

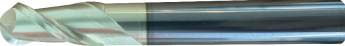


Square End Mills

Stainless& Titanium	3 Flutes Carbide Square End Mill Variable Leads&Helix 43/46° 【Samurai】 ◎:Stainless Steel and Titanium, △:General Steel ★With Gash Edge ★Champagne Gold Coating		4346MT 3F Series	Page 1
Stainless& Titanium	4 Flutes Carbide Square End Mill Variable Leads&Helix 43/46° 【Samurai】 ◎:Stainless Steel and Titanium, △:General Steel ★With Gash Edge ★Champagne Gold Coating		4346MT 4F Series	Page 2-4
Stainless& Titanium	4 Flutes Carbide Square End Mill Variable Leads&Helix 35/38° 【Samurai】 ◎:Stainless Steel and Titanium, △:General Steel ★With Gash Edge ★Champagne Gold Coating		3538MT Series	Page 5
Steel	4 Flutes Carbide Square End Mill Variable Leads&Helix 43/46° 【Samurai】 ◎:General Steel ★With Gash Edge ★AlTiN Coating ★Triple Core Design		4346ST Series	Page 6-7
Steel	4 Flutes Carbide Square End Mill Variable Leads&Helix 35/38° 【Samurai】 ◎:General Steel ★With Gash Edge ★AlTiN Coating ★Triple Core Design		3538ST Series	Page 8-9
Steel	4 Flutes Carbide Square End Mill Variable Leads&Helix 43/46° 【Samurai】 ◎:General Steel Up to HRC60 Steel ★With Gash Edge ★POWER Coating ★Triple Core Design		4346PT Series	Page 10-11
Steel	4 Flutes Carbide Square End Mill Variable Leads&Helix 35/38° 【Samurai】 ◎:General Steel Up to HRC60 Steel ★With Gash Edge ★POWER Coating ★Triple Core Design		3538PT Series	Page 12
Stainless	4 Flutes Carbide Square End Mill Variable Leads&Helix 23/26° ◎:Stainless Steel △:General Steel ★With Gash Edge ★Amber Coating		2326MT2 Series	Page 13
Hardened Steel	4 Flutes Carbide Square End Mill Variable Leads&Helix 43/45° For Hardened Steel up to HRC60 【Samurai】 ★With Gash Edge ★Micro Grain 0.2μm(Sumitomo) ★Naco-Blue Coating		4345HT Series	Page 14
Hardened Steel	4 Flutes Carbide Square End Mill Variable Leads&Helix 35/38° For Hardened Steel up to HRC60 【Samurai】 ★With Gash Edge ★Micro Grain 0.2μm(Sumitomo) ★Naco-Blue Coating		3538HT Series	Page 15
Hardened Steel	6 Flutes Carbide Square End Mill 45° For Hardened Steel up to HRC60-65 【Samurai】 ★With Gash Edge ★Micro Grain 0.2μm(Sumitomo) ★Naco-Blue Coating		45HT 6F Series	Page 16
Stainless	4 Flutes Carbide Square End Mill With Neck Variable Leads&Helix 40/42° 【Samurai】 ◎:Stainless Steel and Titanium ★With Gash Edge ★Champagne Gold Coating		4042N Series	Page 17
ALuminium	2 Flutes Carbide Square End Mill 40° ALuminium Non-Ferrous ★With Gash Edge ★DLC Coating		40AL 2F HDC Series	Page 18
ALuminium	2 Flutes Carbide Square End Mill 40° ALuminium Non-Ferrous ★Non-Coated ★With Gash Edge		40AL2F Series	Page 19
ALuminium	3 Flutes Carbide Square End Mill 43/45/46° ALuminium Non-Ferrous ★With Gash Edge ★DLC Coating		4346AL3FHDC Series	Page 20
ALuminium	3 Flutes Carbide Square End Mill With Neck Variable Leads&Helix 40/42° ALuminium Non-Ferrous ★With Gash Edge ★DLC Coating		404142NHDC Series	Page 21

Corner Radius End Mills

Stainless	<p>4 Flutes Carbide Corner Radius Variable Leads&Helix 40/43° [Samurai] ◎:Stainless Steel and Titanium, △:General Steel</p> <p>★With Gash Edge ★Champagne Gold Coating</p>		4043CR4F Series	Page 22
Hardened Steel	<p>4 Flutes Carbide Corner Radius Variable Leads&Helix 43/45° For Hardened Steel up to HRC60 [Samurai]</p> <p>★With Gash Edge ★Micro Grain 0.2μm(Sumitomo) ★Naco-Blue Coating</p>		4345CRH Series	Page 23
Hardened Steel	<p>5 Flutes Carbide Corner Radius 45° For Hardened Steel up to HRC60 [Samurai]</p> <p>★Micro Grain 0.2μm(Sumitomo) ★Naco-Blue Coating</p>		45CRH Series	Page 24
ALuminium	<p>3 Flutes Carbide Corner Radius Variable Leads&Helix 43/45/46° [Samurai] ◎:ALuminium Non-Ferrous</p> <p>★With Gash Edge ★DLC Coating</p>		4346CRAL3FHDC	Page 25

Ball Nose End Mills

Stainless	<p>Carbide Ball Nose End Mill Variable Leads&Helix 43/46° [Samurai] ◎:Stainless Steel and Titanium, △:General Steel</p> <p>★With Gash Edge ★Champagne Gold Coating※ 2F, 3F, 4F Ball Nose Available</p>		4346BMT Series	Page 26
Hardened Steel	<p>2 Flutes Carbide Ball Nose End Mill Variable Leads&Helix 35/38° For Hardened Steel up to HRC60</p> <p>★Micro Grain 0.2μm(Sumitomo) ★Naco-Blue Coating</p>		3538BHT Series	Page 27
ALuminium	<p>Carbide Ball Nose End Mill Variable Leads&Helix 43/46° ALuminium Non-Ferrous</p> <p>★DLC Coating ※ 2F, 3F, 4F Ball Nose Available</p>		4346BTAL HDC Series	Page 28

Roughing End Mills

Stainless	<p>4 Flutes Carbide Roughing End Mill Variable Leads&Helix 43/46° [Samurai] ◎:Stainless Steel and Titanium, △:General Steel</p> <p>★Fine Pitch Type ★Champagne Gold Coating</p>		4346RF Series	Page 29
Stainless	<p>4 Flutes Carbide Roughing End Mill Variable Leads&Helix 30/32° [Samurai] ◎:Stainless Steel and Titanium, △:General Steel</p> <p>★Fine Pitch Type ★Champagne Gold Coating</p>		3032RF Series	Page 30
Steel	<p>4 Flutes Carbide Roughing End Mill Variable Leads&Helix 43/46° [Samurai] ◎:General Steel and Titanium, ◎:Pre-Hardened Steel and Hardened Steel Below HRC60</p> <p>★Fine Pitch Type ★POWER Coating</p>		4346R Series	Page 31
Steel	<p>4 Flutes Carbide Roughing End Mill Variable Leads&Helix 35/38° [Samurai] ◎:General Steel and Titanium, ◎:Pre-Hardened Steel and Hardened Steel Below HRC60</p> <p>★Fine Pitch Type ★POWER Coating</p>		3538R Series	Page 32
Steel	<p>4 Flutes Carbide Roughing End Mill Variable Leads&Helix 19/21° [Samurai] ◎:General Steel and Titanium, ◎:Pre-Hardened Steel and Hardened Steel Below HRC60</p> <p>★Fine Pitch Type ★POWER Coating</p>		1921R Series	Page 33
ALuminium	<p>3 Flutes Carbide Roughing End Mill 35/37/38° ALuminium Non-Ferrous</p> <p>★Semi-Fine Pitch Type ★DLC Coating</p>		3538RAL 3F HDC Series	Page 34



With Gash Edge Champagne Gold Coating

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel HRC50 Around	Pre-Hardened Steel HRC60以上	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	○	△	○	●	●	●		

High Speed Milling

ap	1.5D	1.5D	1.5D		1.5D	1.5D	1.5D	1.5D		
ae	0.1D	0.1D	0.02D		0.1D	0.05D	0.05D	0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About		Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.002About	Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110		160-200	150-180	30-45	160-200		

Recommended For Side Milling

ap	1D	1D	1.5D		1D	1D	1.5D	1D		
ae	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About		Diameter x 0.005About	Diameter x 0.005About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110		100-130	80-100	30-45	100-150		

Recommended For Slotting& Grooving

ap	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
ae	1D	1D	1D		1D	1D	1D	1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About		Diameter x 0.003About	Diameter x 0.004About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100		100-130	70-100	30-40	100-130		

4346MT3F Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-010MT-50-3F	1		4	2.5	50			43/46°	3
T4346-020MT-50-3F	2		4	4.4	50			43/46°	3
T4346-030MT-50-3F	3		6	7	50			43/46°	3
T4346-040MT-50-3F	4		6	9	50			43/46°	3
T4346-050MT-50-3F	5		6	11	50			43/46°	3
T4346-060MT-50-3F	6		6	13	50			43/46°	3
T4346-080MT-60-3F	8		8	18	60			43/46°	3
T4346-100MT-75-3F	10		10	22	75			43/46°	3
T4346-120MT-75-3F	12		12	26	75			43/46°	3
T4346-160MT-100-3F	16		16	35	100			43/46°	3
T4346-200MT-100-3F	20		20	44	100			43/46°	3

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6 /// CGコーティングは非常に高いスペックをもち、コーティングの硬度は4200HV、最高使用温度1100°をマークし乾湿両用で使用できます。多層コーティングで表面に滑り性をもたせ、Heat Resistant Alloy、Stainless Steel、鋼全般に使用できます。ハイスベックコーティングによりEdge欠損を担保しながら高い加工条件でより安定性を持たせ、長寿命に使用できるコンセプトで開発されたエンドミルです。Stainless Steelには抜群の威力を発揮いたします。The CG coating has extremely high specifications, the hardness of the coating is 4200HV, the maximum operating temperature is 1100°, and it can be used both wet and dry. The multi-layer coating makes the surface slippery and can be used for Heat Resistant Alloy, Stainless Steel, and steel in general. It is an end mill developed with the concept that it can be used for a long life by making it more stable under high processing conditions while ensuring edge defects by high spec coating. It is extremely powerful for Stainless Steel.



With Gash Edge Champagne Gold Coating

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	○	△	○	●	●	●		

High Speed Milling

	ap	1.5D	1.5D	1.5D		1.5D	1.5D	1.5D	1.5D		
	ae	0.1D	0.1D	0.02D		0.1D	0.05D	0.05D	0.1D		
1刃当りの送り量/Feed Per Flute		Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About		Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.002About	Diameter x 0.015About		
Cutting Speed/周速(Vc)		160-200	120-150	90-110		160-200	150-180	30-45	160-200		

Recommended For Side Milling

	ap	1D	1D	1.5D		1D	1D	1.5D	1D		
	ae	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
1刃当りの送り量/Feed Per Flute		Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About		Diameter x 0.005About	Diameter x 0.005About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)		100-130	90-110	90-110		100-130	80-100	30-45	100-150		

Recommended For Slotting& Grooving

	ap	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
	ae	1D	1D	1D		1D	1D	1D	1D		
1刃当りの送り量/Feed Per Flute		Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About		Diameter x 0.003About	Diameter x 0.004About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)		100-130	80-100	80-100		100-130	70-100	30-40	100-130		

4346MT Series Model		Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-030MT-010D-50-4F	\$10.6	3		4	3	50			43/46°	4
T4346-040MT-010D-50-4F	\$10.6	4		4	4	50			43/46°	4
T4346-050MT-010D-50-4F	\$14.9	5		6	5	50			43/46°	4
T4346-060MT-010D-50-4F	\$14.9	6		6	6	50			43/46°	4
T4346-080MT-010D-60-4F	\$24.2	8		8	8	60			43/46°	4
T4346-100MT-010D-75-4F	\$32.7	10		10	10	75			43/46°	4
T4346-010MT-015D-50-4F	\$10.6	1		4	1.5	50			43/46°	4
T4346-015MT-015D-50-4F	\$10.6	1.5		4	0.3	50			43/46°	4
T4346-020MT-015D-50-4F	\$10.6	2		4	3	50			43/46°	4
T4346-025MT-015D-50-4F	\$10.6	2.5		4	3.8	50			43/46°	4
T4346-030MT-015D-50-4F	\$14.9	3		6	4.5	50			43/46°	4
T4346-040MT-015D-50-4F	\$14.9	4		6	6	50			43/46°	4
T4346-050MT-015D-50-4F	\$14.9	5		6	7.5	50			43/46°	4
T4346-060MT-015D-50-4F	\$14.9	6		6	9	50			43/46°	4
T4346-080MT-015D-60-4F	\$24.2	8		8	12	60			43/46°	4
T4346-100MT-015D-75-4F	\$32.7	10		10	15	75			43/46°	4
T4346-120MT-015D-75-4F	\$45.8	12		12	18	75			43/46°	4
T4346-160MT-015D-100-4F	\$104.2	16		16	24	100			43/46°	4
T4346-200MT-015D-100-4F	\$183.8	20		20	30	100			43/46°	4
T4346-010MT-020D-50-4F	\$10.6	1		4	2	50			43/46°	4
T4346-015MT-020D-50-4F	\$10.6	1.5		4	3	50			43/46°	4
T4346-020MT-020D-50-4F	\$10.6	2		4	4	50			43/46°	4
T4346-025MT-020D-50-4F	\$10.6	2.5		4	5	50			43/46°	4
T4346-030MT-020D-50-4F	\$14.9	3		6	6	50			43/46°	4
T4346-035MT-020D-50-4F	\$14.9	3.5		6	7	50			43/46°	4
T4346-040MT-020D-50-4F	\$14.9	4		6	8	50			43/46°	4
T4346-050MT-020D-50-4F	\$14.9	5		6	10	50			43/46°	4
T4346-060MT-020D-50-4F	\$14.9	6		6	12	50			43/46°	4
T4346-080MT-020D-60-4F	\$24.2	8		8	16	60			43/46°	4
T4346-080MTC-020D-60-4F	\$24.2	8	0.15C	8	16	60			43/46°	4
T4346-100MT-020D-75-4F	\$32.7	10		10	20	75			43/46°	4
T4346-100MTC-020D-75-4F	\$32.7	10	0.2C	10	20	75			43/46°	4
T4346-120MT-020D-75-4F	\$45.8	12		12	24	75			43/46°	4
T4346-120MTC-020D-75-4F	\$45.8	12	0.2C	12	24	75			43/46°	4
T4346-160MT-020D-100-4F	\$104.2	16		16	32	100			43/46°	4
T4346-160MTC-020D-100-4F	\$104.2	16	0.2C	16	32	100			43/46°	4
T4346-200MT-020D-100-4F	\$183.8	20		20	40	100			43/46°	4
T4346-200MTC-020D-100-4F	\$183.8	20	0.3C	20	40	100			43/46°	4



