

# NEW PRODUCT NEWS



Tungaloy Report No. 561-G

Grades for small parts machining

# SH7025

**SUPERIOR SURFACE QUALITY AND PROCESS  
SECURITY IN SMALL PART MACHINING**



# NEW PRODUCT NEWS



Tungaloy Report No. 561-G



Grades for small parts machining

## SH7025



Cutting edge sharpness is maintained over a long period of time,  
providing light cutting and excellent surface finish

## SH7025

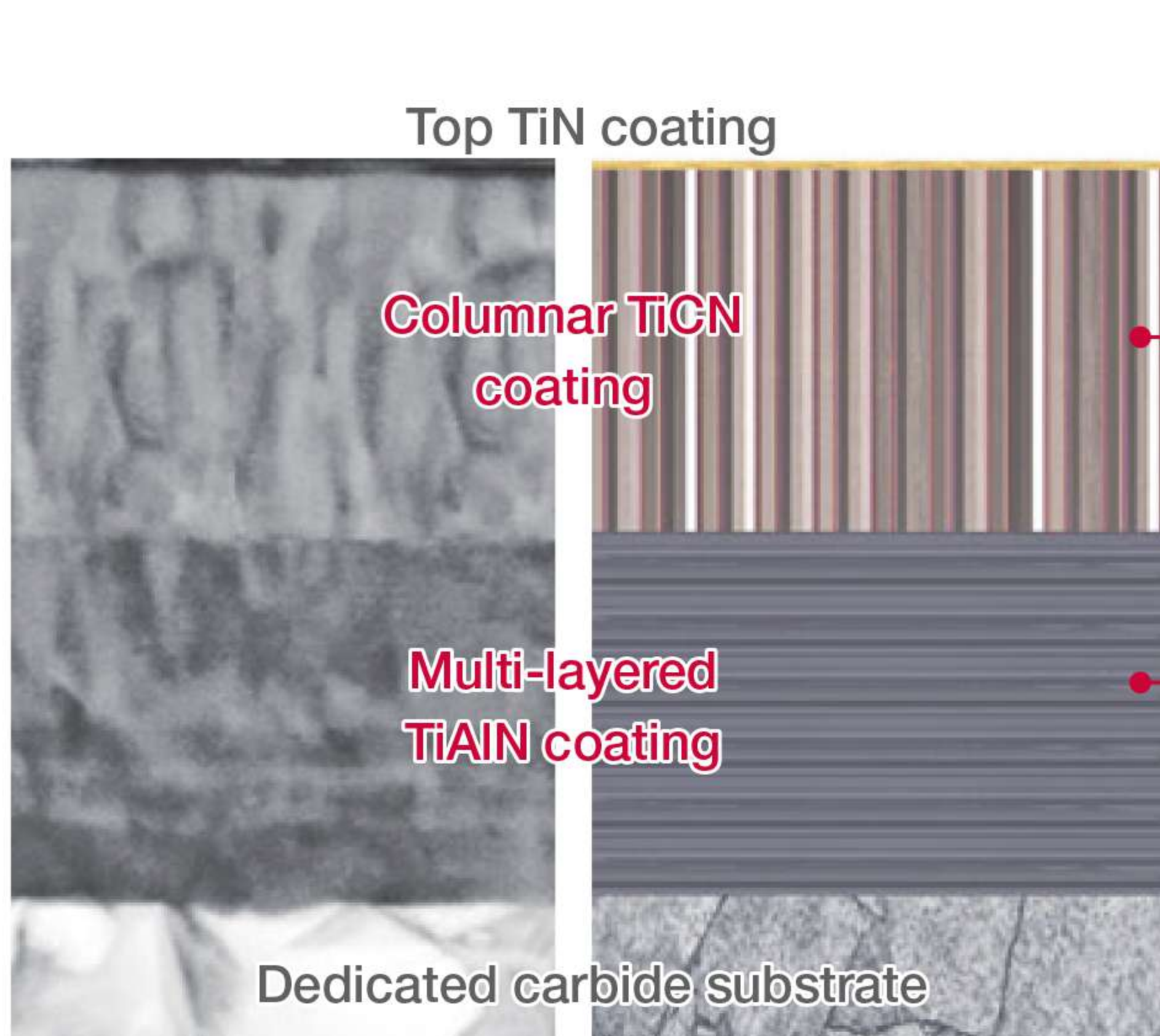
### New insert grade for high surface quality



## SH7025

- The latest grade with sharp cutting edge designed for small part machining.
- A combination of a columnar-structured TiCN coating and multilayered TiAlN coating provides superior surface quality and process security.

