NS TOOL

For Crafting Tomorrow

MUGEN COATING PREMIUM High Efficient Square End Mill with Nick for Stainless Steels and Titanium Alloy

MSUS440N NEW

Total 8 sizes

M S



Effectively reduces chipping problems in roughing
Adopt nick shape cutting edge to break up the chips and remove chips smoothly

MUGEN COATING PREMIUM
High Efficient Square End Mill with Nick for Stainless Steels and Titanium Alloy

MSUS440N New

Release in Jun, 2026.

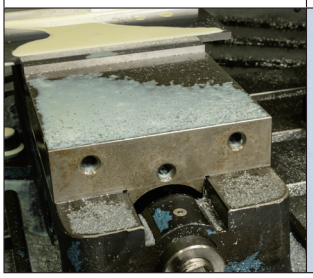
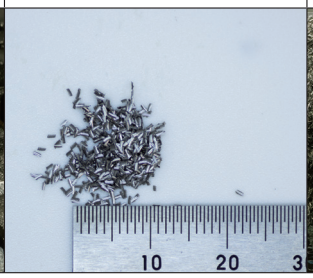
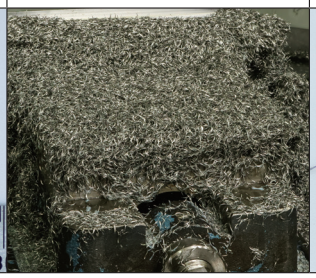
ϕ 1 ～ ϕ 6　　Total 8 sizes



Features

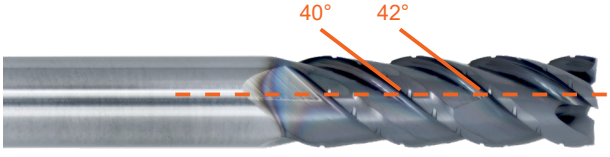
Feature 1	Improved chip evacuation	Break chips into smaller pieces to improve chip evacuation

Nick shape breaks chips into smaller that improving chip evacuation and preventing chip-related issues such as machine stoppages and machining defects.
In addition, it reduces cutting load, enabling high efficiency roughing.

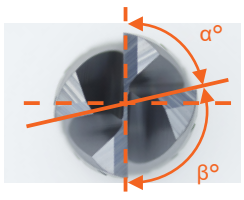
After machining 10 min			
MSUS440N　ϕ3		Conventional 4-flute tool　ϕ3	
Table condition after machining	Chip	Table condition after machining	Chip
			

Spindle speed : 7,800min^{-1} , Feed : 1,000mm/min , Depth of cut : ap 9 × ae 0.3mm

Feature 2	Suppress Chattering	Unequal flute spacing, unequal helix angle to minimize chattering



Unequal helix angle



Unequal flute spacing

MSUS440N New

Size ϕ1 ～ ϕ6

Premium ≦40 HRC

MUGEN COATING PREMIUM High Efficient Square End Mill with Nick for Stainless Steels and Titanium Alloy

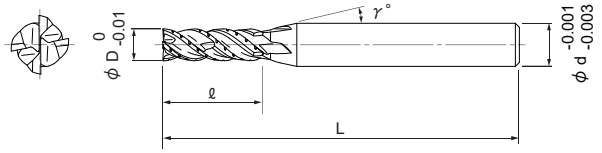
Total 8 sizes

Effectively reduces chipping problems in roughing
Adopt nick shape cutting edge to break up the chips and remove chips smoothly

MG | 4 | 40°/42° | ϕd -0.001 -0.003

Side | Slot | Face





- Adopt nick shape on peripheral cutting edge to reduce cutting load.
- Chip can be removed smoothly by breaking up the chips smaller that preventing machining troubles.
- Optimized for high efficiency roughing with unequal flute spacing and unequal helix angle design.

Work Material

Stainless Steels M	Titanium Alloy S
◎	◎

◆ Release in Jun, 2026.

Unit [Size : mm]

Code No.	Dia. (D)	Length of Cut (ℓ)	Neck Taper Angle (γ)	Shank Dia. (d)	Overall Length (L)
◆ 08-00154-01030	**1**	3	12°	4	50
◆ 08-00154-01530	**1.5**	4.5	12°	4	50
◆ 08-00154-02030	**2**	6	12°	6	60
◆ 08-00154-02530	**2.5**	7.5	12°	6	60
◆ 08-00154-03030	**3**	9	12°	6	60
◆ 08-00154-04030	**4**	12	12°	6	60
◆ 08-00154-05030	**5**	15	12°	6	60
◆ 08-00154-06030	**6**	18	-	6	60

How to Order When you order, indicate MSUS440N (D). ※ (γ) is reference value.