With Gash Edge Champagne Gold Coating

4346MT Series	Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-010MT-025D-50-4F		1		4	2.5	50			43/46°	4
T4346-015MT-025D-50-4F		1.5		4	4	50			43/46°	4
T4346-020MT-025D-50-4F		2		4	5	50			43/46°	4
T4346-025MT-025D-50-4F		2.5		4	6	50			43/46°	4
T4346-030MT-025D-50-4F		3		6	8	50			43/46°	4
T4346-035MT-025D-50-4F		3.5		6	9	50			43/46°	4
T4346-040MT-025D-50-4F		4		6	10	50			43/46°	4
T4346-050MT-025D-50-4F		5		6	13	50			43/46°	4
T4346-060MT-025D-50-4F		6		6	15	50			43/46°	4
T4346-080MT-025D-60-4F		8		8	20	60			43/46°	4
T4346-080MTC-025D-60-4F		8	0.15C	8	20	60			43/46°	4
T4346-100MT-025D-75-4F		10		10	25	75			43/46°	4
T4346-100MTC-025D-75-4F		10	0.2C	10	25	75			43/46°	4
T4346-120MT-025D-75-4F		12		12	30	75			43/46°	4
T4346-120MTC-025D-75-4F		12	0.2C	12	30	75			43/46°	4
T4346-140MTC-025D-100-4F		14	0.2C	16	35	100			43/46°	4
T4346-160MT-025D-100-4F		16		16	40	100			43/46°	4
T4346-160MTC-025D-100-4F		16	0.2C	16	40	100			43/46°	4
T4346-200MT-025D-100-4F		20		20	50	100			43/46°	4
T4346-200MTC-025D-100-4F		16	0.3C	20	50	100			43/46°	4
T4346-010MT-030D-50-4F		1		4	3	50			43/46°	4
T4346-015MT-030D-50-4F		1.5		4	4.5	50			43/46°	4
T4346-020MT-030D-50-4F		2		4	6	50			43/46°	4
T4346-025MT-030D-50-4F		2.5		4	7.5	50			43/46°	4
T4346-030MT-030D-50-4F		3		6	9	50			43/46°	4
T4346-035MT-030D-50-4F		3.5		6	10.5	50			43/46°	4
T4346-040MT-030D-50-4F		4		6	12	50			43/46°	4
T4346-040MT-030D-75-4F		4		6	12	75			43/46°	4
T4346-040MT-030D-100-4F		4		6	12	100			43/46°	4
T4346-050MT-030D-50-4F		5		6	15	50			43/46°	4
T4346-050MT-030D-75-4F		5		6	15	75			43/46°	4
T4346-050MT-030D-100-4F		5		6	15	100			43/46°	4
T4346-060MT-030D-50-4F		6		6	18	50			43/46°	4
T4346-060MT-030D-75-4F		6		6	18	75			43/46°	4
T4346-060MT-030D-100-4F		6		6	18	100			43/46°	4
T4346-080MT-030D-60-4F		8		8	24	60			43/46°	4
T4346-080MT-030D-75-4F		8		8	24	75			43/46°	4
T4346-080MTC-030D-75-4F		8	0.15C	8		75			43/46°	4
T4346-080MT-030D-100-4F		8		8	24	100			43/46°	4
T4346-100MT-030D-75-4F		10		10	30	75			43/46°	4
T4346-100MTC-030D-75-4F		10	0.2C	10		75			43/46°	4
T4346-100MT-030D-100-4F		10		10	30	100			43/46°	4
T4346-100MT-030D-150-4F		10		10	30	150			43/46°	4
T4346-120MT-030D-75-4F		12		12	36	75			43/46°	4
T4346-120MTC-030D-75-4F		12	0.2C	12		75			43/46°	4
T4346-120MT-030D-100-4F		12		12	36	100			43/46°	4
T4346-120MT-030D-150-4F		12		12	36	150			43/46°	4
T4346-160MT-030D-100-4F		16		16	48	100			43/46°	4
T4346-160MTC-030D-100-4F		16	0.2C	16		100			43/46°	4
T4346-160MT-030D-150-4F		16		16	48	150			43/46°	4
T4346-200MT-030D-150-4F		20		20	60	150			43/46°	4
T4346-200MTC-030D-150-4F		20	0.3C	20		150			43/46°	4
T4346-010MT-040D-50-4F		1		4	4	50			43/46°	4
T4346-015MT-040D-50-4F		1.5		4	6	50			43/46°	4
T4346-020MT-040D-50-4F		2		4	8	50			43/46°	4
T4346-025MT-040D-50-4F		2.5		4	10	50			43/46°	4
T4346-030MT-040D-50-4F		3		6	12	50			43/46°	4
T4346-040MT-040D-50-4F		4		6	16	50			43/46°	4
T4346-050MT-040D-50-4F		5		6	20	50			43/46°	4
T4346-060MT-040D-50-4F		6		6	24	50			43/46°	4
T4346-080MT-040D-75-4F		8		8	32	75			43/46°	4
T4346-100MT-040D-100-4F		10		10	40	100			43/46°	4
T4346-120MT-040D-100-4F		12		12	48	100			43/46°	4
T4346-160MT-040D-150-4F		16		16	64	150			43/46°	4
T4346-200MT-040D-200-4F		20		20	80	200			43/46°	4



With Gash Edge Champagne Gold Coating

4346MT Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-010MT-050D-50-4F	1		4	5	50			43/46°	4
T4346-015MT-050D-50-4F	1.5		4	7.5	50			43/46°	4
T4346-020MT-050D-50-4F	2		4	10	50			43/46°	4
T4346-025MT-050D-50-4F	2.5		4	12.5	50			43/46°	4
T4346-030MT-050D-50-4F	3		6	15	50			43/46°	4
T4346-040MT-050D-50-4F	4		6	20	50			43/46°	4
T4346-050MT-050D-50-4F	5		6	25	50			43/46°	4
T4346-060MT-050D-75-4F	6		6	30	75			43/46°	4
T4346-080MT-050D-100-4F	8		8	40	100			43/46°	4
T4346-100MT-050D-100-4F	10		10	50	100			43/46°	4
T4346-120MT-050D-120-4F	12		12	60	120			43/46°	4
T4346-160MT-050D-200-4F	16		16	80	200			43/46°	4
T4346-200MT-050D-200-4F	20		20	100	200			43/46°	4

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6 /// CGコーティングは非常に高いスペックをもち、コーティングの硬度は4200HV、最高使用温度1100°をマークし乾湿両用で使用できます。多層コーティングで表面に滑り性をもたせ、Heat Resistant Alloy、Stainless Steel、銅全般に使用できます。ハイスベックコーティングによりEdge欠損を担保しながら高い加工条件でより安定性を持たせ、長寿命に使用できるコンセプトで開発されたエンドミルです。Stainless Steelには抜群の威力を発揮いたします。The CG coating has extremely high specifications, the hardness of the coating is 4200HV, the maximum operating temperature is 1100°, and it can be used both wet and dry. The multi-layer coating makes the surface slippery and can be used for Heat Resistant Alloy, Stainless Steel, and steel in general. It is an end mill developed with the concept that it can be used for a long life by making it more stable under high processing conditions while ensuring edge defects by high spec coating. It is extremely powerful for Stainless Steel.



With Gash Edge Champagne Gold Coating

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	○		○	●	●	○		

High Speed Milling

ap	1.5D	1.5D	1.5D		1.5D	1.5D	1.5D	1.5D		
ae	0.1D	0.1D	0.02D		0.1D	0.05D	0.05D	0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About		Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.002About	Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110		160-200	150-180	30-45	160-200		

Recommended For Side Milling

ap	1D	1D	1.5D		1D	1D	1.5D	1D		
ae	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About		Diameter x 0.005About	Diameter x 0.005About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110		100-130	80-100	30-45	100-150		

Recommended For Slotting& Grooving

ap	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
ae	1D	1D	1D		1D	1D	1D	1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About		Diameter x 0.003About	Diameter x 0.004About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100		100-130	70-100	30-40	100-130		

3538MT Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T3538-030MTW-020D-50-4F	3		4	6	50			35/38°	4
T3538-040MTW-020D-50-4F	4		4	8	50			35/38°	4
T3538-050MTW-020D-50-4F	5		6	10	50			35/38°	4
T3538-060MTW-020D-50-4F	6		6	12	50			35/38°	4
T3538-080MTW-020D-60-4F	8		8	16	60			35/38°	4
T3538-080MTC-020D-60-4F	8	0.15C	8	16	60			35/38°	4
T3538-100MTW-020D-75-4F	10		10	20	75			35/38°	4
T3538-100MTC-020D-75-4F	10	0.2C	10	20	75			35/38°	4
T3538-120MTW-020D-75-4F	12		12	24	75			35/38°	4
T3538-120MTC-020D-75-4F	12	0.2C	12	24	75			35/38°	4
T3538-030MTW-025D-50-4F	3		4	8	50			35/38°	4
T3538-040MTW-025D-50-4F	4		4	10	50			35/38°	4
T3538-050MTW-025D-50-4F	5		6	13	50			35/38°	4
T3538-060MTW-025D-50-4F	6		6	15	50			35/38°	4
T3538-080MTW-025D-60-4F	8		8	20	60			35/38°	4
T3538-080MTC-025D-60-4F	8	0.2C	8	20	60			35/38°	4
T3538-100MTW-025D-75-4F	10		10	25	75			35/38°	4
T3538-100MTC-025D-75-4F	10	0.2C	10	25	75			35/38°	4
T3538-120MTW-025D-75-4F	12		12	30	75			35/38°	4
T3538-120MTC-025D-75-4F	12	0.2C	12	30	75			35/38°	4
T3538-030MTW-030D-50-4F	3		4	9	50			35/38°	4
T3538-040MTW-030D-50-4F	4		4	12	50			35/38°	4
T3538-050MTW-030D-50-4F	5		6	15	50			35/38°	4
T3538-050MTW-030D-75-4F	5		6	15	75			35/38°	4
T3538-060MTW-030D-50-4F	6		6	18	50			35/38°	4
T3538-060MTW-030D-75-4F	6		6	18	75			35/38°	4
T3538-080MTW-030D-60-4F	8		8	24	60			35/38°	4
T3538-080MTC-030D-60-4F	8	0.15C	8	24	60			35/38°	4
T3538-080MTW-030D-75-4F	8		8	24	75			35/38°	4
T3538-100MTW-030D-75-4F	10		10	30	75			35/38°	4
T3538-100MTC-030D-75-4F	10	0.2C	10	30	75			35/38°	4
T3538-100MTW-030D-100-4F	10		10	30	100			35/38°	4
T3538-120MTW-030D-75-4F	12		12	36	75			35/38°	4
T3538-120MTC-030D-75-4F	12	0.2C	12	36	75			35/38°	4
T3538-120MTW-030D-100-4F	12		12	36	100			35/38°	4

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6 /// CGコーティングは非常に高いスペックをもち、コーティングの硬度は4200HV、最高使用温度1100°をマークし乾湿両方で使用できます。多層コーティングで表面に滑り性をもたせ、Heat Resistant Alloy、Stainless Steel、鋼全般に使用できます。ハイスベックコーティングによりEdge欠損を担保しながら高い加工条件でより安定性を持たせ、長寿命に使用できるコンセプトで開発されたエンドミルです。Stainless Steelには抜群の威力を発揮いたします。The CG coating has extremely high specifications, the hardness of the coating is 4200HV, the maximum operating temperature is 1100°, and it can be used both wet and dry. The multi-layer coating makes the surface slippery and can be used for Heat Resistant Alloy, Stainless Steel, and steel in general. It is an end mill developed with the concept that it can be used for a long life by making it more stable under high processing conditions while ensuring edge defects by high spec coating. It is extremely powerful for Stainless Steel.



With Gash Edge AITiN Coating

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice ● 2nd Choice ○ 3rd Choice △	●	●	○	△	●	△		●		

High Speed Milling

	ap	1.5D	1.5D	1.5D	1.5D			1.5D		
	ae	0.1D	0.1D	0.02D		0.1D		0.1D		
1刃当りの送り量/Feed Per Flute		Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About		Diameter x 0.015About		Diameter x 0.015About		
Cutting Speed/周速(Vc)		160-200	120-150	90-110		160-200		160-200		

Recommended For Side Milling

	ap	1D	1D	1.5D		1D		1D		
	ae	0.5D	0.5D	0.02D		0.5D		0.5D		
1刃当りの送り量/Feed Per Flute		Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About		Diameter x 0.005About		Diameter x 0.005About		
Cutting Speed/周速(Vc)		100-130	90-110	90-110		100-130		100-150		

Recommended For Slotting& Grooving

	ap	0.5D	0.5D	0.02D		0.5D		0.5D		
	ae	1D	1D	1D		1D		1D		
1刃当りの送り量/Feed Per Flute		Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About		Diameter x 0.003About		Diameter x 0.005About		
Cutting Speed/周速(Vc)		100-130	80-100	80-100		100-130		100-130		

4346ST Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-030STW-020D-50-4F	3		4	6	50			43/46°	4
T4346-040STW-020D-50-4F	4		4	8	50			43/46°	4
T4346-050STW-020D-50-4F	5		6	10	50			43/46°	4
T4346-060STW-020D-50-4F	6		6	12	50			43/46°	4
T4346-080STW-020D-60-4F	8		8	16	60			43/46°	4
T4346-080STC-020D-60-4F	8	0.15C	8	16	60			43/46°	4
T4346-100STW-020D-75-4F	10		10	20	75			43/46°	4
T4346-100STC-020D-75-4F	10	0.2C	10	20	75			43/46°	4
T4346-120STW-020D-75-4F	12		12	24	75			43/46°	4
T4346-120STC-020D-75-4F	12	0.2C	12	24	75			43/46°	4
T4346-010STW-025D-50-4F	1		4	2.5	50			43/46°	4
T4346-020STW-025D-50-4F	2		4	5	50			43/46°	4
T4346-030STW-025D-50-4F	3		4	8	50			43/46°	4
T4346-040STW-025D-50-4F	4		4	10	50			43/46°	4
T4346-050STW-025D-50-4F	5		6	13	50			43/46°	4
T4346-060STW-025D-50-4F	6		6	15	50			43/46°	4
T4346-080STW-025D-60-4F	8		8	20	60			43/46°	4
T4346-080STC-025D-60-4F	8	0.15C	8	20	60			43/46°	4
T4346-100STW-025D-75-4F	10		10	25	75			43/46°	4
T4346-100STC-025D-75-4F	10	0.2C	10	25	75			43/46°	4
T4346-120STW-025D-75-4F	12		12	30	75			43/46°	4
T4346-120STC-025D-75-4F	12	0.2C	12	30	75			43/46°	4
T4346-140STW-025D-75-4F	14		16	35	75			43/46°	4
T4346-160STC-025D-100-4F	16	0.2C	16	40	100			43/46°	4
T4346-200STC-025D-100-4F	20	0.3C	20	50	100			43/46°	4
T4346-010STW-030D-50-4F	1		4	3	50			43/46°	4
T4346-020STW-030D-50-4F	2		4	6	50			43/46°	4
T4346-030STW-030D-50-4F	3		4	9	50			43/46°	4
T4346-040STW-030D-50-4F	4		4	12	50			43/46°	4
T4346-040STW-030D-75-4F	4		4	12	75			43/46°	4
T4346-040STW-030D-100-4F	4		4	12	100			43/46°	4
T4346-050STW-030D-50-4F	5		6	15	50			43/46°	4
T4346-050STW-030D-75-4F	5		6	15	75			43/46°	4
T4346-050STW-030D-100-4F	5		6	15	100			43/46°	4
T4346-060STW-030D-50-4F	6		6	18	50			43/46°	4
T4346-060STW-030D-75-4F	6		6	18	75			43/46°	4
T4346-060STW-030D-100-4F	6		6	18	100			43/46°	4
T4346-080STW-030D-60-4F	8		8	24	60			43/46°	4
T4346-080STC-030D-60-4F	8	0.15C	8	24	60			43/46°	4
T4346-080STW-030D-75-4F	8		8	24	75			43/46°	4
T4346-080STW-030D-100-4F	8		8	24	100			43/46°	4



With Gash Edge AITiN Coating

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

4346ST Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-100STW-030D-75-4F	10		10	30	75			43/46°	4
T4346-100STC-030D-75-4F	10	0.2C	10	30	75			43/46°	4
T4346-100STW-030D-100-4F	10		10	30	100			43/46°	4
T4346-100STW-030D-150-4F	10		10	30	150			43/46°	4
T4346-120STW-030D-75-4F	12		12	36	75			43/46°	4
T4346-120STC-030D-75-4F	12	0.2C	12	36	75			43/46°	4
T4346-120STW-030D-100-4F	12		12	36	100			43/46°	4
T4346-120STW-030D-150-4F	12		12	36	150			43/46°	4
T4346-160STC-030D-100-4F	16	0.2C	16	48	100			43/46°	4
T4346-160STC-030D-150-4F	16	0.2C	16	48	150			43/46°	4
T4346-200STC-030D-150-4F	20	0.3C	20	60	150			43/46°	4
T4346-010STW-040D-50-4F	1		4	4	50			43/46°	4
T4346-015STW-040D-50-4F	1.5		4	6	50			43/46°	4
T4346-020STW-040D-50-4F	2		4	8	50			43/46°	4
T4346-025STW-040D-50-4F	2.5		4	10	50			43/46°	4
T4346-030STW-040D-75-4F	3		6	12	75			43/46°	4
T4346-040STW-040D-75-4F	4		6	16	75			43/46°	4
T4346-050STW-040D-75-4F	5		6	20	75			43/46°	4
T4346-060STW-040D-75-4F	6		6	24	75			43/46°	4
T4346-080STW-040D-100-4F	8		8	32	100			43/46°	4
T4346-100STW-040D-100-4F	10		10	40	100			43/46°	4
T4346-120STW-040D-100-4F	12		12	48	100			43/46°	4
T4346-160STC-040D-150-4F	16	0.2C	16	64	150			43/46°	4
T4346-200STC-040D-150-4F	20	0.3C	20	80	150			43/46°	4

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6 /// 3段変則芯を採用し、切粉のスムーズな吐出しと剛性を兼ねそそえたコンセプトです。AITiNコーティングを施したハイヘリカル防振エンドミルでコーティングに高リッチにAluminiumを配合し、耐熱性、耐磨耗性に優れております。一般部品加工にはこちらの商品がコスト的にメリットが御座います。It is a concept that adopts a 3-stage irregular core and has both smooth discharge of chips and rigidity. A high helical anti-vibration end mill with AITiN coating, which contains a high amount of aluminum in the coating, and has excellent heat resistance and abrasion resistance. This seires has a cost advantage for general milling.