Designed to prevent built-up edge, wear, and edge chipping, SH7025 provides long, predictable tool life and superior surface quality



The image shows two cross-sectional views of the SH7025 coating structure. The left view is a micrograph showing the layered structure, and the right view is a schematic diagram. The layers from top to bottom are: Top TiN coating, Columnar TiCN coating, Multi-layered TiAlN coating, and Dedicated carbide substrate. Three numbered callouts point to specific features:

- 1 For high surface quality**  
Built-up edge resistant TiCN coating improves surface finish quality.
- 2 For extremely long tool life**  
Wear-resistant columnar-structured TiCN coating ensures long tool life.
- 3 For superior process security**  
Chipping-resistant multi-layered TiAlN coating provides process security.

Cross sectional micrograph      Cross sectional image

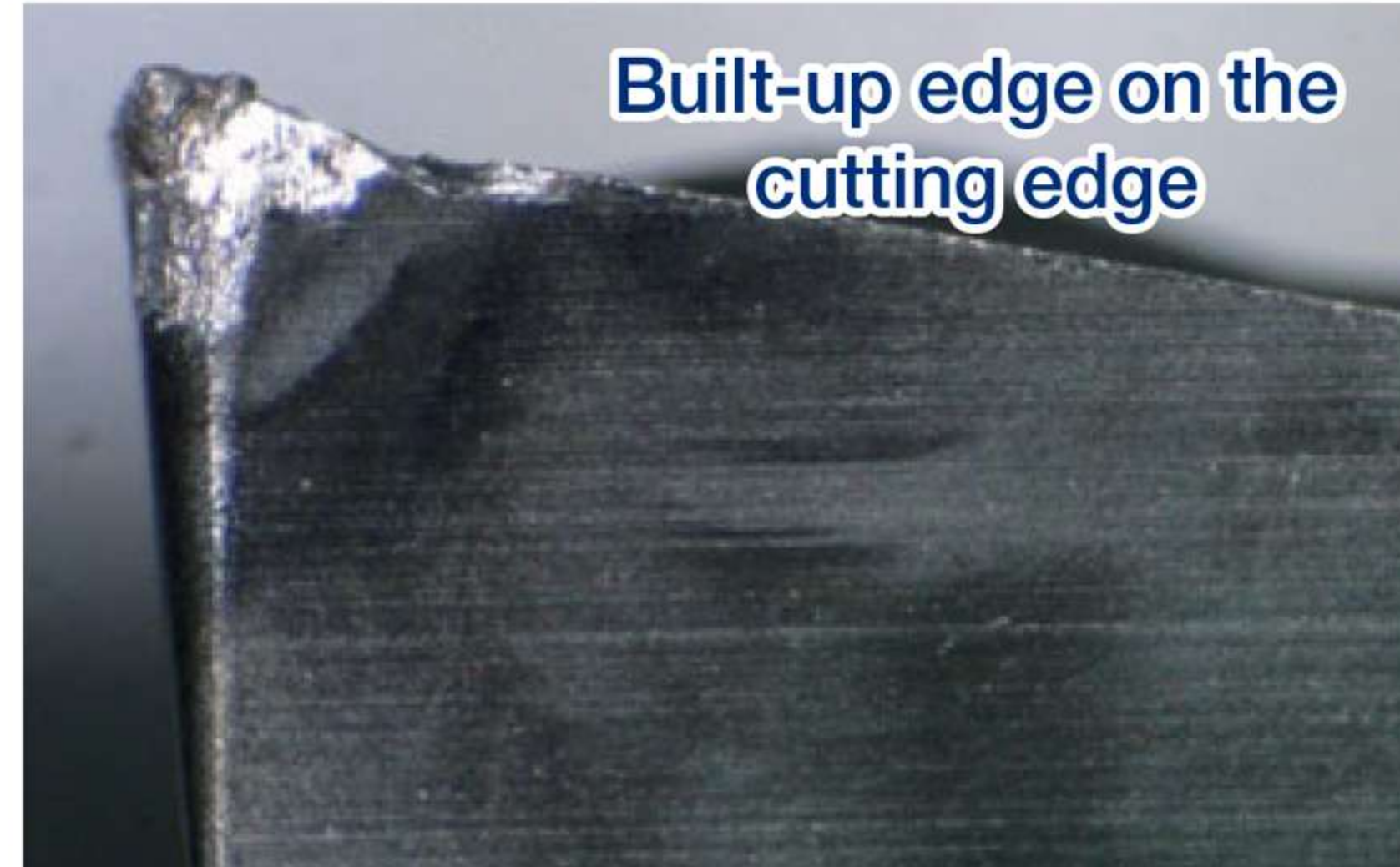
## Tungaloy Report No. 561-G

### 1 For high surface quality

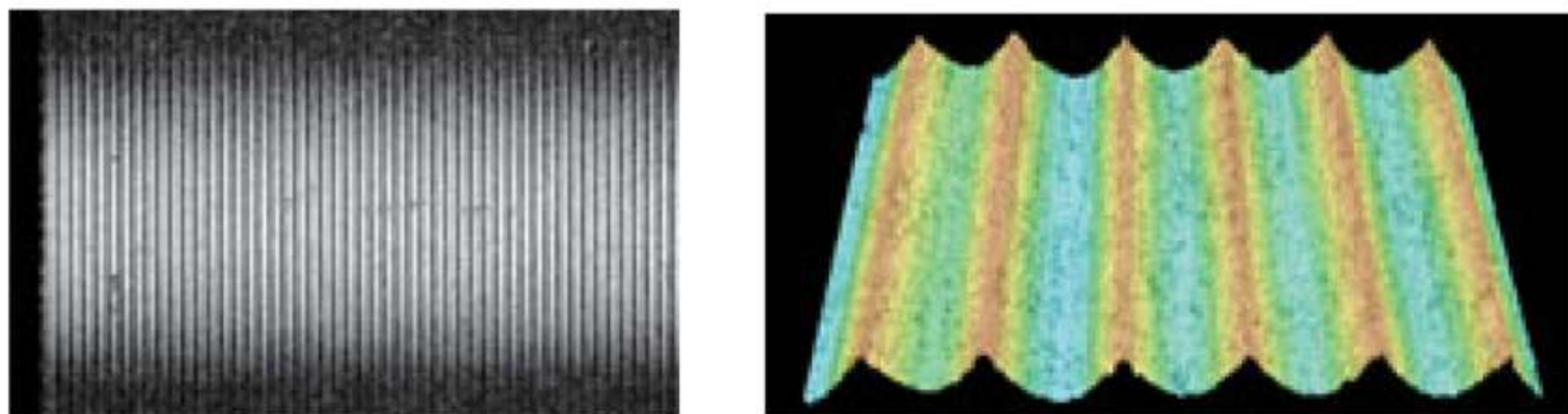
Built-up edge resistant TiCN coating improves surface finish quality

