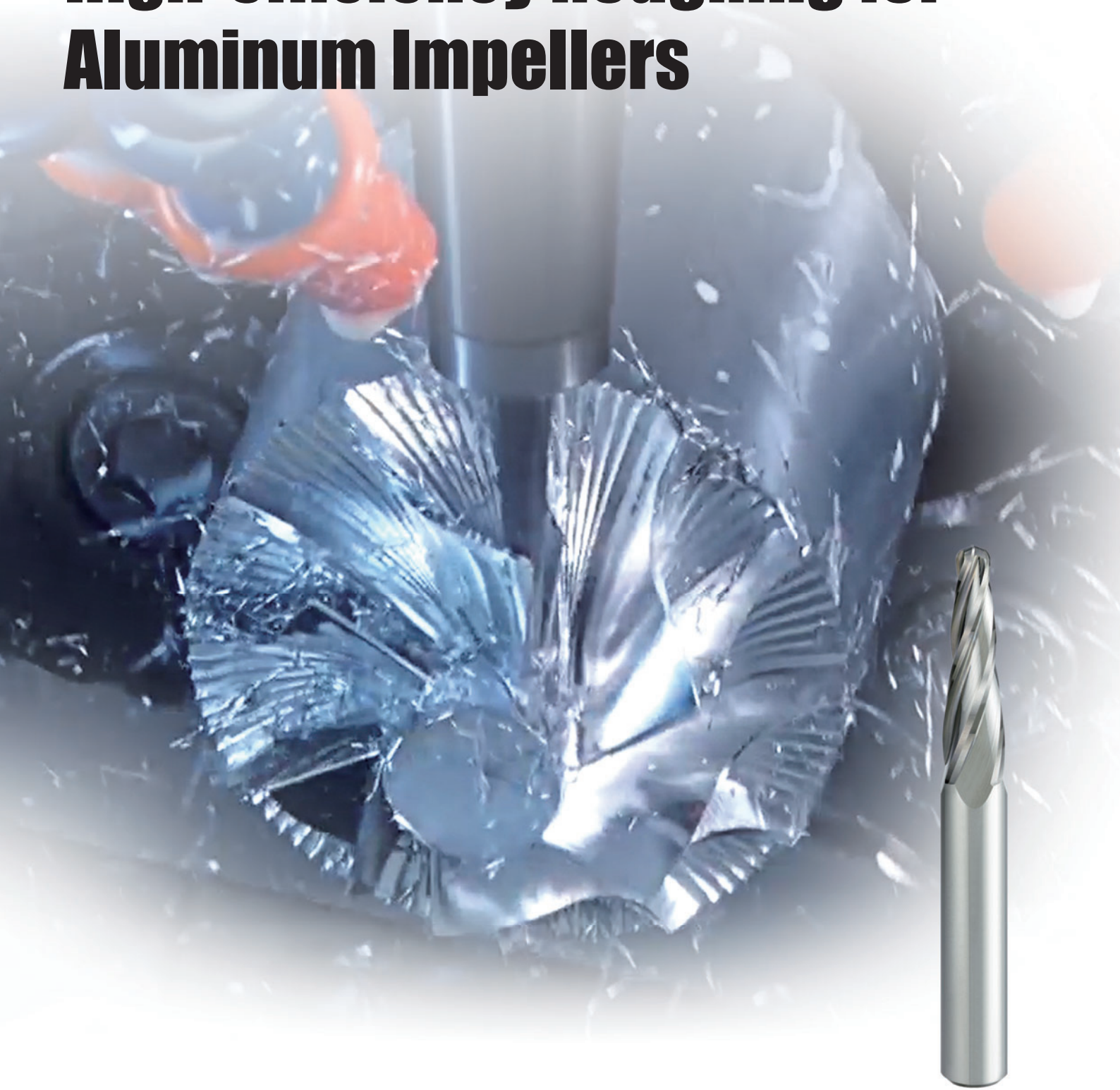


Taper Ball End Mill for Aluminum Impellers

# ***C4LATB***



## **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.**



**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)

Tool : C4LATBR100T040AP20  
Revolution : 20000 min<sup>-1</sup>

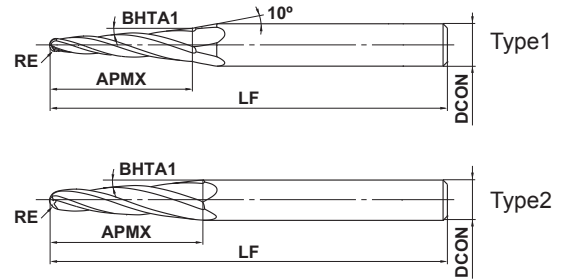
Max. Feed Rate : 2000mm/min  
Max. Depth of Cut : ap=11.0mm  
Cutting Mode : Water Based  
Machine : Vertical M/C

# 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
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<b>R</b>	RE ≤ 2				
	± 0.010				
<b>h6</b>	DCON = 6	DCON = 8			
	<sup>0</sup> / <sub>-0.008</sub>	<sup>0</sup> / <sub>-0.009</sub>			

● High-efficiency roughing for aluminum impellers.

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.

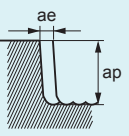
RE = Radius of Ball Nose      LF = Overall Length  
 BHTA1 = Taper Angle          DCON = Shank Dia.  
 APMX = Length of Cut

● : Inventory maintained in Japan.

## Recommended Cutting Conditions


### Side Milling

(mm)

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

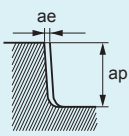
### Slotting

(mm)

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

### Side Milling (For Finishing)

(mm)

Work material	Aluminum alloy			
RE	n (min <sup>-1</sup> )	vf (mm/min)	ap	ae
<b>R0.5</b>	20000	800	18	0.1
<b>R1</b>	20000	2000	18	0.2
<b>R1.5</b>	20000	2400	18	0.3
<b>R2</b>	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.

## MITSUBISHI MATERIALS CORPORATION

#### MMC Hardmetal (Thailand) Co., Ltd.

CTI Tower 24<sup>th</sup> Floor, 191/32 Ratchadapisek Road,  
Klongtoey, Klongtoey, Bangkok, 10110 Thailand  
Tel : +66-2661-8170 Fax : +66-2661-8175

#### Indonesia Representative Office

Celebration Boulevard Blok AA11/37, Grand Wisata,  
Bekasi Timur Indonesia 17510  
Tel : +62-21-8261-6417 Fax : +62-21-8261-6416

#### Singapore Branch

33 Ubi Avenue 3, #05-14 Vertex, Singapore 408868  
Tel : +65-6634-8250 Fax : +65-6634-8257

#### Hanoi Representative Office

601 B on 6th floor of the Giang View Building,  
D10 Giang Vo, Ba Dinh District, Hanoi, Vietnam  
Tel : +84-43-772-8362 Fax : +84-43-772-8299

#### Ho Chi Minh Representative Office

1205 on 12th floor, 2A-4A Ton Duc Thang St.,  
Ben Nghe Ward, Dist. 1, HCMC, Vietnam  
Tel. +84-8-3829-7700  
Fax. +84-8-3824-3344

<http://www.mitsubishicarbide.com/en/>  
(Tools specifications subject to change without notice.)