

# NPN

New Product News



## SLIK SOLID

UHP 4 Solid Carbide End Mills  
with the New **TT5520** Grade



## KEY POINT

**TaeguTec introduces a new family of solid carbide end mills, UHP 4 type with the new TT5520 grade, under the brand SLIK-SOLID.**

SLIK-SOLID is a new solid end mill line with dramatically improved performance and tool life based on TaeguTec's outstanding technology.

The SLIK-SOLID line introduces the UHP 4 type solid end mills with improved chip gullets and flute geometries for smoother chip evacuation. The UHP 4 features smooth and excellent machinability by applying unequal spacing of the cutting edges and optimized helix angles. The new end mills reduce vibrations under demanding machining conditions with high cutting loads.

The new product achieves better surface finish in shoulder machining under higher cutting conditions, and stable machining, without tool breakage, even in full slotting of 1xD or higher.

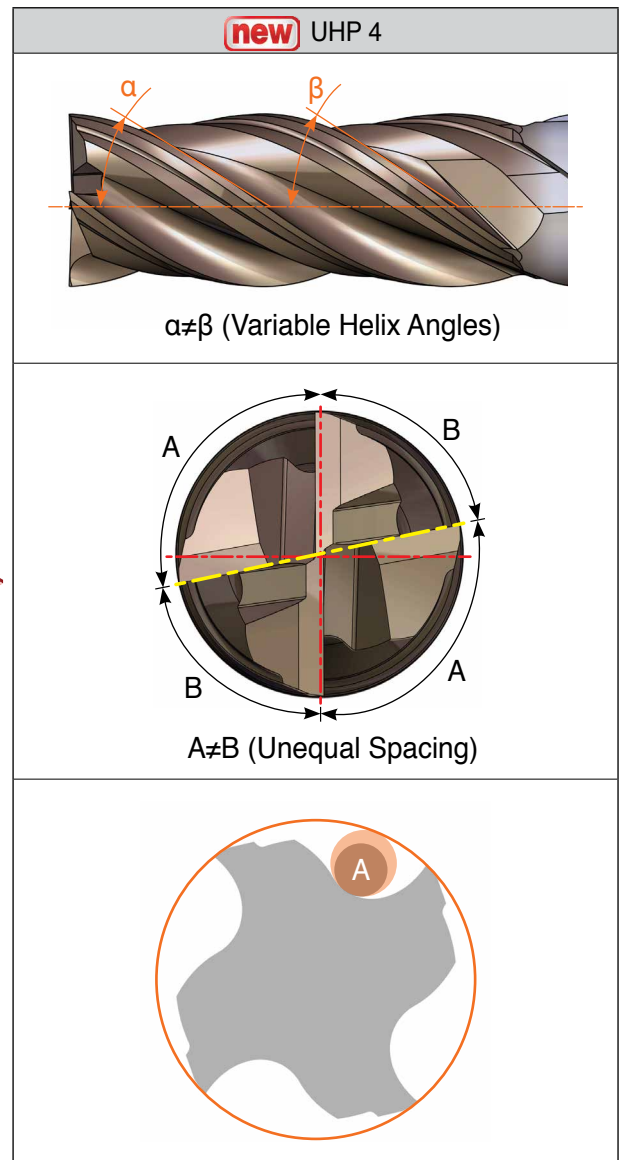
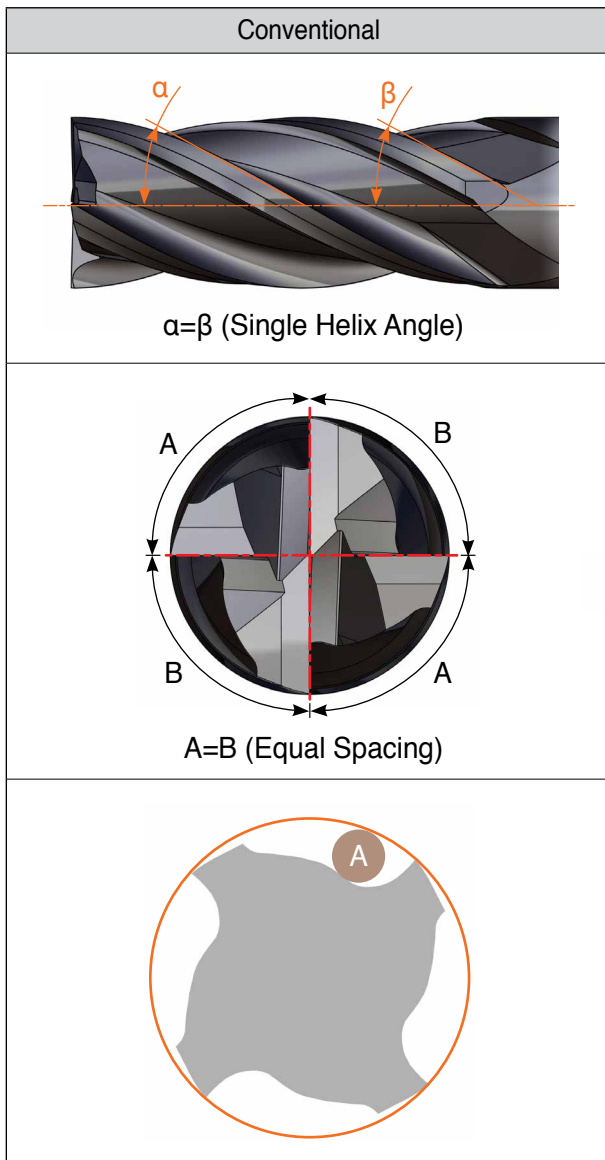
In addition, the new UHP 4 line's TT5520 PVD coating means improved tool life for the machining of heat-resistant super alloys and steels including alloy, carbon as well as stainless. TaeguTec recommends replacing the TSE 4 and HES 4 products with the new UHP 4.