With Gash Edge AlTiN Coating

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice ● 2nd Choice ○ 3rd Choice △	●	●	○	△	●	○	○	●		

High Speed Milling

ap	1.5D	1.5D	1.5D		1.5D			1.5D		
ae	0.1D	0.1D	0.02D		0.1D			0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About		Diameter x 0.015About			Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110		160-200			160-200		

Recommended For Side Milling

ap	1D	1D	1.5D		1D			1D		
ae	0.5D	0.5D	0.02D		0.5D			0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About		Diameter x 0.005About			Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110		100-130			100-150		

Recommended For Slotting & Grooving

ap	0.5D	0.5D	0.02D		0.5D			0.5D		
ae	1D	1D	1D		1D			1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About		Diameter x 0.003About			Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100		100-130			100-130		

3538ST Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T3538-030STW-020D-50-4F	3		4	6	50			35/38°	4
T3538-040STW-020D-50-4F	4		4	8	50			35/38°	4
T3538-050STW-020D-50-4F	5		6	10	50			35/38°	4
T3538-060STW-020D-50-4F	6		6	12	50			35/38°	4
T3538-080STW-020D-60-4F	8		8	16	60			35/38°	4
T3538-080STC-020D-60-4F	8	0.15 C	8	16	60			35/38°	4
T3538-100STW-020D-75-4F	10		10	20	75			35/38°	4
T3538-100STC-020D-75-4F	10	0.2C	10	20	75			35/38°	4
T3538-120STW-020D-75-4F	12		12	24	75			35/38°	4
T3538-120STC-020D-75-4F	12	0.2C	12	24	75			35/38°	4
T3538-010STW-025D-50-4F	1		4	2.5	50			35/38°	4
T3538-020STW-025D-50-4F	2		4	5	50			35/38°	4
T3538-030STW-025D-50-4F	3		4	8	50			35/38°	4
T3538-040STW-025D-50-4F	4		4	10	50			35/38°	4
T3538-050STW-025D-50-4F	5		6	13	50			35/38°	4
T3538-060STW-025D-50-4F	6		6	15	50			35/38°	4
T3538-080STW-025D-60-4F	8		8	20	60			35/38°	4
T3538-080STC-025D-60-4F	8	0.15 C	8	20	60			35/38°	4
T3538-100STW-025D-75-4F	10		10	25	75			35/38°	4
T3538-100STC-025D-75-4F	10	0.2C	10	25	75			35/38°	4
T3538-120STW-025D-75-4F	12		12	30	75			35/38°	4
T3538-120STC-025D-75-4F	12	0.2C	12	30	75			35/38°	4
T3538-140STW-025D-75-4F	14		16	35	75			35/38°	4
T3538-160STC-025D-100-4F	16	0.2C	16	40	100			35/38°	4
T3538-200STC-025D-100-4F	20	0.3C	20	50	100			35/38°	4
T3538-010STW-030D-50-4F	1		4	3	50			35/38°	4
T3538-020STW-030D-50-4F	2		4	6	50			35/38°	4
T3538-030STW-030D-50-4F	3		4	9	50			35/38°	4
T3538-040STW-030D-50-4F	4		4	12	50			35/38°	4
T3538-040STW-030D-75-4F	4		4	12	75			35/38°	4
T3538-040STW-030D-100-4F	4		4	12	100			35/38°	4
T3538-050STW-030D-50-4F	5		6	15	50			35/38°	4
T3538-050STW-030D-75-4F	5		6	15	75			35/38°	4
T3538-050STW-030D-100-4F	5		6	15	100			35/38°	4
T3538-060STW-030D-50-4F	6		6	18	50			35/38°	4
T3538-060STW-030D-75-4F	6		6	18	75			35/38°	4
T3538-060STW-030D-100-4F	6		6	18	100			35/38°	4
T3538-080STW-030D-60-4F	8		8	24	60			35/38°	4
T3538-080STC-030D-60-4F	8	0.15 C	8	24	60			35/38°	4
T3538-080STW-030D-75-4F	8		8	24	75			35/38°	4
T3538-080STW-030D-100-4F	8		8	24	100			35/38°	4



With Gash Edge AITiN Coating

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

3538ST Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T3538-100STW-030D-75-4F	10		10	30	75			35/38°	4
T3538-100STC-030D-75-4F	10	0.2C	10	30	75			35/38°	4
T3538-100STW-030D-100-4F	10		10	30	100			35/38°	4
T3538-100STW-030D-150-4F	10		10	30	150			35/38°	4
T3538-120STW-030D-75-4F	12		12	36	75			35/38°	4
T3538-120STC-030D-75-4F	12	0.2C	12	36	75			35/38°	4
T3538-120STW-030D-100-4F	12		12	36	100			35/38°	4
T3538-120STW-030D-150-4F	12		12	36	150			35/38°	4
T3538-160STC-030D-100-4F	16	0.2C	16	48	100			35/38°	4
T3538-160STC-030D-150-4F	16	0.2C	16	48	150			35/38°	4
T3538-200STC-030D-150-4F	20	0.3C	20	60	150			35/38°	4
T3538-010STW-040D-50-4F	1		4	4	50			35/38°	4
T3538-015STW-040D-50-4F	1.5		4	6	50			35/38°	4
T3538-020STW-040D-50-4F	2		4	8	50			35/38°	4
T3538-025STW-040D-50-4F	2.5		4	10	50			35/38°	4
T3538-030STW-040D-75-4F	3		6	12	75			35/38°	4
T3538-040STW-040D-75-4F	4		6	16	75			35/38°	4
T3538-050STW-040D-75-4F	5		6	20	75			35/38°	4
T3538-060STW-040D-75-4F	6		6	24	75			35/38°	4
T3538-080STW-040D-100-4F	8		8	32	100			35/38°	4
T3538-100STW-040D-100-4F	10		10	40	100			35/38°	4
T3538-120STW-040D-100-4F	12		12	48	100			35/38°	4

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6 /// 3段変則芯を採用し、切粉のスムーズな吐出しと剛性を兼ねそろえたコンセプトです。AITiNコーティングを施したハイヘリカル防振エンドミルでコーティングに高リッチにAluminiumを配合し、耐熱性、耐磨耗性に優れております。一般部品加工にはこちらの商品がコスト的にメリットが御座います。It is a concept that adopts a 3-stage irregular core and has both smooth discharge of chips and rigidity. A high helical anti-vibration end mill with AITiN coating, which contains a high amount of aluminum in the coating, and has excellent heat resistance and abrasion resistance. This seires has a cost advantage for general milling.



With Gash Edge POWER Coating

Diameter Tolerance 12≥0-0.02 / 12<0-0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	●	●	●	○	○	●		

High Speed Milling

	ap	1.5D	1.5D	1.5D	1.5D			1.5D		
	ae	0.1D	0.1D	0.02D	0.02D	0.1D		0.1D		
1刃当りの送り量/Feed Per Flute		Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.015About		Diameter x 0.015About		
Cutting Speed/周速(Vc)		160-200	120-150	90-110	70-90	160-200		160-200		

Recommended For Side Milling

	ap	1D	1D	1.5D	1.5D	1D		1D		
	ae	0.5D	0.5D	0.02D	0.02D	0.5D		0.5D		
1刃当りの送り量/Feed Per Flute		Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.005About		Diameter x 0.005About		
Cutting Speed/周速(Vc)		100-130	90-110	90-110	70-90	100-130		100-150		

Recommended For Slotting& Grooving

	ap	0.5D	0.5D	0.02D	0.02D	0.5D		0.5D		
	ae	1D	1D	1D	1D	1D		1D		
1刃当りの送り量/Feed Per Flute		Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About	Diameter x 0.005About	Diameter x 0.003About		Diameter x 0.005About		
Cutting Speed/周速(Vc)		100-130	80-100	80-100	60-80	100-130		100-130		

4346PT Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-030PTW-020D-50-4F	3		4	6	50			43/46°	4
T4346-040PTW-020D-50-4F	4		4	8	50			43/46°	4
T4346-050PTW-020D-50-4F	5		6	10	50			43/46°	4
T4346-060PTW-020D-50-4F	6		6	12	50			43/46°	4
T4346-080PTW-020D-60-4F	8		8	16	60			43/46°	4
T4346-080PTC-020D-60-4F	8	0.15 C	8	16	60			43/46°	4
T4346-100PTW-020D-75-4F	10		10	20	75			43/46°	4
T4346-100PTC-020D-75-4F	10	0.2C	10	20	75			43/46°	4
T4346-120PTW-020D-75-4F	12		12	24	75			43/46°	4
T4346-120PTC-020D-75-4F	12	0.2C	12	24	75			43/46°	4
T4346-010PTW-025D-50-4F	1		4	2.5	50			43/46°	4
T4346-020PTW-025D-50-4F	2		4	5	50			43/46°	4
T4346-030PTW-025D-50-4F	3		4	8	50			43/46°	4
T4346-040PTW-025D-50-4F	4		4	10	50			43/46°	4
T4346-050PTW-025D-50-4F	5		6	13	50			43/46°	4
T4346-060PTW-025D-50-4F	6		6	15	50			43/46°	4
T4346-080PTW-025D-60-4F	8		8	20	60			43/46°	4
T4346-080PTC-025D-60-4F	8	0.15 C	8	20	60			43/46°	4
T4346-100PTW-025D-75-4F	10		10	25	75			43/46°	4
T4346-100PTC-025D-75-4F	10	0.2C	10	25	75			43/46°	4
T4346-120PTW-025D-75-4F	12		12	30	75			43/46°	4
T4346-120PTC-025D-75-4F	12	0.2C	12	30	75			43/46°	4
T4346-140PTW-025D-75-4F	14		16	35	75			43/46°	
T4346-160PTC-025D-100-4F	16	0.2C	16	40	100			43/46°	4
T4346-200PTC-025D-100-4F	20	0.3C	20	50	100			43/46°	
T4346-030PTW-030D-50-4F	3		4	9	50			43/46°	4
T4346-040PTW-030D-50-4F	4		4	12	50			43/46°	4
T4346-040PTW-030D-75-4F	4		4	12	75			43/46°	4
T4346-040PTW-030D-100-4F	4		4	12	100			43/46°	4
T4346-050PTW-030D-50-4F	5		6	15	50			43/46°	4
T4346-050PTW-030D-75-4F	5		6	15	75			43/46°	4
T4346-050PTW-030D-100-4F	5		6	15	100			43/46°	4
T4346-060PTW-030D-50-4F	6		6	18	50			43/46°	4
T4346-060PTW-030D-75-4F	6		6	18	75			43/46°	4
T4346-060PTW-030D-100-4F	6		6	18	100			43/46°	4
T4346-080PTW-030D-60-4F	8		8	24	60			43/46°	4
T4346-080PTC-030D-60-4F	8	0.2C	8	24	60			43/46°	4
T4346-080PTW-030D-75-4F	8		8	24	75			43/46°	4
T4346-080PTW-030D-100-4F	8		8	24	100			43/46°	4
T4346-100PTW-030D-75-4F	10		10	30	75			43/46°	4
T4346-100PTC-030D-75-4F	10	0.2C	10	30	75			43/46°	4



With Gash Edge POWER Coating

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

4346PT Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-100PTW-030D-100-4F	10		10	30	100			43/46°	4
T4346-100PTW-030D-150-4F	10		10	30	150			43/46°	4
T4346-120PTW-030D-75-4F	12		12	36	75			43/46°	4
T4346-120PTC-030D-75-4F	12	0.2C	12	36	75			43/46°	4
T4346-120PTW-030D-100-4F	12		12	36	100			43/46°	4
T4346-120PTW-030D-150-4F	12		12	36	150			43/46°	4
T4346-160PTC-030D-100-4F	16	0.2C	16	48	100			43/46°	4
T4346-160PTC-030D-150-4F	16	0.2C	16	48	150			43/46°	4
T4346-200PTC-030D-150-4F	20	0.3C	20	60	150			43/46°	4
T4346-010PTW-040D-50-4F	1		4	4	50			43/46°	4
T4346-015PTW-040D-50-4F	1.5		4	6	50			43/46°	4
T4346-020PTW-040D-50-4F	2		4	8	50			43/46°	4
T4346-025PTW-040D-50-4F	2.5		4	10	50			43/46°	4
T4346-030PTW-040D-75-4F	3		6	12	75			43/46°	4
T4346-040PTW-040D-75-4F	4		6	16	75			43/46°	4
T4346-050PTW-040D-75-4F	5		6	20	75			43/46°	4
T4346-060PTW-040D-75-4F	6		6	24	75			43/46°	4
T4346-080PTW-040D-100-4F	8		8	32	100			43/46°	4
T4346-100PTW-040D-100-4F	10		10	40	100			43/46°	4
T4346-120PTW-040D-100-4F	12		12	48	100			43/46°	4
T4346-160PTC-040D-150-4F	16	0.2C	16	64	150			43/46°	4
T4346-200PTC-040D-150-4F	20	0.3C	20	80	150			43/46°	4

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6 /// 3段変則芯を採用し、切粉のスムーズな吐出しと剛性を兼ねそろえたコンセプトです。POWERコーティングは母材との密着性も高く、耐熱性、耐磨耗性に優れております。少し固めの焼入鋼から一般部品加工用に幅広くご使用できます。It is a concept that adopts a 3-stage irregular core and has both smooth discharge of chips and rigidity. The POWER coating has high adhesion to the base material, and has excellent heat resistance and abrasion resistance. It can be widely used for milling general parts from slightly hardened hardened steel.