**SH7025**

Conventional



O.D. surface quality



Actual image

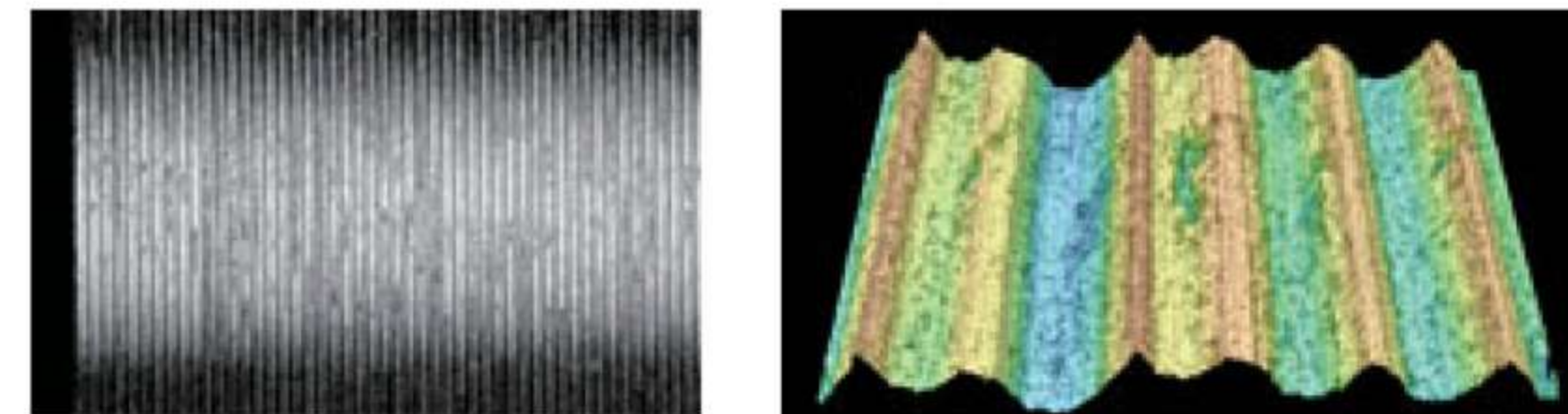
3D surface profile

Surface roughness chart



High quality surface finish!