For more information, please contact the product manager.

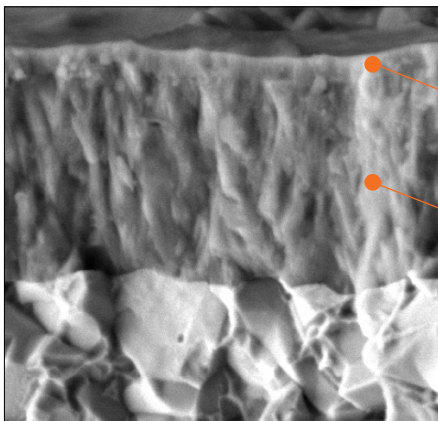
### Features

- Optimized variable helix angles
  - Smooth and stable cutting
- Unequal spacing of cutting edges
  - Reduced vibration and improved surface finish in shoulder milling
- Improved chip gullets and flute geometries
  - Improved stability under higher cutting conditions
  - Excellent chip evacuation
- New TT5520 PVD coated grade
  - Suitable for machining of steels including alloy, carbon, mold as well as stainless
  - Increased tool life

## **new** UHP 4 Design Features



## **new** TT5520 Grade Features



Anti-abrasion and chipping resistant PVD coated layer

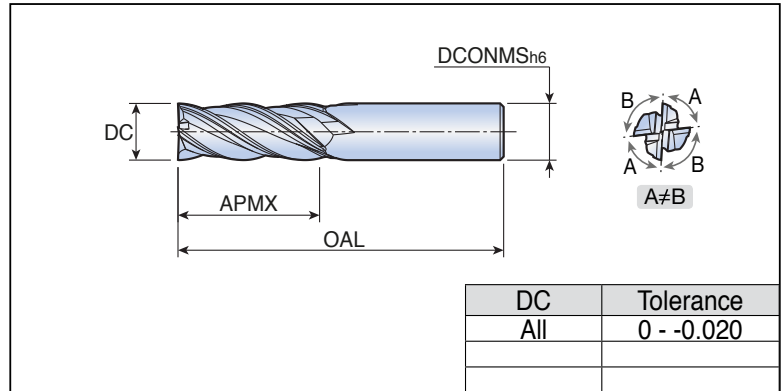
Single direction crystal aligned AlCrN layer

- Excellent abrasion resistance with sub-micron substrate
- Anti-abrasion and oxidation resistant PVD AlCrN coated layer