With Gash Edge POWER Coating

Diameter Tolerance 12≥0-0.02 / 12<0-0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	●	●	●	○	○	●		

High Speed Milling

	ap	1.5D	1.5D	1.5D	1.5D	1.5D		1.5D		
	ae	0.1D	0.1D	0.02D	0.02D	0.1D		0.1D		
	1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.015About		Diameter x 0.015About		
	Cutting Speed/周速(Vc)	160-200	120-150	90-110	70-90	160-200		160-200		

Recommended For Side Milling

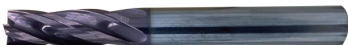
	ap	1D	1D	1.5D	1.5D	1D		1D		
	ae	0.5D	0.5D	0.02D	0.02D	0.5D		0.5D		
	1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.005About		Diameter x 0.005About		
	Cutting Speed/周速(Vc)	100-130	90-110	90-110	70-90	100-130		100-150		

Recommended For Slotting& Grooving

	ap	0.5D	0.5D	0.02D	0.02D	0.5D		0.5D		
	ae	1D	1D	1D	1D	1D		1D		
	1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About	Diameter x 0.005About	Diameter x 0.003About		Diameter x 0.005About		
	Cutting Speed/周速(Vc)	100-130	80-100	80-100	60-80	100-130		100-130		

3538PT Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T3538-030PTW-020D-50-4F	3		4	6	50			35/38°	4
T3538-040PTW-020D-50-4F	4		4	8	50			35/38°	4
T3538-050PTW-020D-50-4F	5		6	10	50			35/38°	4
T3538-060PTW-020D-50-4F	6		6	12	50			35/38°	4
T3538-080PTW-020D-60-4F	8		8	16	60			35/38°	4
T3538-080PTC-020D-60-4F	8	0.15C	8	16	60			35/38°	4
T3538-100PTW-020D-75-4F	10		10	20	75			35/38°	4
T3538-100PTC-020D-75-4F	10	0.2C	10	20	75			35/38°	4
T3538-120PTW-020D-75-4F	12		12	24	75			35/38°	4
T3538-120PTC-020D-75-4F	12	0.2C	12	24	75			35/38°	4
T3538-030PTW-025D-50-4F	3		4	8	50			35/38°	4
T3538-040PTW-025D-50-4F	4		4	10	50			35/38°	4
T3538-050PTW-025D-50-4F	5		6	13	50			35/38°	4
T3538-060PTW-025D-50-4F	6		6	15	50			35/38°	4
T3538-080PTW-025D-60-4F	8		8	20	60			35/38°	4
T3538-080PTC-025D-60-4F	8	0.15C	8	20	60			35/38°	4
T3538-100PTW-025D-75-4F	10		10	25	75			35/38°	4
T3538-100PTC-025D-75-4F	10	0.2C	10	25	75			35/38°	4
T3538-120PTW-025D-75-4F	12		12	30	75			35/38°	4
T3538-120PTC-025D-75-4F	12	0.2C	12	30	75			35/38°	4
T3538-160PTC-025D-100-4F	16	0.2C	16	40	100			35/38°	4
T3538-200PTC-025D-100-4F	20	0.3C	20	50	100			35/38°	4
T3538-030PTW-030D-50-4F	3		4	9	50			35/38°	4
T3538-040PTW-030D-50-4F	4		4	12	50			35/38°	4
T3538-050PTW-030D-50-4F	5		6	15	50			35/38°	4
T3538-050PTW-030D-75-4F	5		6	15	75			35/38°	4
T3538-060PTW-030D-50-4F	6		6	18	50			35/38°	4
T3538-060PTW-030D-75-4F	6		6	18	75			35/38°	4
T3538-080PTW-030D-60-4F	8		8	24	60			35/38°	4
T3538-080PTC-030D-60-4F	8	0.15C	8	24	60			35/38°	4
T3538-080PTW-030D-75-4F	8		8	24	75			35/38°	4
T3538-100PTW-030D-75-4F	10		10	30	75			35/38°	4
T3538-100PTC-030D-75-4F	10	0.2C	10	30	75			35/38°	4
T3538-100PTW-030D-100-4F	10		10	30	100			35/38°	4
T3538-120PTW-030D-75-4F	12		12	36	75			35/38°	4
T3538-120PTC-030D-75-4F	12	0.2C	12	36	75			35/38°	4
T3538-120PTW-030D-100-4F	12		12	36	100			35/38°	4
T3538-160PTC-030D-150-4F	16	0.2C	16	48	150			35/38°	4
T3538-200PTC-030D-150-4F	20	0.3C	20	60	150			35/38°	4

Diameter Tolerance 12≥0-0.02 / 12<0-0.03 Shank Tolerance h6 /// 3段変則芯を採用し、切粉のスムーズな吐出しと剛性を兼ねそろえたコンセプトです。POWERコーティングは母材との密着性も高く、耐熱性、耐磨耗性に優れております。少し固めの焼入鋼から一般部品加工用に幅広くご使用できます。It is a concept that adopts a 3-stage irregular core and has both smooth discharge of chips and rigidity. The POWER coating has high adhesion to the base material, and has excellent heat resistance and abrasion resistance. It can be widely used for processing general parts from slightly hardened hardened steel.



With Gash Edge Amber Coating

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	○		○	●	○	●		

High Speed Milling

	ap	1.5D	1.5D	1.5D		1.5D		1.5D		
	ae	0.1D	0.1D	0.02D		0.05D		0.1D		
1刃当りの送り量/Feed Per Flute		Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About		Diameter x 0.015About		Diameter x 0.015About		
Cutting Speed/周速(Vc)		160-200	120-150	90-110		150-180		160-200		

Recommended For Side Milling

	ap	1D	1D	1.5D		1D		1D		
	ae	0.5D	0.5D	0.02D		0.5D		0.5D		
1刃当りの送り量/Feed Per Flute		Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About		Diameter x 0.005About		Diameter x 0.005About		
Cutting Speed/周速(Vc)		100-130	90-110	90-110		80-100		100-150		

Recommended For Slotting& Grooving

	ap	0.5D	0.5D	0.02D		0.5D		0.5D		
	ae	1D	1D	1D		1D		1D		
1刃当りの送り量/Feed Per Flute		Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About		Diameter x 0.004About		Diameter x 0.005About		
Cutting Speed/周速(Vc)		100-130	80-100	80-100		70-100		100-130		

2326MT2 Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T2326-030MT2-025D-50-4F	3		6	7.5	50			23/26°	4
T2326-040MT2-025D-50-4F	4		6	10	50			23/26°	4
T2326-050MT2-025D-50-4F	5		6	12.5	50			23/26°	4
T2326-060MT2-025D-50-4F	6		6	15	50			23/26°	4
T2326-080MT2-025D-60-4F	8		8	20	60			23/26°	4
T2326-100MT2-025D-75-4F	10		10	25	75			23/26°	4
T2326-120MT2-025D-75-4F	12		12	30	75			23/26°	4
T2326-160MT2-025D-100-4F	16		16	40	100			23/26°	4
T2326-030MT2-030D-50-4F	3		6	9	50			23/26°	4
T2326-040MT2-030D-50-4F	4		6	12	50			23/26°	4
T2326-050MT2-030D-50-4F	5		6	15	50			23/26°	4
T2326-060MT2-030D-50-4F	6		6	18	50			23/26°	4
T2326-080MT2-030D-60-4F	8		8	24	60			23/26°	4
T2326-100MT2-030D-75-4F	10		10	30	75			23/26°	4
T2326-120MT2-030D-75-4F	12		12	36	75			23/26°	4
T2326-160MT2-030D-100-4F	16		16	48	100			23/26°	4

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6 /// 耐熱性、高滑り性を兼ねそろえたアンバーコーティングはStainless Steelに相性が良いです。もちろん一般鋼に対しても問題はありません。弱めじれの防振機能はZ軸方向に負荷を掛けたくない加工に最適なエンドミルです。



With Gash Edge Micro Grain 0.2μm(Sumitomo) Naco-Blue Coating

Diameter Tolerance 12≥0--0.02 / 12<0--0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	●	●	●			●		

High Speed Milling

ap	1.5D	1.5D	1.5D	1.5D	1.5D			1.5D		
ae	0.1D	0.1D	0.02D	0.02D	0.1D			0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.015About			Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110	70-90	160-200			160-200		

Recommended For Side Milling

ap	1D	1D	1.5D	1.5D	1D			1D		
ae	0.5D	0.5D	0.02D	0.02D	0.5D			0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.005About			Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110	70-90	100-130			100-150		

Recommended For Slotting& Grooving

ap	0.5D	0.5D	0.02D	0.02D	0.5D			0.5D		
ae	1D	1D	1D	1D	1D			1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About	Diameter x 0.005About	Diameter x 0.003About			Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100	60-80	100-130			100-130		

4345HT Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4345-010HTW-025D-50-4F	1		4	2.5	50			43/45°	4
T4345-015HTW-025D-50-4F	1.5		4	4	50			43/45°	4
T4345-020HTW-025D-50-4F	2		4	5	50			43/45°	4
T4345-025HTW-025D-50-4F	2.5		4	7	50			43/45°	4
T4345-030HTW-025D-50-4F	3		4	8	50			43/45°	4
T4345-040HTW-025D-50-4F	4		4	10	50			43/45°	4
T4345-050HTW-025D-50-4F	5		6	13	50			43/45°	4
T4345-060HTW-025D-50-4F	6		6	15	50			43/45°	4
T4345-080HTW-025D-60-4F	8		8	20	60			43/45°	4
T4345-080HTC-025D-60-4F	8	0.15C	8	20	60			43/45°	4
T4345-100HTW-025D-75-4F	10		10	25	75			43/45°	4
T4345-100HTC-025D-75-4F	10	0.2C	10	25	75			43/45°	4
T4345-120HTW-025D-75-4F	12		12	30	75			43/45°	4
T4345-120HTC-025D-75-4F	12	0.2C	12	30	75			43/45°	4
T4345-160HTC-025D-100-4F	16	0.2C	16	40	100			43/45°	4
T4345-200HTC-025D-120-4F	20	0.3C	20	50	120			43/45°	4

Diameter Tolerance 12≥0--0.02 / 12<0--0.03 Shank Tolerance h6 刃溝強ねじれタイプ/// 母材は高級日本製Micro Grain 0.2μm(Sumitomo)を使用し、高硬度用最強コーティングのBlue nanoコーティングを施した至極の一品です。鋼であればこれ一本で一般鋼から高硬度材までご使用頂けますが、芯厚が厚い分、切込量を深くかけますと目詰まりを起こす可能性も御座います。旋入れ後の仕上げ、もしくはトロコイド加工のような「薄く速く」に向いております。Stainless Steelへのご使用はお勧めいたしません。(本来のコーティングの性能を活かすのであればドライ推奨です) High Helix Type /// The carbide rod material is a high-grade Japanese-made Micro Grain 0.2 μm (Sumitomo), and it is the ultimate product with the strongest coating for high hardness, Blue nano coating. If it is steel, it can be used from general steel to high hardness material with this one, but due to the thick core thickness, there is a possibility of clogging if the depth of cut is applied deeply. It is suitable for finishing after quenching or "thin and fast" such as trochoidal processing. We do not recommend using it for Stainless Steel. (Dry is recommended if you want to take advantage of the original coating performance)



With Gash Edge Micro Grain 0.2μm(Sumitomo) Naco-Blue Coating

Diameter Tolerance 12≥0--0.02 / 12<0--0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	●	●	●			●		

High Speed Milling

ap	1.5D	1.5D	1.5D	1.5D	1.5D			1.5D		
ae	0.1D	0.1D	0.02D	0.02D	0.1D			0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.015About			Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110	70-90	160-200			160-200		

Recommended For Side Milling

ap	1D	1D	1.5D	1.5D	1D			1D		
ae	0.5D	0.5D	0.02D	0.02D	0.5D			0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.005About			Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110	70-90	100-130			100-150		

Recommended For Slotting& Grooving

ap	0.5D	0.5D	0.02D	0.02D	0.5D			0.5D		
ae	1D	1D	1D	1D	1D			1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About	Diameter x 0.005About	Diameter x 0.003About			Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100	60-80	100-130			100-130		

3538HT Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T3538-010HTW-030D-50-4F	1		4	3	50			35/38°	4
T3538-015HTW-030D-50-4F	1.5		4	5	50			35/38°	4
T3538-020HTW-030D-50-4F	2		4	6	50			35/38°	4
T3538-025HTW-030D-50-4F	2.5		4	8	50			35/38°	4
T3538-030HTW-030D-50-4F	3		4	9	50			35/38°	4
T3538-040HTW-030D-50-4F	4		4	12	50			35/38°	4
T3538-050HTW-030D-50-4F	5		6	15	50			35/38°	4
T3538-050HTW-030D-75-4F	5		6	15	75			35/38°	4
T3538-060HTW-030D-50-4F	6		6	18	50			35/38°	4
T3538-080HTW-030D-60-4F	8		8	24	60			35/38°	4
T3538-080HTC-030D-60-4F	8	0.15C	8	24	60			35/38°	4
T3538-100HTW-030D-75-4F	10		10	30	75			35/38°	4
T3538-100HTC-030D-75-4F	10	0.2C	10	30	75			35/38°	4
T3538-120HTW-030D-75-4F	12		12	36	75			35/38°	4
T3538-120HTC-030D-75-4F	12	0.2C	12	36	75			35/38°	4
T3538-160HTC-030D-100-4F	16	0.2C	16	48	100			35/38°	4
T3538-200HTC-030D-120-4F	20	0.3C	20	60	120			35/38°	4

Diameter Tolerance 12≥0--0.02 / 12<0--0.03 Shank Tolerance h6 刃溝強ねじれタイプ/// 母材は高級日本製Micro Grain 0.2μm(Sumitomo)を使用し、高硬度用最強コーティングのBlue nanoコーティングを施した至極の一品です。鋼であればこれ一本で一般鋼から高硬度材までご使用頂けますが、芯厚が厚い分、切込量を深くかけますと目詰まりを起こす可能性も御座います。焼入れ後の仕上げ、もしくはトロコイド加工のような「薄く速く」に向いております。Stainless Steelへのご使用はお勧めいたしません。(本来のコーティングの性能を活かすのであればドライ推奨です) Middle Helix Type /// The carbide rod material is a high-grade Japanese-made Micro Grain 0.2 μm (Sumitomo), and it is the ultimate product with the strongest coating for high hardness, Blue nano coating. If it is steel, it can be used from general steel to high hardness material with this one, but due to the thick core thickness, there is a possibility of clogging if the depth of cut is applied deeply. It is suitable for finishing after quenching or "thin and fast" such as trochoidal milling. We do not recommend using it for Stainless Steel. (Dry is recommended if you want to take advantage of the original coating performance)

6 Flutes Carbide Square End Mill 45° For Hardened Steel



With Gash Edge Micro Grain 0.2 μ m(Sumitomo) Naco-Blue Coating ※ 3D&5D Length Available

Diameter Tolerance 12 \geq 0-0.02 / 12<0-0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	●	●	●			●		

High Speed Milling

ap	1.5D	1.5D	1.5D	1.5D	1.5D			1.5D		
ae	0.1D	0.1D	0.02D	0.02D	0.1D			0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.015About			Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110	70-90	160-200			160-200		

Recommended For Side Milling

ap										
ae										
1刃当りの送り量/Feed Per Flute										
Cutting Speed/周速(Vc)										

Recommended For Slotting & Grooving

ap										
ae										
1刃当りの送り量/Feed Per Flute										
Cutting Speed/周速(Vc)										

45HT6F Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T45-060HT-030D-50-6F	6		6	18	50			45°	6
T45-060HT-050D-75-6F	6		6	30	75			45°	6
T45-080HT-030D-60-6F	8		8	24	60			45°	6
T45-080HT-050D-100-6F	8		8	40	100			45°	6
T45-100HT-030D-75-6F	10		10	30	75			45°	6
T45-100HT-050D-100-6F	10		10	50	100			45°	6
T45-120HT-030D-75-6F	12		12	36	75			45°	6
T45-120HT-050D-120-6F	12		12	60	120			45°	6
T45-140HT-030D-100-6F	14		14	42	100			45°	6
T45-140HT-050D-150-6F	14		14	70	150			45°	6
T45-160HT-030D-100-6F	16		16	48	100			45°	6
T45-160HT-050D-150-6F	16		16	80	150			45°	6

Diameter Tolerance 12 \geq 0-0.02 / 12<0-0.03 Shank Tolerance h6 /// 高硬度用Blue Nanoコーティングに超超微粒子の0.2 μ mの日本製良質母材を採用し、この価格帯で抜群の品質を実現しました。高精度加工にご使用頂けます。仕上げ加工は勿論ですが、深く、薄く、速くトロコイド加工などには最適な工具です。Flute Length3Dと5Dの2種類からお選び下さい。The Blue Nano coating for high hardness uses a 0.2 μ m ultra-fine particle high-quality base material made in Japan, achieving outstanding quality in this price range. It can be used for high precision machining. Not to mention finishing, it is the best tool for deep, thin and fast trochoidal machining. Choose from two types, Flute Length 3D and 5D.