Recommended Milling Conditions

Work Material		Stainless Steels SUS304							Titanium Alloy Ti-6Al-4V						
		Side Milling				Slotting			Side Milling				Slotting		
Dia.	Length of Cut	Spindle Speed	Feed	Depth of Cut		Spindle Speed	Feed	Depth of Cut	Spindle Speed	Feed	Depth of Cut		Spindle Speed	Feed	Depth of Cut
		min^{-1}	mm/min	ap mm	ae mm	min^{-1}	mm/min	ap mm	min^{-1}	mm/min	ap mm	ae mm	min^{-1}	mm/min	ap mm
1	**3**	20,000	650	3	0.1	15,000	200	1	19,000	650	3	0.1	14,000	200	1
1.5	**4.5**	14,000	700	4.5	0.15	11,000	210	1.5	13,000	700	4.5	0.15	10,000	210	1.5
2	**6**	11,000	800	6	0.2	9,400	230	2	10,500	800	6	0.2	8,500	230	2
2.5	**7.5**	9,200	950	7.5	0.25	8,100	250	2.5	8,600	950	7.5	0.25	7,300	250	2.5
3	**9**	7,800	1,000	9	0.3	7,000	280	3	7,200	1,000	9	0.3	6,300	280	3
4	**12**	7,000	1,150	12	0.4	5,700	290	4	6,500	1,150	12	0.4	5,200	290	4
5	**15**	6,500	1,300	15	0.5	4,800	310	5	6,100	1,300	15	0.5	4,400	310	5
6	**18**	5,800	1,300	18	0.6	4,100	320	6	5,400	1,300	18	0.6	3,700	320	6

Note

※1 Depth of Cut : ap=Axial Depth of Cut / ae=Radial Depth of Cut.
※2 Please choose the short end tooth when measure the tool length.
※3 Adjust milling condition conforming with machine rigidity and clamping condition.Final milling conditions are subject to machining profile, purpose and machine status.
※4 If the maximum spindle speed of the machine tool is lower than the reference value, please reduce the spindle speed and feed rate at the same rate.
※4 Also, reduce both spindle speed and feed rate at the same ratio if chattering occurs.
※5 Water soluble fluid is recommended.
※6 Please supply the coolant with as much flow rate as possible and at high pressure so that chips can be effectively removed.
※7 Please exercise caution that insufficient chip evacuation may lead to tool chipping or breakage.
※8 Use a rigid and precise machine and chuck holder.
※9 Overhang of end mill should be as short as possible from spindle nose.

NS TOOL CO.,LTD.

www.ns-tool.com
6F., Sumitomo Fudosan Oimachi Ekimae Bldg.,
1-28-1 Oi, Shinagawa-ku, Tokyo 140-0014, Japan
TEL. +81-3-3774-2459 FAX. +81-3-3774-2460

NS TOOL USA, INC.

us.ns-tool.com
2265 Building # 3, Star CT.,
Rochester Hills, MI 48309, USA
TEL. +1-248-829-1960

CAUTION **Attention on Safety**

1) When removing tools from cases, be careful of getting-out of tools and don't touch directly the cutting edges.
2) Never touch the cutting edges directly with bare hand.
3) Use safety covers and eye protection, as tools may be broken.
4) Use holders, etc. that match the tools and nature of the processing operations. The tool should be firmly attached to the holder to prevent shaking.
5) The work materials clamp firmly.
6) Make sure of dimensions of tools and work pieces before starting operation.
7) It is necessary to adjust conditions according to the dimensions of work materials and the machine.
8) Select a cutting fluid appropriate to the particular usage. Using a non-water cutting fluid could lead to fires due to sparks generated during processing or heat caused by breakage. Ensure that you take proper fire-prevention measures.
9) If abnormal sound, etc. occurs during processing, stop the machine immediately.
10) Don't modify tools.

ISO 9001 JQA-QM6096 ISO 14001 JQA-EM3712

26'07

MSUS440N_A1_202607_EN

■Specifications may change without notice for improvement.
■This print uses environmentally friendly inks.