## UHP 4



4 flute medium flat



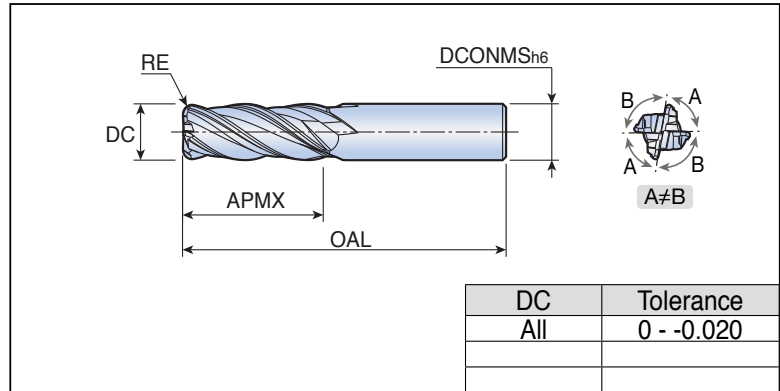
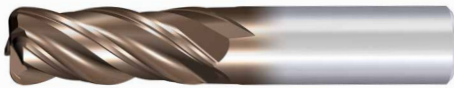
Designation	Feed (mm/tooth)	Dimension (mm)				Grades
		DC	OAL	APMX	DCONMS	TT5520
<b>UHP 4020X6X42</b>	0.010-0.015	2.0	42	6	6.0	●
<b>4030X10X57</b>	0.010-0.020	3.0	57	10	6.0	●
<b>4040X12X57</b>	0.010-0.035	4.0	57	12	6.0	●
<b>4040X20X70</b>	0.010-0.025	4.0	70	20	6.0	●
<b>4050X14X57</b>	0.015-0.040	5.0	57	14	6.0	●
<b>4060X16X57</b>	0.020-0.060	6.0	57	16	6.0	●
<b>4060X25X80</b>	0.020-0.050	6.0	80	25	6.0	●
<b>4070X20X63</b>	0.020-0.070	7.0	63	20	8.0	●
<b>4080X20X63</b>	0.020-0.080	8.0	63	20	8.0	●
<b>4080X35X90</b>	0.020-0.060	8.0	90	35	8.0	●
<b>4090X25X72</b>	0.025-0.090	9.0	72	25	10.0	●
<b>4100X25X72</b>	0.025-0.100	10.0	72	25	10.0	●
<b>4100X45X100</b>	0.025-0.080	10.0	100	45	10.0	●
<b>4110X30X83</b>	0.030-0.110	11.0	83	30	12.0	●
<b>4120X30X83</b>	0.030-0.130	12.0	83	30	12.0	●
<b>4120X55X110</b>	0.030-0.100	12.0	110	55	12.0	●
<b>4140X40X92</b>	0.030-0.120	14.0	92	40	16.0	●
<b>4160X40X92</b>	0.040-0.140	16.0	92	40	16.0	●
<b>4160X70X125</b>	0.040-0.100	16.0	125	70	16.0	●
<b>4180X45X110</b>	0.040-0.140	18.0	110	45	20.0	●
<b>4200X45X110</b>	0.050-0.140	20.0	110	45	20.0	●
<b>4200X75X150</b>	0.050-0.120	20.0	150	75	20.0	●
<b>4250X65X140</b>	0.060-0.140	25.0	140	65	25.0	●