4 Flutes Carbide Square End Mill With Neck Variable Leads&Helix 40/42°



With Gash Edge Champagne Gold Coating ※ Series内に有効加工長3D&5Dあり

※加工条件は突き出し量3D以下

Diameter Tolerance 12≥0-0.02 / 12<0--0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	○	△	○	●	●	●		

High Speed Milling

ap	1.5D	1.5D	1.5D		1.5D	1.5D	1.5D	1.5D		
ae	0.1D	0.1D	0.02D		0.1D	0.05D	0.05D	0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About		Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.002About	Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110		160-200	150-180	30-45	160-200		

Recommended For Side Milling

ap	1D	1D	1.5D		1D		1.5D	1D		
ae	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About		Diameter x 0.005About	Diameter x 0.005About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110		100-130	80-100	30-45	100-150		

Recommended For Slotting& Grooving

ap	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
ae	1D	1D	1D		1D	1D	1D	1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About		Diameter x 0.003About	Diameter x 0.004About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100		100-130	70-100	30-40	100-130		

4042N Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4042-030MT-6-4-9NL50-4F	3		6	4	50	∅.8	3D	40/42°	4
T4042-040MT-6-6-12NL50-4F	4		6	6	50	3.7	3D	40/42°	4
T4042-050MT-6-8-15NL50-4F	5		6	8	50	4.7	3D	40/42°	4
T4042-060MT-6-9-18NL50-4F	6		6	9	50	5.5	3D	40/42°	4
T4042-080MT-8-12-24NL60-4F	8		8	12	60	7.3	3D	40/42°	4
T4042-100MT-10-15-30NL75-4F	10		10	15	75	9.1	3D	40/42°	4
T4042-120MT-12-18-36NL100-4F	12		12	18	100	11	3D	40/42°	4
T4042-160MT-16-24-48NL100-4F	16		16	24	100	14.8	3D	40/42°	4
T4042-200MT-20-30-60NL120-4F	20		20	30	120	18.8	3D	40/42°	4
T4042-030MT-6-4-15NL75-4F	3		6	4	75	∅.8	5D	40/42°	4
T4042-040MT-6-6-20NL75-4F	4		6	6	75	3.7	5D	40/42°	4
T4042-050MT-6-8-25NL75-4F	5		6	8	75	4.7	5D	40/42°	4
T4042-060MT-6-9-30NL75-4F	6		6	9	75	5.5	5D	40/42°	4
T4042-080MT-8-12-40NL100-4F	8		8	12	100	7.3	5D	40/42°	4
T4042-100MT-10-15-50NL100-4F	10		10	15	100	9.1	5D	40/42°	4
T4042-120MT-12-18-60NL110-4F	12		12	18	110	11	5D	40/42°	4
T4042-160MT-16-24-80NL150-4F	16		16	24	150	14.8	5D	40/42°	4
T4042-200MT-20-30-100NL150-4F	20		20	30	150	18.8	5D	40/42°	4

Diameter Tolerance 12≥0-0.02 / 12<0--0.03 Shank Tolerance h6 /// 美しい輝きのシャンパンゴールドコーティング（CGコーティング）施した With Neck エンドミルです。耐熱、耐磨耗、高滑りに優れオールラウンドの至極の一品です。 Series内に有効加工長3Dと5Dが御座います。切れ味が良いのでビビリを抑えれます。 With Neck end mill with beautifully brilliant champagne gold coating (CG coating). It has excellent heat resistance, abrasion resistance, and high slipperiness, and is an all-round ultimate product. There are effective machining lengths 3D and 5D in the Series. The sharpness is good, so chattering can be suppressed.



With Gash Edge DLC Coating Japanese Carbide Rods

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△								●	●	●

High Speed Milling

ap								1.5D	1.5D	1D
ae								0.1D	0.1D	0.5D
1刃当りの送り量/Feed Per Flute								Diameter x 0.015About	Diameter x 0.005About	Diameter x 0.006About
Cutting Speed/周速(Vc)								70-100	250	200-300

Recommended For Side Milling

ap								1D	1D	1D
ae								0.5D	0.5D	0.5D
1刃当りの送り量/Feed Per Flute								Diameter x 0.005About	Diameter x 0.006About	Diameter x 0.006About
Cutting Speed/周速(Vc)								60-80	150-250	200-300

Recommended For Slotting & Grooving

ap								0.5D	0.5D	0.5D
ae								1D	1D	1D
1刃当りの送り量/Feed Per Flute								Diameter x 0.005About	Diameter x 0.005About	Diameter x 0.006About
Cutting Speed/周速(Vc)								55-75	150-250	200-300

40AL2FHDC Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T40-010AL-50-2F-HDC	1		4	3	50			40°	2
T40-020AL-50-2F-HDC	2		4	6	50			40°	2
T40-030AL-50-2F-HDC	3		4	9	50			40°	2
T40-040AL-50-2F-HDC	4		4	12	50			40°	2
T40-040AL-06-50-2F-HDC	4		6	12	50			40°	2
T40-050AL-50-2F-HDC	5		6	15	50			40°	2
T40-060AL-50-2F-HDC	6		6	18	50			40°	2
T40-070AL-08-60-2F-HDC	7		8	21	60			40°	2
T40-080AL-60-2F-HDC	8		8	24	60			40°	2
T40-090AL-10-75-2F-HDC	9		10	27	75			40°	2
T40-100AL-75-2F-HDC	10		10	30	75			40°	2
T40-120AL-75-2F-HDC	12		12	36	75			40°	2
T40-140AL-100-2F-HDC	14		14	42	100			40°	2
T40-160AL-100-2F-HDC	16		16	48	100			40°	2
T40-200AL-120-2F-HDC	20		20	60	120			40°	2

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6 /// DLC Coating 2 Flutes Aluminium End Mill. 日本メーカー製良品母材を使用し水素フリーDLCコーティングを施した品質にこだわった製品です。価格も水素フリーDLCコーティングを施しながらも非常に安価になっております。It is a product that is particular about quality with a hydrogen-free DLC coating using a good base material made by a Japanese manufacturer. The price is also very cheap while applying hydrogen-free DLC coating.



Non-Coated With Gash Edge Japanese Carbide Rods

Diameter Tolerance 12 ≥ 0 - 0.02 / 12 < 0 - 0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice ● 2nd Choice ○ 3rd Choice △								○	●	○

High Speed Milling

ap								1.5D	1.5D	1D
ae								0.1D	0.1D	0.5D
1刃当りの送り量/Feed Per Flute								Diameter x 0.015>About	Diameter x 0.005>About	Diameter x 0.006>About
Cutting Speed/周速(Vc)								70-100	250	200-300

Recommended For Side Milling

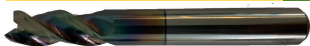
ap								1D	1D	1D
ae								0.5D	0.5D	0.5D
1刃当りの送り量/Feed Per Flute								Diameter x 0.005>About	Diameter x 0.006>About	Diameter x 0.006>About
Cutting Speed/周速(Vc)								60-80	150-250	200-300

Recommended For Slotting & Grooving

ap								0.5D	0.5D	0.5D
ae								1D	1D	1D
1刃当りの送り量/Feed Per Flute								Diameter x 0.005>About	Diameter x 0.005>About	Diameter x 0.006>About
Cutting Speed/周速(Vc)								55-75	150-250	200-300

40AL2F Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T40-010AL-50-2F	1		4	3	50			40°	2
T40-020AL-50-2F	2		4	6	50			40°	2
T40-030AL-50-2F	3		4	9	50			40°	2
T40-040AL-50-2F	4		4	12	50			40°	2
T40-040AL-06-50-2F	4		6	12	50			40°	2
T40-050AL-50-2F	5		6	15	50			40°	2
T40-060AL-50-2F	6		6	18	50			40°	2
T40-070AL-08-60-2F	7		8	21	60			40°	2
T40-080AL-60-2F	8		8	24	60			40°	2
T40-090AL-10-75-2F	9		10	27	75			40°	2
T40-100AL-75-2F	10		10	30	75			40°	2
T40-120AL-75-2F	12		12	36	75			40°	2
T40-140AL-100-2F	14		14	42	100			40°	2
T40-160AL-100-2F	16		16	48	100			40°	2
T40-200AL-120-2F	20		20	60	120			40°	2

Diameter Tolerance 12 ≥ 0 - 0.02 / 12 < 0 - 0.03 Shank Tolerance h6 /// Non-Coated 2 Flutes Aluminium用エンドミル。日本メーカー製良品母材を使用。品質にこだわった製品です。
End mill for Aluminum. Uses a good base material made by a Japanese manufacturer. It is a product that is particular about quality.



With Gash Edge DLC Coating

Diameter Tolerance 12 ≥ 0 - 0.02 / 12 < 0 - 0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel HRC50 Around	Pre-Hardened Steel HRC60以上	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice ● 2nd Choice ○ 3rd Choice △								●	●	●
High Speed Milling										
ap								1.5D	1.5D	1D
ae								0.1D	0.1D	0.5D
1刃当りの送り量/Feed Per Flute								Diameter x 0.015About	Diameter x 0.005About	Diameter x 0.006About
Cutting Speed/周速(Vc)								160-200	250-300	200-300
Recommended For Side Milling										
ap								1D	1D	1D
ae								0.5D	0.5D	0.5D
1刃当りの送り量/Feed Per Flute								Diameter x 0.005About	Diameter x 0.006About	Diameter x 0.006About
Cutting Speed/周速(Vc)								100-150	150-250	200-300
Recommended For Slotting & Grooving										
ap								0.5D	0.5D	0.5D
ae								1D	1D	1D
1刃当りの送り量/Feed Per Flute								Diameter x 0.005About	Diameter x 0.005About	Diameter x 0.006About
Cutting Speed/周速(Vc)								100-130	150-250	200-300

4346AL3FHDC Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-010AL-030D-50-3F-HDC	1		4	3	50			43/45/46°	3
T4346-020AL-030D-50-3F-HDC	2		4	6	50			43/45/46°	3
T4346-030AL-030D-50-3F-HDC	3		4	9	50			43/45/46°	3
T4346-030AL-06-11-50-3F-HDC	3		6	11	50			43/45/46°	3
T4346-040AL-030D-50-3F-HDC	4		4	12	50			43/45/46°	3
T4346-040AL-06-030D-50-3F-HDC	4		6	12	50			43/45/46°	3
T4346-040AL-030D-75-3F-HDC	4		4	12	75			43/45/46°	3
T4346-040AL-06-14-75-3F-HDC	4		6	14	75			43/45/46°	3
T4346-050AL-030D-50-3F-HDC	5		5	15	50			43/45/46°	3
T4346-050AL-06-030D-50-3F-HDC	5		5	15	50			43/45/46°	3
T4346-050AL-030D-75-3F-HDC	5		5	15	75			43/45/46°	3
T4346-050AL-06-18-75-3F-HDC	5		6	18	75			43/45/46°	3
T4346-060AL-020D-50-3F-HDC	6		6	12	50			43/45/46°	3
T4346-060AL-030D-50-3F-HDC	6		6	18	50			43/45/46°	3
T4346-060AL-040D-75-3F-HDC	6		6	24	75			43/45/46°	3
T4346-060AL-050D-75-3F-HDC	6		6	30	75			43/45/46°	3
T4346-080AL-020D-60-3F-HDC	8		8	16	60			43/45/46°	3
T4346-080AL-030D-60-3F-HDC	8		8	24	60			43/45/46°	3
T4346-080AL-040D-75-3F-HDC	8		8	32	75			43/45/46°	3
T4346-080AL-35-75-3F-HDC	8		8	35	75			43/45/46°	3
T4346-080AL-050D-100-3F-HDC	8		8	40	100			43/45/46°	3
T4346-100AL-020D-75-3F-HDC	10		10	20	75			43/45/46°	3
T4346-100AL-030D-75-3F-HDC	10		10	30	75			43/45/46°	3
T4346-100AL-040D-100-3F-HDC	10		10	40	100			43/45/46°	3
T4346-100AL-050D-100-3F-HDC	10		10	50	100			43/45/46°	3
T4346-100AL-050D-150-3F-HDC	10		10	50	150			43/45/46°	3
T4346-120AL-020D-75-3F-HDC	12		12	24	75			43/45/46°	3
T4346-120AL-030D-75-3F-HDC	12		12	36	75			43/45/46°	3
T4346-120AL-45-100-3F-HDC	12		12	45	100			43/45/46°	3
T4346-120AL-040D-100-3F-HDC	12		12	48	100			43/45/46°	3
T4346-120AL-050D-120-3F-HDC	12		12	60	120			43/45/46°	3
T4346-120AL-050D-150-3F-HDC	12		12	60	150			43/45/46°	3
T4346-140AL-45-100-3F-HDC	14		14	45	100			43/45/46°	3
T4346-140AL-60-150-3F-HDC	14		14	60	150			43/45/46°	3
T4346-160AL-45-100-3F-HDC	16		16	45	100			43/45/46°	3
T4346-160AL-60-150-3F-HDC	16		16	60	150			43/45/46°	3
T4346-180AL-45-100-3F-HDC	18		18	45	100			43/45/46°	3
T4346-180AL-70-150-3F-HDC	18		18	70	150			43/45/46°	3
T4346-200AL-45-100-3F-HDC	20		20	45	100			43/45/46°	3
T4346-200AL-70-150-3F-HDC	20		20	70	150			43/45/46°	3

Diameter Tolerance 12 ≥ 0 - 0.02 / 12 < 0 - 0.03 Shank Tolerance h6 /// 旧45AL3FDLC1 Seriesの更新 Seriesです。不等リード不等分割の防振機能をもたせ水素フリーDLCコーティングを装着したAluminium用エンドミルです。滑り性と表面硬度を上げ、安価でありながらハイクラスのエンドミルに仕上ったコンセプトです。現在の在庫が無くなり次第順次、新タイプのエンドミルとなります。An end mill for Aluminum with a hydrogen-free DLC coating that has an anti-vibration function for unequal leads and unequal divisions. It is a concept that improves slipperiness and surface hardness, and is an inexpensive yet high-class end mill. As soon as the current stock runs out, new types of end mills will be added.



With Gash Edge DLC Coating ※ Series内に有効加工長3D&5Dあり

Diameter Tolerance 12 ≥0--0.02 / 12 <0--0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel HRC50 Around	Pre-Hardened Steel HRC60以上	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice ● 2nd Choice ○ 3rd Choice △								●	●	●
High Speed Milling										
ap								1.5D	1.5D	1D
ae								0.1D	0.1D	0.5D
1刃当りの送り量/Feed Per Flute								Diameter x 0.015About	Diameter x 0.005About	Diameter x 0.006About
Cutting Speed/周速(Vc)								160-200	250-300	200-300
Recommended For Side Milling										
ap								1D	1D	1D
ae								0.5D	0.5D	0.5D
1刃当りの送り量/Feed Per Flute								Diameter x 0.005About	Diameter x 0.006About	Diameter x 0.006About
Cutting Speed/周速(Vc)								100-150	150-250	200-300
Recommended For Slotting& Grooving										
ap								0.5D	0.5D	0.5D
ae								1D	1D	1D
1刃当りの送り量/Feed Per Flute								Diameter x 0.005About	Diameter x 0.005About	Diameter x 0.006About
Cutting Speed/周速(Vc)								100-130	150-250	200-300

404142NHDC Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T404142-030AL-030D-NK-3F-HDC	3		6	4	50	○.8	9	40/41/42°	3
T404142-040AL-030D-NK-3F-HDC	4		6	6	50	4	12	40/41/42°	3
T404142-050AL-030D-NK-3F-HDC	5		6	8	50	5	15	40/41/42°	3
T404142-060AL-030D-NK-3F-HDC	6		6	10	50	6	18	40/41/42°	3
T404142-080AL-030D-NK-3F-HDC	8		8	12	60	7	24	40/41/42°	3
T404142-100AL-030D-NK-3F-HDC	10		10	15	75	9	30	40/41/42°	3
T404142-120AL-030D-NK-3F-HDC	12		12	20	100	11	36	40/41/42°	3
T404142-160AL-030D-NK-3F-HDC	16		16	25	120	14.8	48	40/41/42°	3
T404142-030AL-050D-NK-3F-HDC	3		6	4	75	○.8	15	40/41/42°	3
T404142-040AL-050D-NK-3F-HDC	4		6	6	75	4	20	40/41/42°	3
T404142-050AL-050D-NK-3F-HDC	5		6	8	75	5	25	40/41/42°	3
T404142-060AL-050D-NK-3F-HDC	6		6	10	75	6	30	40/41/42°	3
T404142-080AL-050D-NK-3F-HDC	8		8	12	100	7	40	40/41/42°	3
T404142-100AL-050D-NK-3F-HDC	10		10	15	100	9	50	40/41/42°	3
T404142-120AL-050D-NK-3F-HDC	12		12	20	120	11	60	40/41/42°	3
T404142-160AL-050D-NK-3F-HDC	16		16	25	150	14.8	80	40/41/42°	3

Diameter Tolerance 12 ≥0--0.02 / 12 <0--0.03 Shank Tolerance h6 /// DLC Coating 3 Flutes With Neck Aluminium用エンドミルです。日本メーカー製良品母材を使用し水素フリーDLCコーティングを施した品質にこだわった製品です。価格も水素フリーDLCコーティングを施したにも関わらず非常に安価にしております。切削有効長3Dと5DをSeries内に取り揃えております。End mill for Aluminium. It is a product that is particular about quality with a hydrogen-free DLC coating using a good base material made by a Japanese manufacturer. The price is also very low despite the hydrogen-free DLC coating. Effective cutting lengths 3D and 5D are available in the Series.