O.D. surface quality



Actual image

3D surface profile

Surface roughness chart



Poor surface quality due to built-up edge

### 2 Extremely long tool life

Wear-resistant columnar-structured TiCN coating ensures long tool life

**SH7025**

Conventional



Columnar-structured TiCN coating slows wear progression



**Extended tool life**

Maintains excellent surface quality with no part scraps



Rapid flank wear progression



**Poor surface quality, creating a pile of part scraps**

# SH7025

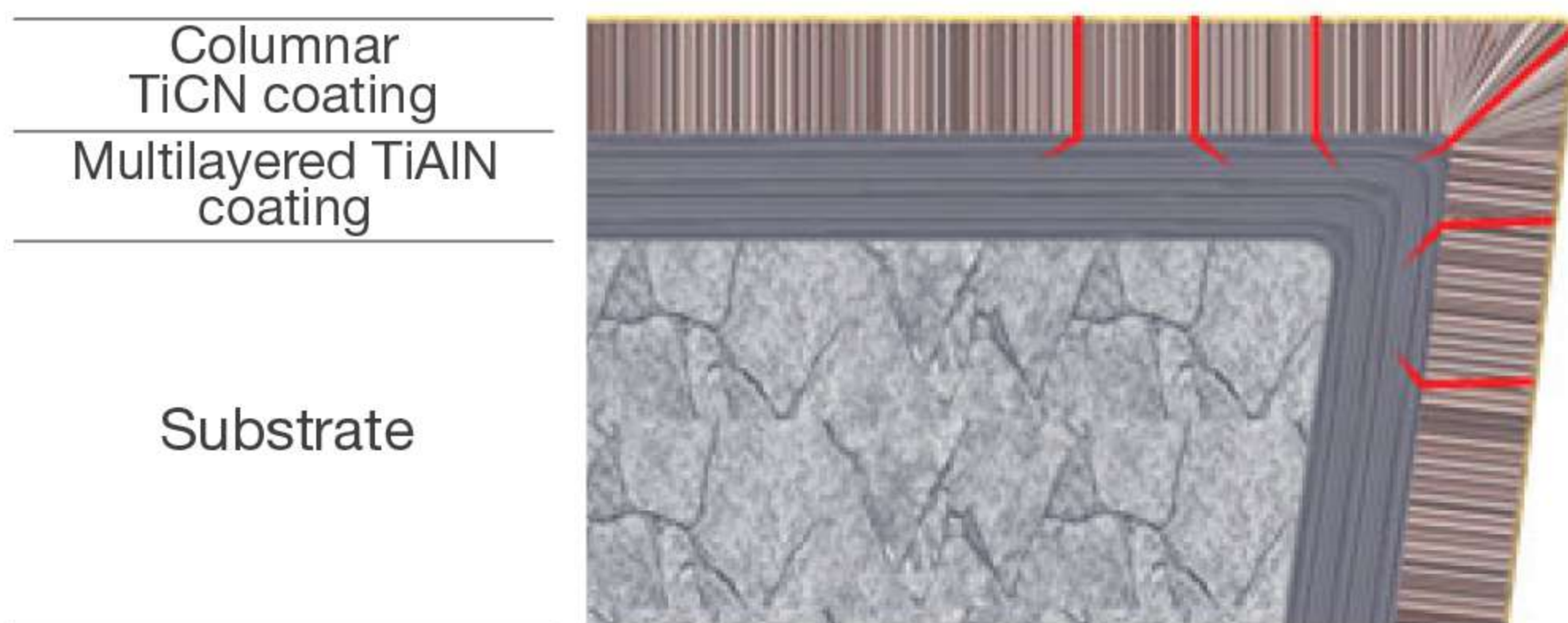
### 3 Superior process security

Chipping-resistant multi-layered TiAlN coating provides process security.