●: Standard items

## UHP 4...R

**SLIKSOLID**

4 flute medium corner radius



Designation	Feed (mm/tooth)	Dimension (mm)					Grades TT5520
		DC	RE	OAL	APMX	DCONMS	
<b>UHP 4030X10X57R0.3</b>	0.010-0.020	3.0	0.3	57	10	6.0	●
<b>4030X10X57R0.5</b>	0.010-0.020	3.0	0.5	57	10	6.0	●
<b>4040X12X57R0.3</b>	0.010-0.035	4.0	0.3	57	12	6.0	●
<b>4040X12X57R0.5</b>	0.010-0.035	4.0	0.5	57	12	6.0	●
<b>4040X12X57R1.0</b>	0.010-0.035	4.0	1.0	57	12	6.0	●
<b>4050X14X57R0.3</b>	0.015-0.040	5.0	0.3	57	14	6.0	●
<b>4060X16X57R0.5</b>	0.020-0.060	6.0	0.5	57	16	6.0	●
<b>4060X16X57R1.0</b>	0.020-0.060	6.0	1.0	57	16	6.0	●
<b>4080X20X63R0.5</b>	0.020-0.080	8.0	0.5	63	20	8.0	●
<b>4080X20X63R1.0</b>	0.020-0.080	8.0	1.0	63	20	8.0	●
<b>4080X20X63R2.0</b>	0.020-0.080	8.0	2.0	63	20	8.0	●
<b>4100X25X72R0.5</b>	0.025-0.100	10.0	0.5	72	25	10.0	●
<b>4100X25X72R1.0</b>	0.025-0.100	10.0	1.0	72	25	10.0	●
<b>4100X25X72R2.0</b>	0.025-0.100	10.0	2.0	72	25	10.0	●
<b>4100X25X72R3.0</b>	0.025-0.100	10.0	3.0	72	25	10.0	●
<b>4120X30X83R0.5</b>	0.030-0.130	12.0	0.5	83	30	12.0	●
<b>4120X30X83R1.0</b>	0.030-0.130	12.0	1.0	83	30	12.0	●
<b>4120X30X83R2.0</b>	0.030-0.130	12.0	2.0	83	30	12.0	●
<b>4120X30X83R3.0</b>	0.030-0.130	12.0	3.0	83	30	12.0	●
<b>4160X40X92R0.5</b>	0.040-0.140	16.0	0.5	92	40	16.0	●
<b>4160X40X92R1.0</b>	0.040-0.140	16.0	1.0	92	40	16.0	●
<b>4160X40X92R3.0</b>	0.040-0.140	16.0	3.0	92	40	16.0	●
<b>4200X45X110R0.5</b>	0.050-0.140	20.0	0.5	110	45	20.0	●
<b>4200X45X110R3.0</b>	0.050-0.140	20.0	3.0	110	45	20.0	●

●: Standard items

## Recommended Cutting Conditions

### ■ Side milling

Material	Ap	Ae	Speed V(m/min)	f (mm/tooth)						
				Ø4	Ø6	Ø8	Ø10	Ø12	Ø16	Ø20
Alloy steel (≤HRC40)	1D	0.5D Max	80-120	0.015-	0.030-	0.035-	0.040-	0.050-	0.060-	0.070-
	2D	0.3D Max		0.030	0.060	0.065	0.080	0.090	0.100	0.120
Hardend steel (≥HRC40)	1D	0.3D Max	50-120	0.015-	0.025-	0.030-	0.035-	0.040-	0.050-	0.060-
	2D	0.1D Max		0.020	0.035	0.045	0.055	0.060	0.070	0.080
Stainless steel	1D	0.3D Max	50-120	0.015-	0.025-	0.035-	0.030-	0.050-	0.060-	0.070-
	2D	0.1D Max		0.025	0.040	0.055	0.060	0.075	0.090	0.100
Cast iron	1D	0.5D Max	50-150	0.015-	0.030-	0.035-	0.040-	0.050-	0.060-	0.070-
	2D	0.3D Max		0.030	0.060	0.065	0.080	0.090	0.100	0.120

### ■ Slot milling

Material	Ap	Speed V(m/min)	f (mm/tooth)						
			Ø4	Ø6	Ø8	Ø10	Ø12	Ø16	Ø20
Alloy steel (≤HRC40)	1D Max	50-120	0.010- 0.020	0.025- 0.040	0.025- 0.045	0.030- 0.065	0.040- 0.070	0.050- 0.080	0.060- 0.090
Hardend steel (≥HRC40)	0.5D Max	50-100	0.010- 0.015	0.020- 0.030	0.020- 0.035	0.025- 0.040	0.030- 0.045	0.040- 0.050	0.050- 0.060
Stainless steel	1D Max	50-80	0.010- 0.020	0.025- 0.040	0.025- 0.045	0.025- 0.035	0.040- 0.070	0.050- 0.080	0.060- 0.090
Cast iron	1D Max	50-120	0.010- 0.020	0.025- 0.040	0.025- 0.045	0.030- 0.065	0.040- 0.070	0.050- 0.080	0.060- 0.090