Variable Leads and Helix, with Sharp Edge Design Champagne Gold Coating

Diameter Tolerance $12 \geq 0 - 0.02$ / $12 < 0 - 0.03$ Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel HRC50 Around	Pre-Hardened Steel HRC60以上	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice ● 2nd Choice ○ 3rd Choice △	●	●	○		○	●	●	○		

High Speed Milling

ap	1.5D	1.5D	1.5D		1.5D	1.5D	1.5D	1.5D		
ae	0.1D	0.1D	0.02D		0.1D	0.05D	0.05D	0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About		Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.002About	Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110		160-200	150-180	30-45	160-200		

Recommended For Side Milling

ap	1D	1D	1.5D		1D	1D	1.5D	1D		
ae	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About		Diameter x 0.005About	Diameter x 0.005About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110		100-130	80-100	30-45	100-150		

Recommended For Slotting& Grooving

ap	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
ae	1D	1D	1D		1D	1D	1D	1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About		Diameter x 0.003About	Diameter x 0.004About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100		100-130	70-100	30-40	100-130		

4043CR4F Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4043-060CR002-50-4F	6	0.2R	6	13	50			40/43°	4
T4043-060CR003-50-4F	6	0.3R	6	13	50			40/43°	4
T4043-060CR005-50-4F	6	0.5R	6	13	50			40/43°	4
T4043-060CR010-50-4F	6	1R	6	13	50			40/43°	4
T4043-080CR002-60-4F	8	0.2R	8	20	60			40/43°	4
T4043-080CR003-60-4F	8	0.3R	8	20	60			40/43°	4
T4043-080CR005-60-4F	8	0.5R	8	20	60			40/43°	4
T4043-080CR010-60-4F	8	1R	8	20	60			40/43°	4
T4043-100CR002-75-4F	10	0.2R	10	22	75			40/43°	4
T4043-100CR003-75-4F	10	0.3R	10	22	75			40/43°	4
T4043-100CR005-75-4F	10	0.5R	10	22	75			40/43°	4
T4043-100CR010-75-4F	10	1R	10	22	75			40/43°	4
T4043-100CR015-75-4F	10	1.5R	10	22	75			40/43°	4
T4043-100CR020-75-4F	10	2R	10	22	75			40/43°	4
T4043-120CR002-75-4F	12	0.2R	12	26	75			40/43°	4
T4043-120CR003-75-4F	12	0.3R	12	26	75			40/43°	4
T4043-120CR005-75-4F	12	0.5R	12	26	75			40/43°	4
T4043-120CR010-75-4F	12	1R	12	26	75			40/43°	4
T4043-120CR015-75-4F	12	1.5R	12	26	75			40/43°	4
T4043-120CR020-75-4F	12	2R	12	26	75			40/43°	4
T4043-160CR010-100-4F	16	1R	16	35	100			40/43°	4
T4043-160CR020-100-4F	16	2R	16	35	100			40/43°	4
T4043-200CR010-120-4F	20	1R	20	44	120			40/43°	4
T4043-200CR020-120-4F	20	2R	20	44	120			40/43°	4

Diameter Tolerance $12 \geq 0 - 0.02$ / $12 < 0 - 0.03$ Shank Tolerance h6 /// 美しい輝きのシャンパンゴールドコーティングを施したCorner Radiusです。耐熱、耐磨耗、高滑りに優れオールラウンドの至極の一品。微加工や荒削りで高送りを目指すならこの Seriesはお勧めです。



Variable leads&Helix Micro Grain 0.2μm(Sumitomo) Naco-Blue Coating

Diameter Tolerance 12≥0-0.02 / 12<0-0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	●	●	●			●		

High Speed Milling

ap	1.5D	1.5D	1.5D	1.5D	1.5D			1.5D		
ae	0.1D	0.1D	0.02D	0.02D	0.1D			0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.015About			Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110	70-90	160-200			160-200		

Recommended For Side Milling

ap	1D	1D	1.5D	1.5D	1D			1D		
ae	0.5D	0.5D	0.02D	0.02D	0.5D			0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.005About			Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110	70-90	100-130			100-150		

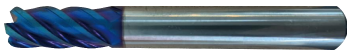
Recommended For Slotting& Grooving

ap	0.5D	0.5D	0.02D	0.02D	0.5D			0.5D		
ae	1D	1D	1D	1D	1D			1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About	Diameter x 0.005About	Diameter x 0.003About			Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100	60-80	100-130			100-130		

4345CRH Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4345-060CRH001-50-4F	6	0.1R	6	12	50			43/45°	4
T4345-060CRH002-50-4F	6	0.2R	6	12	50			43/45°	4
T4345-060CRH003-50-4F	6	0.3R	6	12	50			43/45°	4
T4345-060CRH005-50-4F	6	0.5R	6	12	50			43/45°	4
T4345-060CRH010-50-4F	6	1R	6	12	50			43/45°	4
T4345-060CRH015-50-4F	6	1.5R	6	12	50			43/45°	4
T4345-060CRH020-50-4F	6	0.0R	6	12	50			43/45°	4
T4345-080CRH002-60-4F	8	0.2R	8	16	60			43/45°	4
T4345-080CRH003-60-4F	8	0.3R	8	16	60			43/45°	4
T4345-080CRH005-60-4F	8	0.5R	8	16	60			43/45°	4
T4345-080CRH010-60-4F	8	1R	8	16	60			43/45°	4
T4345-080CRH015-60-4F	8	1.5R	8	16	60			43/45°	4
T4345-080CRH020-60-4F	8	2R	8	16	60			43/45°	4
T4345-100CRH002-75-4F	10	0.2R	10	20	75			43/45°	4
T4345-100CRH003-75-4F	10	0.3R	10	20	75			43/45°	4
T4345-100CRH005-75-4F	10	0.5R	10	20	75			43/45°	4
T4345-100CRH010-75-4F	10	1R	10	20	75			43/45°	4
T4345-100CRH015-75-4F	10	1.5R	10	20	75			43/45°	4
T4345-100CRH020-75-4F	10	0.0R	10	20	75			43/45°	4
T4345-120CRH002-75-4F	12	0.2R	12	24	75			43/45°	4
T4345-120CRH003-75-4F	12	0.3R	12	24	75			43/45°	4
T4345-120CRH005-75-4F	12	0.5R	12	24	75			43/45°	4
T4345-120CRH010-75-4F	12	1R	12	24	75			43/45°	4
T4345-120CRH015-75-4F	12	1.5R	12	24	75			43/45°	4
T4345-120CRH020-75-4F	12	2R	12	24	75			43/45°	4

Diameter Tolerance 12≥0-0.02 / 12<0-0.03 Shank Tolerance h6 /// 母材は高級日本製Micro Grain 0.2μm(Sumitomo)を使用し、高硬度用最強コーティングのBlue nanoコーティングを施した至極の一品です。お求め安い価格で設定しております。Stainless Steelへのご使用は避けて下さい。鋼であればこれ一本で一般鋼から超高硬度材までご使用頂けます。(本来のコーティングの性能を活かすのであればドライ推奨です)

The carbide rod material is a high-grade Japanese-made Micro Grain 0.2 μm (Sumitomo), and it is the ultimate product with the Blue nano coating, which is the strongest coating for high hardness. We set it at a reasonable price. Please avoid using it for Stainless Steel. If it is steel, this one can be used from general steel to ultra-hard material. (Dry is recommended if you want to take advantage of the original coating performance)



Micro Grain 0.2 μm(Sumitomo) Naco-Blue Coating

Diameter Tolerance 12 ≥ 0 - 0.02 / 12 < 0 - 0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice ● 2nd Choice ○ 3rd Choice △	●	●	●	●	●			●		

High Speed Milling

ap	1.5D	1.5D	1.5D	1.5D	1.5D			1.5D		
ae	0.1D	0.1D	0.02D	0.02D	0.1D			0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015>About	Diameter x 0.015>About	Diameter x 0.01>About	Diameter x 0.01>About	Diameter x 0.015>About			Diameter x 0.015>About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110	70-90	160-200			160-200		

Recommended For Side Milling

ap										
ae										
1刃当りの送り量/Feed Per Flute										
Cutting Speed/周速(Vc)										

Recommended For Slotting & Grooving

ap										
ae										
1刃当りの送り量/Feed Per Flute										
Cutting Speed/周速(Vc)										

45CRH Series	Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T45-060CRH001-50-5F		6	0.1R	6	12	50			45°	5
T45-060CRH002-50-5F		6	0.2R	6	12	50			45°	5
T45-060CRH003-50-5F		6	0.3R	6	12	50			45°	5
T45-060CRH005-50-5F		6	0.5R	6	12	50			45°	5
T45-060CRH010-50-5F		6	1R	6	12	50			45°	5
T45-060CRH015-50-5F		6	1.5R	6	12	50			45°	5
T45-060CRH020-50-5F		6	0.0R	6	12	50			45°	5
T45-080CRH002-60-5F		8	0.2R	8	16	60			45°	5
T45-080CRH003-60-5F		8	0.3R	8	16	60			45°	5
T45-080CRH005-60-5F		8	0.5R	8	16	60			45°	5
T45-080CRH010-60-5F		8	1R	8	16	60			45°	5
T45-080CRH015-60-5F		8	1.5R	8	16	60			45°	5
T45-080CRH020-60-5F		8	2R	8	16	60			45°	5
T45-100CRH002-75-5F		10	0.2R	10	20	75			45°	5
T45-100CRH003-75-5F		10	0.3R	10	20	75			45°	5
T45-100CRH005-75-5F		10	0.5R	10	20	75			45°	5
T45-100CRH010-75-5F		10	1R	10	20	75			45°	5
T45-100CRH015-75-5F		10	1.5R	10	20	75			45°	5
T45-100CRH020-75-5F		10	2R	10	20	75			45°	5
T45-120CRH002-75-5F		12	0.2R	12	24	75			45°	5
T45-120CRH003-75-5F		12	0.3R	12	24	75			45°	5
T45-120CRH005-75-5F		12	0.5R	12	24	75			45°	5
T45-120CRH010-75-5F		12	1R	12	24	75			45°	5
T45-120CRH015-75-5F		12	1.5R	12	24	75			45°	5
T45-120CRH020-75-5F		12	2R	12	24	75			45°	5

Diameter Tolerance 12 ≥ 0 - 0.02 / 12 < 0 - 0.03 Shank Tolerance h6 /// 母材は高級日本製Micro Grain 0.2 μm(Sumitomo)を使用し、高硬度用最強コーティングのBlue nanoコーティングを施した至極の一品です。お求め安い価格で設定しております。Stainless Steelへのご使用は避けて下さい。鋼であればこれ一本で一般鋼から超高硬度材までご使用頂けます。(本来のコーティングの性能を活かすのであればドライ推奨です)

The carbide rod material is a high-grade Japanese-made Micro Grain 0.2 μm (Sumitomo), and it is the ultimate product with the Blue nano coating, which is the strongest coating for high hardness. We set it at a reasonable price. Please avoid using it for Stainless Steel. If it is steel, this one can be used from general steel to ultra-hard material. (Dry is recommended if you want to take advantage of the original coating performance)



Variable Leads&Helix with DLC Coating

Diameter Tolerance 12 ≥ 0-0.02 / 12 < 0-0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△								●	●	●

High Speed Milling

	ap	ae	1刃当りの送り量/Feed Per Flute	Cutting Speed/周速(Vc)
			Diameter x 0.015About	Diameter x 0.005About
				160-200
				250-300
				200-300

Recommended For Side Milling

	ap	ae	1刃当りの送り量/Feed Per Flute	Cutting Speed/周速(Vc)
			Diameter x 0.005About	Diameter x 0.006About
				100-150
				150-250
				200-300

Recommended For Slotting& Grooving

	ap	ae	1刃当りの送り量/Feed Per Flute	Cutting Speed/周速(Vc)
			Diameter x 0.005About	Diameter x 0.005About
				100-130
				150-250
				200-300

4346CRAL3FHDC Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-060CRAL002-50-3F-HDC	6	0.2R	6	12	50			43/45/46°	3
T4346-060CRAL003-50-3F-HDC	6	0.3R	6	12	50			43/45/46°	3
T4346-060CRAL005-50-3F-HDC	6	0.5R	6	12	50			43/45/46°	3
T4346-060CRAL010-50-3F-HDC	6	1R	6	12	50			43/45/46°	3
T4346-060CRAL002-75-3F-HDC	6	0.2R	6	18	75			43/45/46°	3
T4346-060CRAL003-75-3F-HDC	6	0.3R	6	18	75			43/45/46°	3
T4346-060CRAL005-75-3F-HDC	6	0.5R	6	18	75			43/45/46°	3
T4346-060CRAL010-75-3F-HDC	6	1R	6	18	75			43/45/46°	3
T4346-080CRAL002-60-3F-HDC	8	0.2R	8	16	60			43/45/46°	3
T4346-080CRAL003-60-3F-HDC	8	0.3R	8	16	60			43/45/46°	3
T4346-080CRAL005-60-3F-HDC	8	0.5R	8	16	60			43/45/46°	3
T4346-080CRAL010-60-3F-HDC	8	1R	8	16	60			43/45/46°	3
T4346-080CRAL002-100-3F-HDC	8	0.2R	8	24	100			43/45/46°	3
T4346-080CRAL003-100-3F-HDC	8	0.3R	8	24	100			43/45/46°	3
T4346-080CRAL005-100-3F-HDC	8	0.5R	8	24	100			43/45/46°	3
T4346-080CRAL010-100-3F-HDC	8	1R	8	24	100			43/45/46°	3
T4346-100CRAL002-75-3F-HDC	10	0.2R	10	20	75			43/45/46°	3
T4346-100CRAL003-75-3F-HDC	10	0.3R	10	20	75			43/45/46°	3
T4346-100CRAL005-75-3F-HDC	10	0.5R	10	20	75			43/45/46°	3
T4346-100CRAL010-75-3F-HDC	10	1R	10	20	75			43/45/46°	3
T4346-100CRAL020-75-3F-HDC	10	2R	10	20	75			43/45/46°	3
T4346-100CRAL002-100-3F-HDC	10	0.2R	10	30	100			43/45/46°	3
T4346-100CRAL003-100-3F-HDC	10	0.3R	10	30	100			43/45/46°	3
T4346-100CRAL005-100-3F-HDC	10	0.5R	10	30	100			43/45/46°	3
T4346-100CRAL010-100-3F-HDC	10	1R	10	30	100			43/45/46°	3
T4346-100CRAL020-100-3F-HDC	10	2R	10	30	100			43/45/46°	3
T4346-120CRAL002-75-3F-HDC	12	0.2R	12	24	75			43/45/46°	3
T4346-120CRAL003-75-3F-HDC	12	0.3R	12	24	75			43/45/46°	3
T4346-120CRAL005-75-3F-HDC	12	0.5R	12	24	75			43/45/46°	3
T4346-120CRAL010-75-3F-HDC	12	1R	12	24	75			43/45/46°	3
T4346-120CRAL015-75-3F-HDC	12	1.5R	12	24	75			43/45/46°	3
T4346-120CRAL020-75-3F-HDC	12	2R	12	24	75			43/45/46°	3
T4346-120CRAL002-100-3F-HDC	12	0.2R	12	36	100			43/45/46°	3
T4346-120CRAL003-100-3F-HDC	12	0.3R	12	36	100			43/45/46°	3
T4346-120CRAL005-100-3F-HDC	12	0.5R	12	36	100			43/45/46°	3
T4346-120CRAL010-100-3F-HDC	12	1R	12	36	100			43/45/46°	3
T4346-120CRAL015-100-3F-HDC	12	1.5R	12	36	100			43/45/46°	3
T4346-120CRAL020-100-3F-HDC	12	2R	12	36	100			43/45/46°	3
T4346-160CRAL010-120-3F-HDC	16	1R	16	48	120			43/45/46°	3
T4346-160CRAL020-120-3F-HDC	16	2R	16	48	120			43/45/46°	3
T4346-200CRAL010-150-3F-HDC	20	1R	20	60	150			43/45/46°	3
T4346-200CRAL020-150-3F-HDC	20	2R	20	60	150			43/45/46°	3

Diameter Tolerance 12 ≥ 0-0.02 / 12 < 0-0.03 Shank Tolerance h6 /// 不等リード不等分割で防振機能をもたせたHDCコーティング付3 FlutesコーナーRエンドミルです。通常のDLCコーティングは表面硬度が約2000HVに対し、HDCコーティングは5000HV以上をマークしています。膜厚が非常に薄く高滑り性を有しているためAluminiumのドライ加工を実現できます。溝を強ねじれにして、送りスピードも上げやすく設定しております。3 Flutes corner R end mill with HDC coating with unequal leads and unequal division to provide anti-vibration function. Normal DLC coating has a surface hardness of about 2000HV, while HDC coating has a surface hardness of 5000HV or more. Since the film thickness is very thin and it has high slipperiness, it is possible to realize dry processing of Aluminum. The groove is strongly twisted to make it easier to increase the feed speed.