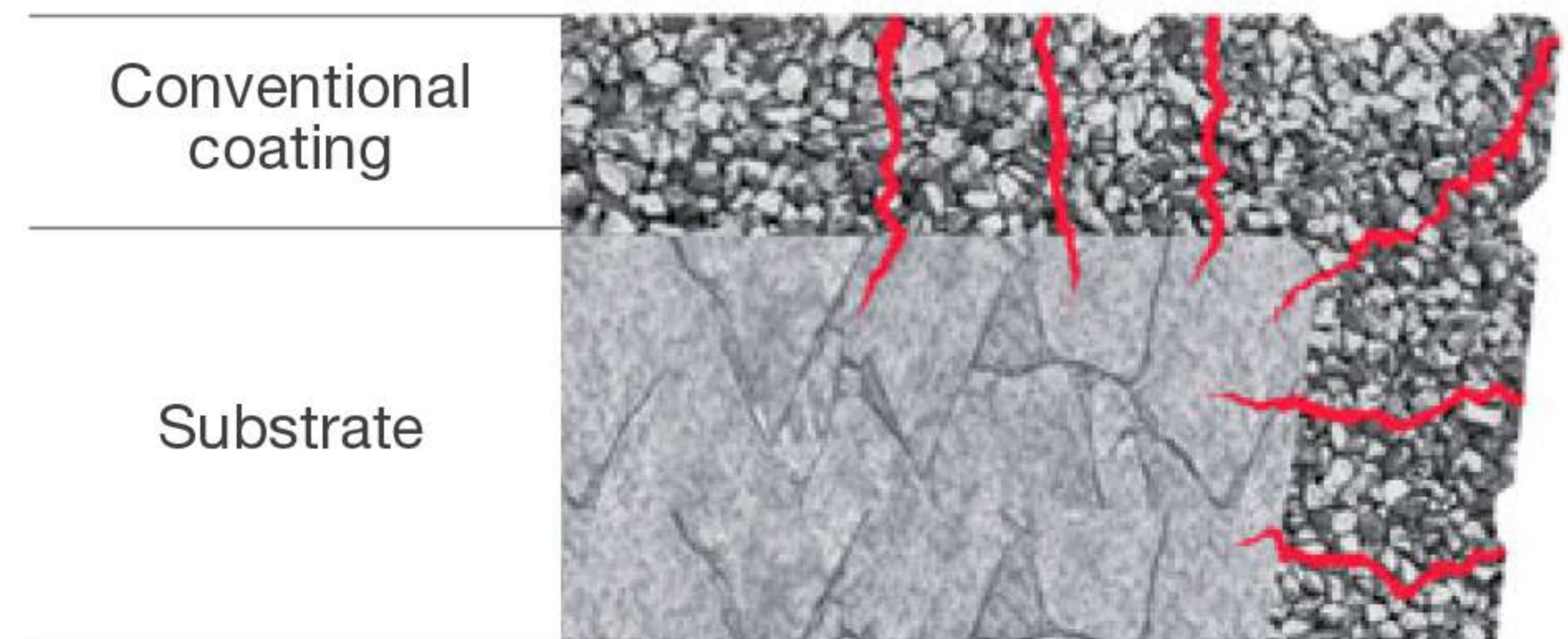
## SH7025

## Conventional