Variable Leads&Helix with Sharp Edge , Champagne Gold Coating ※ 2-4 Flutes

Diameter Tolerance 12 ≥0-0.02 / 12 <0-0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel HRC50 Around	Pre-Hardened Steel HRC60以上	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice ● 2nd Choice ○ 3rd Choice △	●	●	●	△	●	●	●	●		
High Speed Milling										
ap										
ae										
1刃当りの送り量/Feed Per Flute										
Cutting Speed/周速(Vc)										
Recommended For Side Milling										
ap										
ae										
1刃当りの送り量/Feed Per Flute										
Cutting Speed/周速(Vc)										
Recommended For Slotting& Grooving										
ap	0.1 x R	0.1 x R	0.08 x R		0.1 x R	0.1 x R	0.08 x R	0.1 x R		
ae	-	-	-		-	-	-	-		
1刃当りの送り量/Feed Per Flute	Diameter x 0.009About	Diameter x 0.008About	Diameter x 0.007About		Diameter x 0.009About	Diameter x 0.008About	Diameter x 0.002About	Diameter x 0.009About		
Cutting Speed/周速(Vc)	140-160	120-150	80-100		140-160	120-150	30-45	140-160		

4346BMT Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-030BMT-50-2F	3	1.5R	6	6	50		No. of Flutes: 2 Flutes	43/46°	2
T4346-030BMT-75-2F	3	1.5R	6	6	75		No. of Flutes: 2 Flutes	43/46°	2
T4346-030BMT-75-3F	3	1.5R	6	6	75		No. of Flutes: 3 Flutes	43/45/46°	3
T4346-040BMT-50-2F	4	2R	6	8	50		No. of Flutes: 2 Flutes	43/46°	2
T4346-040BMT-75-2F	4	2R	6	8	75		No. of Flutes: 2 Flutes	43/46°	2
T4346-040BMT-75-3F	4	2R	6	8	75		No. of Flutes: 3 Flutes	43/45/46°	3
T4346-050BMT-50-2F	5	2.5R	6	10	50		No. of Flutes: 2 Flutes	43/46°	2
T4346-050BMT-75-2F	5	2.5R	6	10	75		No. of Flutes: 2 Flutes	43/46°	2
T4346-050BMT-75-3F	5	2.5R	6	10	75		No. of Flutes: 3 Flutes	43/45/46°	3
T4346-060BMT-50-2F	6	3R	6	12	50		No. of Flutes: 2 Flutes	43/46°	2
T4346-060BMT-75-2F	6	3R	6	12	75		No. of Flutes: 2 Flutes	43/46°	2
T4346-060BMT-75-3F	6	3R	6	12	75		No. of Flutes: 3 Flutes	43/45/46°	3
T4346-080BMT-60-2F	8	4R	8	16	60		No. of Flutes: 2 Flutes	43/46°	2
T4346-080BMT-75-2F	8	4R	8	16	75		No. of Flutes: 2 Flutes	43/46°	2
T4346-080BMT-75-3F	8	4R	8	16	75		No. of Flutes: 3 Flutes	43/45/46°	3
T4346-080BMT-75-4F	8	4R	8	16	75		No. of Flutes: 4 Flutes	43/46°	4
T4346-100BMT-75-2F	10	5R	10	20	75		No. of Flutes: 2 Flutes	43/46°	2
T4346-100BMT-75-3F	10	5R	10	20	75		No. of Flutes: 3 Flutes	43/45/46°	3
T4346-100BMT-75-4F	10	5R	10	20	75		No. of Flutes: 4 Flutes	43/46°	4
T4346-120BMT-75-2F	12	6R	12	24	75		No. of Flutes: 2 Flutes	43/46°	2
T4346-120BMT-75-3F	12	6R	12	24	75		No. of Flutes: 3 Flutes	43/45/46°	3
T4346-120BMT-75-4F	12	6R	12	24	75		No. of Flutes: 4 Flutes	43/46°	4

Diameter Tolerance 12 ≥0-0.02 / 12 <0-0.03 Shank Tolerance h6 /// 防振Square End Millの4346MTのボールバージョン。CGコーティングは硬度4200HV、耐熱温度1100°をマークしており多層コーティングで表面に滑り性をもたせ Stainless Steel、鋼全般に使用できます。より切れ味を持たせハイスベックコーティングによりEdge欠損を担保しながら高い加工条件でより安定性を持たせ、長寿命に使用できるコンセプトで開発されたBall Nose End Millです。Stainless Steelには抜群の威力を発揮いたします。Anti-vibration Square End Mill 4346MT ball version. The CG coating has a hardness of 4200 HV and a heat resistant temperature of 1100°, and the multi-layer coating makes the surface slippery and can be used for Stainless Steel and steel in general. The Ball Nose End Mill was developed with the concept of being able to be used for a long life by giving it more sharpness and ensuring more stability under high processing conditions while ensuring edge defects with high-spec coating. It is extremely powerful for Stainless Steel.



Micro Grain 0.2 μm(Sumitomo) Naco-Blue Coating

Diameter Tolerance 12 ≥ 0 - 0.02 / 12 < 0 - 0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	●	●	●			●		

High Speed Milling

ap										
ae										
1刃当りの送り量/Feed Per Flute										
Cutting Speed/周速(Vc)										

Recommended For Side Milling

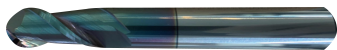
ap										
ae										
1刃当りの送り量/Feed Per Flute										
Cutting Speed/周速(Vc)										

Recommended For Slotting & Grooving

ap	0.1 x R	0.1 x R	0.08 x R	0.08 x R	0.1 x R			0.1 x R		
ae	-	-	-	-	-			-		
1刃当りの送り量/Feed Per Flute	Diameter x 0.009About	Diameter x 0.008About	Diameter x 0.007About	Diameter x 0.005About	Diameter x 0.009About			Diameter x 0.009About		
Cutting Speed/周速(Vc)	140-160	120-150	80-100	70-90	140-160			140-160		

3538BHT Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T3538-010BHT-50-2F	1	0.5R	4	2	50			35/38°	2
T3538-020BHT-50-2F	2	1R	4	4	50			35/38°	2
T3538-030BHT-50-2F	3	1.5R	4	6	50			35/38°	2
T3538-040BHT-50-2F	4	2R	4	8	50			35/38°	2
T3538-050BHT-50-2F	5	2.5R	6	10	50			35/38°	2
T3538-060BHT-50-2F	6	3R	6	12	50			35/38°	2
T3538-080BHT-60-2F	8	4R	8	16	60			35/38°	2
T3538-100BHT-75-2F	10	5R	10	20	75			35/38°	2
T3538-120BHT-75-2F	12	6R	12	24	75			35/38°	2

Diameter Tolerance 12 ≥ 0 - 0.02 / 12 < 0 - 0.03 Shank Tolerance h6 /// 高硬度用Blue Nanoコーティングに超超微粒子の0.2 μmの日本製良質母材を採用、また不等リード不等分割で防振機能も採用しております。この価格帯で抜群の品質を実現しました。The Blue Nano coating for high hardness uses a 0.2 μm high-quality base material made in Japan with ultra-fine particles, and also has an anti-vibration function with unequal leads and unequal division. We have achieved outstanding quality in this price range.



Variable Leads&Helix with DLC Coating ※ 2-4 Flutes

Diameter Tolerance 12≥0--0.02 / 12<0--0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△								●	●	●

High Speed Milling

ap										
ae										
1刃当りの送り量/Feed Per Flute										
Cutting Speed/周速(Vc)										

Recommended For Side Milling

ap										
ae										
1刃当りの送り量/Feed Per Flute										
Cutting Speed/周速(Vc)										

Recommended For Slotting& Grooving

ap								0.1 x R	0.1 x R	0.1 x R
ae								-	-	-
1刃当りの送り量/Feed Per Flute								Diameter x 0.009>About	Diameter x 0.01>About	Diameter x 0.01>About
Cutting Speed/周速(Vc)								140-160	150-250	200-300

4346BTALHDC Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-030BTAL-75-2F-HDC	3	1.5R	6	6	75			43/46°	2
T4346-030BTAL-75-3F-HDC	3	1.5R	6	6	75			43/45/46°	3
T4346-040BTAL-75-2F-HDC	4	2R	6	8	75			43/46°	2
T4346-040BTAL-75-3F-HDC	4	2R	6	8	75			43/45/46°	3
T4346-050BTAL-75-2F-HDC	5	2.5R	6	10	75			43/46°	2
T4346-050BTAL-75-3F-HDC	5	2.5R	6	10	75			43/45/46°	3
T4346-060BTAL-75-2F-HDC	6	3R	6	12	75			43/46°	2
T4346-060BTAL-75-3F-HDC	6	3R	6	12	75			43/45/46°	3
T4346-080BTAL-75-2F-HDC	8	4R	8	16	75			43/46°	2
T4346-080BTAL-75-3F-HDC	8	4R	8	16	75			43/45/46°	3
T4346-080BTAL-75-4F-HDC	8	4R	8	16	75			43/46°	4
T4346-100BTAL-75-2F-HDC	10	5R	10	20	75			43/46°	2
T4346-100BTAL-75-3F-HDC	10	5R	10	20	75			43/45/46°	3
T4346-100BTAL-75-4F-HDC	10	5R	10	20	75			43/46°	4
T4346-120BTAL-75-2F-HDC	12	6R	12	24	75			43/46°	2
T4346-120BTAL-75-3F-HDC	12	6R	12	24	75			43/45/46°	3
T4346-120BTAL-75-4F-HDC	12	6R	12	24	75			43/46°	4

Diameter Tolerance 12≥0--0.02 / 12<0--0.03 Shank Tolerance h6 /// Aluminium、非鉄用のVariable Leads&HelixBall Nose End MillのDLC Coatingです。水素フリーDLCの硬度は約5000HVをマークしており、表面に滑り性をもたせAluminiumのHigh Speed Millingに最適です。より切れ味を持たせハイスベックコーティングによりEdge欠損を担保しながら高い加工条件でより安定性を持たせ、長寿命に使用できるコンセプトで開発されたBall Nose End Millです。Aluminiumには抜群の威力を発揮いたします。Series内2 Flutes、3 Flutes、4 Flutesからお選び下さい。Variable Leads & Helix Ball Nose End Mill DLC Coating for non-ferrous metals. The hardness of hydrogen-free DLC is about 5000HV, which makes the surface slippery and is ideal for Aluminium High Speed Milling. The Ball Nose End Mill was developed with the concept of being able to be used for a long life by giving it more sharpness and ensuring more stability under high processing conditions while ensuring edge defects with high-spec coating. It is extremely powerful for Aluminium. Choose from 2 Flutes, 3 Flutes, and 4 Flutes in the Series.

4 Flutes Carbide Roughing End Mill Variable Leads&Helix 43/46°



Fine Pitch Type Champagne Gold Coating

Diameter Tolerance 12 ≥ 0 - 0.02 / 12 < 0 - 0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice ● 2nd Choice ○ 3rd Choice △	●	●	○		●	●	●	●		

High Speed Milling

ap	1.5D	1.5D	1.5D		1.5D	1.5D	1.5D	1.5D		
ae	0.1D	0.1D	0.02D		0.1D	0.05D	0.05D	0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About		Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.002About	Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110		160-200	150-180	30-45	160-200		

Recommended For Side Milling

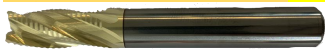
ap	1D	1D	1.5D		1D	1D	1.5D	1D		
ae	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About		Diameter x 0.005About	Diameter x 0.005About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110		100-130	80-100	30-45	100-150		

Recommended For Slotting & Grooving

ap	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
ae	1D	1D	1D		1D	1D	1D	1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About		Diameter x 0.003About	Diameter x 0.004About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100		100-130	70-100	30-40	100-130		

4346RF Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-030RF-S-50-4F	3	0.2R	4	6	50			43/46°	4
T4346-030RF-50-4F	3	0.2R	4	8	50			43/46°	4
T4346-040RF-S-50-4F	4	0.3R	4	8	50			43/46°	4
T4346-040RF-50-4F	4	0.3R	4	10	50			43/46°	4
T4346-050RF-S-50-4F	5	0.3R	6	10	50			43/46°	4
T4346-050RF-50-4F	5	0.3R	6	13	50			43/46°	4
T4346-060RF-S-50-4F	6	0.4R	6	12	50			43/46°	4
T4346-060RF-50-4F	6	0.4R	6	15	50			43/46°	4
T4346-080RF-S-60-4F	8	0.5R	8	16	60			43/46°	4
T4346-080RF-60-4F	8	0.5R	8	20	60			43/46°	4
T4346-080RF-75-4F	8	0.5R	8	25	75			43/46°	4
T4346-100RF-S-75-4F	10	0.6R	10	20	75			43/46°	4
T4346-100RF-75-4F	10	0.6R	10	25	75			43/46°	4
T4346-120RF-S-75-4F	12	0.6R	12	24	75			43/46°	4
T4346-120RF-75-4F	12	0.6R	12	30	75			43/46°	4
T4346-140RF-75-4F	14	0.7R	14	35	100			43/46°	4
T4346-160RF-75-4F	16	0.75R	16	40	100			43/46°	4
T4346-200RF-75-4F	20	1R	20	50	100			43/46°	4

Diameter Tolerance 12 ≥ 0 - 0.02 / 12 < 0 - 0.03 Shank Tolerance h6 /// TOTIMEのラフィングエンドミルです。旧4345RF SeriesのModelが更新されました。刃型はねじれ角度を43/45° から43/46° と変更しております。不等リード不等分割の防振機能、CGコーティングを施したラフィングエンドミル。刃形も高速切削可能なファインニックにしております。SUS等には抜群の能力を発揮します。The model of the old 4345RF Series has been updated. The twist angle of the blade type has been changed from 43/45° to 43/46°. Roughing end mill with CG coating and anti-vibration function for unequal leads and unequal division. The blade shape is also fine nick, which enables high-speed cutting. Demonstrates outstanding ability for SUS etc.



Fine Pitch Type Champagne Gold Coating

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	○		●	●	●	●		

High Speed Milling

ap	1.5D	1.5D	1.5D		1.5D	1.5D	1.5D	1.5D		
ae	0.1D	0.1D	0.02D		0.1D	0.05D	0.05D	0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About		Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.002About	Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110		160-200	150-180	30-45	160-200		

Recommended For Side Milling

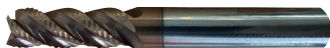
ap	1D	1D	1.5D		1D	1D	1.5D	1D		
ae	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About		Diameter x 0.005About	Diameter x 0.005About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110		100-130	80-100	30-45	100-150		

Recommended For Slotting& Grooving

ap	0.5D	0.5D	0.02D		0.5D	0.5D	0.05D	0.5D		
ae	1D	1D	1D		1D	1D	1D	1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About		Diameter x 0.003About	Diameter x 0.004About	Diameter x 0.002About	Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100		100-130	70-100	30-40	100-130		

3032RF Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T3032-030RF-S-50-4F	3	0.1R	4	6	50			30/32°	4
T3032-030RF-50-4F	3	0.1R	4	8	50			30/32°	4
T3032-040RF-S-50-4F	4	0.2R	4	8	50			30/32°	4
T3032-040RF-50-4F	4	0.2R	4	10	50			30/32°	4
T3032-050RF-S-50-4F	5	0.3R	6	10	50			30/32°	4
T3032-050RF-50-4F	5	0.3R	6	13	50			30/32°	4
T3032-060RF-S-50-4F	6	0.5R	6	12	50			30/32°	4
T3032-060RF-50-4F	6	0.5R	6	15	50			30/32°	4
T3032-080RF-S-60-4F	8	0.5R	8	16	60			30/32°	4
T3032-080RF-60-4F	8	0.5R	8	20	60			30/32°	4
T3032-080RF-75-4F	8	0.5R	8	25	75			30/32°	4
T3032-100RF-S-75-4F	10	0.5R	10	20	75			30/32°	4
T3032-100RF-75-4F	10	0.5R	10	25	75			30/32°	4
T3032-120RF-S-75-4F	12	0.5R	12	24	75			30/32°	4
T3032-120RF-75-4F	12	0.5R	12	30	75			30/32°	4

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6 /// 不等リード不等分割の防振機能、CGコーティングを施した中ねじれラフィングエンドミル。刃形も高速切削可能なファインニックにしております。SUS等には抜群の能力を発揮します。Unequal lead Unequal division vibration isolation function, medium twist roughing end mill with CG coating. The blade shape is also fine nick, which enables high-speed cutting. Demonstrates outstanding ability for SUS etc.



Fine Pitch Type POWER Coating

Diameter Tolerance 12≥0--0.02 / 12<0--0.03 Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	●	●	●	○		●		

High Speed Milling

ap	1.5D	1.5D	1.5D	1.5D	1.5D			1.5D		
ae	0.1D	0.1D	0.02D	0.02D	0.1D			0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.015About			Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110	70-90	160-200			160-200		

Recommended For Side Milling

ap	1D	1D	1.5D	1.5D	1D			1D		
ae	0.5D	0.5D	0.02D	0.02D	0.5D			0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.005About			Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110	70-90	100-130			100-150		

Recommended For Slotting& Grooving

ap	0.5D	0.5D	0.02D	0.02D	0.5D			0.5D		
ae	1D	1D	1D	1D	1D			1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About	Diameter x 0.005About	Diameter x 0.003About			Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100	60-80	100-130			100-130		

4346R Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T4346-060R-S-50-4F	6	0.4R	6	12	50			43/46°	4
T4346-060R-50-4F	6	0.4R	6	15	50			43/46°	4
T4346-070R-60-4F	7	0.4R	8	18	60			43/46°	4
T4346-080R-S-60-4F	8	0.5R	8	16	60			43/46°	4
T4346-080R-60-4F	8	0.5R	8	20	60			43/46°	4
T4346-080R-75-4F	8	0.5R	8	25	75			43/46°	4
T4346-090R-75-4F	9	0.55R	10	25	75			43/46°	4
T4346-100R-S-75-4F	10	0.6R	10	20	75			43/46°	4
T4346-100R-75-4F	10	0.6R	10	25	75			43/46°	4
T4346-110R-75-4F	11	0.6R	12	28	75			43/46°	4
T4346-120R-S-75-4F	12	0.6R	12	24	75			43/46°	4
T4346-120R-75-4F	12	0.6R	12	30	75			43/46°	4
T4346-130R-100-4F	13	0.65R	14	35	100			43/46°	4
T4346-140R-100-4F	14	0.7R	14	35	100			43/46°	4
T4346-150R-100-4F	15	0.75R	16	38	100			43/46°	4
T4346-160R-100-4F	16	0.75R	16	40	100			43/46°	4
T4346-170R-100-4F	17	1R	20	43	100			43/46°	4
T4346-180R-100-4F	18	1R	20	45	100			43/46°	4
T4346-200R-100-4F	20	1R	20	50	100			43/46°	4

Diameter Tolerance 12≥0--0.02 / 12<0--0.03 Shank Tolerance h6 /// 旧4345R SeriesのModelが更新されました。ねじれ角度が43/45° から43/46° に変更されております。合金鋼、Cast Iron、高硬度材、SUS、すべて対応できますが、SUSのお仕事が多い場合はRFタイプ(Champagne Gold Coating)をお勧めします。刃形も高速切削が可能なファインニックにしております。The model of the old 4345R Series has been updated. The twist angle has been changed from 43/45° to 43/46° . Alloy steel, Cast Iron, high hardness material, SUS are all available, but if you have a lot of SUS work, we recommend RF type (Champagne Gold Coating). The blade shape is also fine nick, which enables high-speed cutting.



Fine Pitch Type POWER Coating

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△	●	●	●	●	●	○		●		

High Speed Milling

ap	1.5D	1.5D	1.5D	1.5D	1.5D			1.5D		
ae	0.1D	0.1D	0.02D	0.02D	0.1D			0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015About	Diameter x 0.015About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.015About			Diameter x 0.015About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110	70-90	160-200			160-200		

Recommended For Side Milling

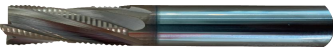
ap	1D	1D	1.5D	1.5D	1D			1D		
ae	0.5D	0.5D	0.02D	0.02D	0.5D			0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.01About	Diameter x 0.01About	Diameter x 0.005About			Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110	70-90	100-130			100-150		

Recommended For Slotting& Grooving

ap	0.5D	0.5D	0.02D	0.02D	0.5D			0.5D		
ae	1D	1D	1D	1D	1D			1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005About	Diameter x 0.004About	Diameter x 0.007About	Diameter x 0.005About	Diameter x 0.003About			Diameter x 0.005About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100	60-80	100-130			100-130		

3538R Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T3538-060R-S-50-4F	6	0.4R	6	12	50			35/38°	4
T3538-060R-50-4F	6	0.4R	6	15	50			35/38°	4
T3538-070R-60-4F	7	0.4R	8	18	60			35/38°	4
T3538-080R-S-60-4F	8	0.5R	8	16	60			35/38°	4
T3538-080R-60-4F	8	0.5R	8	20	60			35/38°	4
T3538-080R-75-4F	8	0.5R	8	25	75			35/38°	4
T3538-090R-75-4F	9	0.55R	10	25	75			35/38°	4
T3538-100R-S-75-4F	10	0.6R	10	20	75			35/38°	4
T3538-100R-75-4F	10	0.6R	10	25	75			35/38°	4
T3538-110R-75-4F	11	0.6R	12	28	75			35/38°	4
T3538-120R-S-75-4F	12	0.6R	12	24	75			35/38°	4
T3538-120R-75-4F	12	0.6R	12	30	75			35/38°	4
T3538-130R-100-4F	13	0.65R	14	35	100			35/38°	4
T3538-140R-100-4F	14	0.7R	14	35	100			35/38°	4
T3538-150R-100-4F	15	0.75R	16	38	100			35/38°	4
T3538-160R-100-4F	16	0.75R	16	40	100			35/38°	4
T3538-170R-100-4F	17	1R	20	43	100			35/38°	4
T3538-180R-100-4F	18	1R	20	45	100			35/38°	4
T3538-200R-100-4F	20	1R	20	50	100			35/38°	4

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6 /// 旧3738R SeriesのModelが更新されました。ねじれ角度が37/38° から35/38° に変更されております。合金鋼、Cast Iron、高硬度材、SUS、すべて対応できますが、SUSのお仕事が多い場合はRFタイプ(Champagne Gold Coating)をお勧めします。刃形も高速切削が可能なファインニックにしております。The model of the old 3738R Series has been updated. The twist angle has been changed from 37/38° to 35/38°. Alloy steel, Cast Iron, high hardness material, SUS are all available, but if you have a lot of SUS work, we recommend RF type (Champagne Gold Coating). The blade shape is also fine nick, which enables high-speed cutting.



Fine Pitch Type POWER Coating

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice ● 2nd Choice ○ 3rd Choice △	●	●	●	●	●	○		●		

High Speed Milling

ap	1.5D	1.5D	1.5D	1.5D	1.5D			1.5D		
ae	0.1D	0.1D	0.02D	0.02D	0.1D			0.1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.015>About	Diameter x 0.015>About	Diameter x 0.01>About	Diameter x 0.01>About	Diameter x 0.015>About			Diameter x 0.015>About		
Cutting Speed/周速(Vc)	160-200	120-150	90-110	70-90	160-200			160-200		

Recommended For Side Milling

ap	1D	1D	1.5D	1.5D	1D			1D		
ae	0.5D	0.5D	0.02D	0.02D	0.5D			0.5D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005>About	Diameter x 0.004>About	Diameter x 0.01>About	Diameter x 0.01>About	Diameter x 0.005>About			Diameter x 0.005>About		
Cutting Speed/周速(Vc)	100-130	90-110	90-110	70-90	100-130			100-150		

Recommended For Slotting& Grooving

ap	0.5D	0.5D	0.02D	0.02D	0.5D			0.5D		
ae	1D	1D	1D	1D	1D			1D		
1刃当りの送り量/Feed Per Flute	Diameter x 0.005>About	Diameter x 0.004>About	Diameter x 0.007>About	Diameter x 0.005>About	Diameter x 0.003>About			Diameter x 0.005>About		
Cutting Speed/周速(Vc)	100-130	80-100	80-100	60-80	100-130			100-130		

1921R Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T1921-060R-S-50-4F	6	0.4R	6	12	50			19/21°	4
T1921-060R-50-4F	6	0.4R	6	15	50			19/21°	4
T1921-070R-60-4F	7	0.4R	8	18	60			19/21°	4
T1921-080R-S-60-4F	8	0.5R	8	16	60			19/21°	4
T1921-080R-60-4F	8	0.5R	8	20	60			19/21°	4
T1921-080R-75-4F	8	0.5R	8	25	75			19/21°	4
T1921-090R-75-4F	9	0.55R	10	25	75			19/21°	4
T1921-100R-S-75-4F	10	0.6R	10	20	75			19/21°	4
T1921-100R-75-4F	10	0.6R	10	25	75			19/21°	4
T1921-110R-75-4F	11	0.6R	12	28	75			19/21°	4
T1921-120R-S-75-4F	12	0.6R	12	24	75			19/21°	4
T1921-120R-75-4F	12	0.6R	12	30	75			19/21°	4
T1921-130R-100-4F	13	0.65R	14	35	100			19/21°	4
T1921-140R-100-4F	14	0.7R	14	35	100			19/21°	4
T1921-150R-100-4F	15	0.75R	16	38	100			19/21°	4
T1921-160R-100-4F	16	0.75R	16	40	100			19/21°	4
T1921-170R-100-4F	17	1R	20	43	100			19/21°	4
T1921-180R-100-4F	18	1R	20	45	100			19/21°	4
T1921-200R-100-4F	20	1R	20	50	100			19/21°	4

Diameter Tolerance $12 \geq 0 - 0.02 / 12 < 0 - 0.03$ Shank Tolerance h6 /// 弱ねじれはZ方向に負荷を掛かりにくいという特性を生かし、ビビリが発生しやすい薄板用のコンセプトにしております。合金鋼、Cast Iron、高硬度材、SUS、すべて対応できますが、SUSのお仕事が多い場合はRFタイプ(Champagne Gold Coating)をお勧めします。刃形も高速切削が可能なファインニックにしております。Taking advantage of the characteristic that weak twist does not easily apply a load in the Z direction, it is a concept for thin plates that are prone to chattering. Alloy steel, Cast Iron, high hardness material, SUS are all available, but if you have a lot of SUS work, we recommend RF type (Champagne Gold Coating). The blade shape is also fine nick, which enables high-speed cutting.



Semi-Fine Pitch with DLC Coating

Diameter Tolerance $12 \geq 0 - 0.02$ / $12 < 0 - 0.03$ Shank Tolerance h6

Work Materials	Carbon Steel etc HRC35以下	Alloy Steel HRC45 Around	Pre-Hardened Steel	Pre-Hardened Steel	Cast Iron	Stainless Steel Titanium Alloy	Heat Resistant Alloy	Copper	Aluminium	Nylon Resin Type
First Choice● 2nd Choice○ 3rd Choice△								●	●	●

High Speed Milling

ap								1.5D	1.5D	1D
ae								0.1D	0.1D	0.5D
1刃当りの送り量/Feed Per Flute								Diameter x 0.015About	Diameter x 0.005About	Diameter x 0.006About
Cutting Speed/周速(Vc)								160-200	250-300	200-300

Recommended For Side Milling

ap								1D	1D	1D
ae								0.5D	0.5D	0.5D
1刃当りの送り量/Feed Per Flute								Diameter x 0.005About	Diameter x 0.006About	Diameter x 0.006About
Cutting Speed/周速(Vc)								100-150	150-250	200-300

Recommended For Slotting & Grooving

ap								0.5D	0.5D	0.5D
ae								1D	1D	1D
1刃当りの送り量/Feed Per Flute								Diameter x 0.005About	Diameter x 0.005About	Diameter x 0.006About
Cutting Speed/周速(Vc)								100-130	150-250	200-300

3538RAL3FHDC Series Model	Diameter	Edge R&C	Shank	Flute Length	Total Length	Neck Dia	Neck Length (Flute Length Included)	Variable Leads	No. of Flutes
T3538-040RAL-12-50-3F-HDC	4		4	12	50			35/37/38°	3
T3538-040RAL-20-50-3F-HDC	4		4	20	50			35/37/38°	3
T3538-060RAL-18-50-3F-HDC	6	0.4C	6	18	50			35/37/38°	3
T3538-060RAL-30-75-3F-HDC	6	0.4C	6	30	75			35/37/38°	3
T3538-080RAL-24-60-3F-HDC	8	0.5C	8	24	60			35/37/38°	3
T3538-080RAL-40-100-3F-HDC	8	0.5C	8	40	100			35/37/38°	3
T3538-100RAL-30-75-3F-HDC	10	0.6C	10	30	75			35/37/38°	3
T3538-100RAL-50-100-3F-HDC	10	0.6C	10	50	100			35/37/38°	3
T3538-120RAL-36-75-3F-HDC	12	0.6C	12	36	75			35/37/38°	3
T3538-120RAL-60-120-3F-HDC	12	0.6C	12	60	120			35/37/38°	3
T3538-140RAL-45-100-3F-HDC	14	0.7C	14	45	100			35/37/38°	3
T3538-140RAL-70-150-3F-HDC	14	0.7C	14	70	150			35/37/38°	3
T3538-160RAL-45-100-3F-HDC	16	0.75C	16	45	100			35/37/38°	3
T3538-160RAL-80-150-3F-HDC	16	0.75C	16	80	150			35/37/38°	3
T3538-180RAL-45-100-3F-HDC	18	1C	18	45	100			35/37/38°	3
T3538-180RAL-55-150-3F-HDC	18	1C	18	55	150			35/37/38°	3
T3538-180RAL-72-150-3F-HDC	18	1C	18	72	150			35/37/38°	3
T3538-200RAL-45-100-3F-HDC	20	1C	20	45	100			35/37/38°	3
T3538-200RAL-60-150-3F-HDC	20	1C	20	60	150			35/37/38°	3
T3538-200RAL-80-150-3F-HDC	20	1C	20	80	150			35/37/38°	3

Diameter Tolerance $12 \geq 0 - 0.02$ / $12 < 0 - 0.03$ Shank Tolerance h6 /// ID55RAL3FDLC1 Seriesの刃型更新タイプです。ハイクラスの水素フリーDLCコーティングを装着、不等リード不等分割の防振機能を兼ねそろえた Aluminium用ラフィングエンドミル。滑り性と表面硬度を上げ安価でありながらハイクラスのエンドミルに仕上がったコンセプトです。A roughing end mill for Aluminum that is equipped with a high-class hydrogen-free DLC coating and has an anti-vibration function for unequal leads and unequal divisions. It is a concept that improves slipperiness and surface hardness and finishes it as a high-class end mill while being inexpensive.