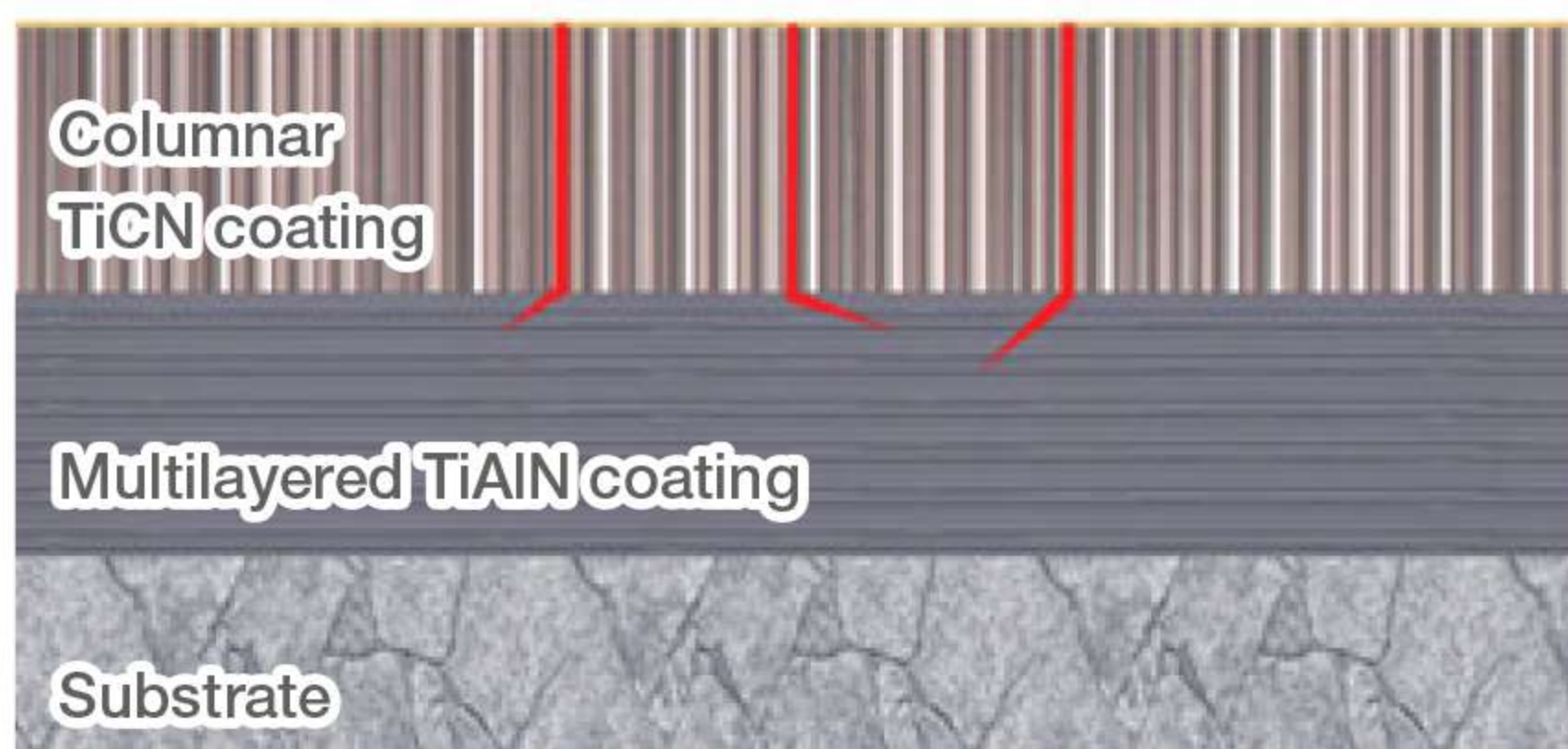
Generations of microcracks



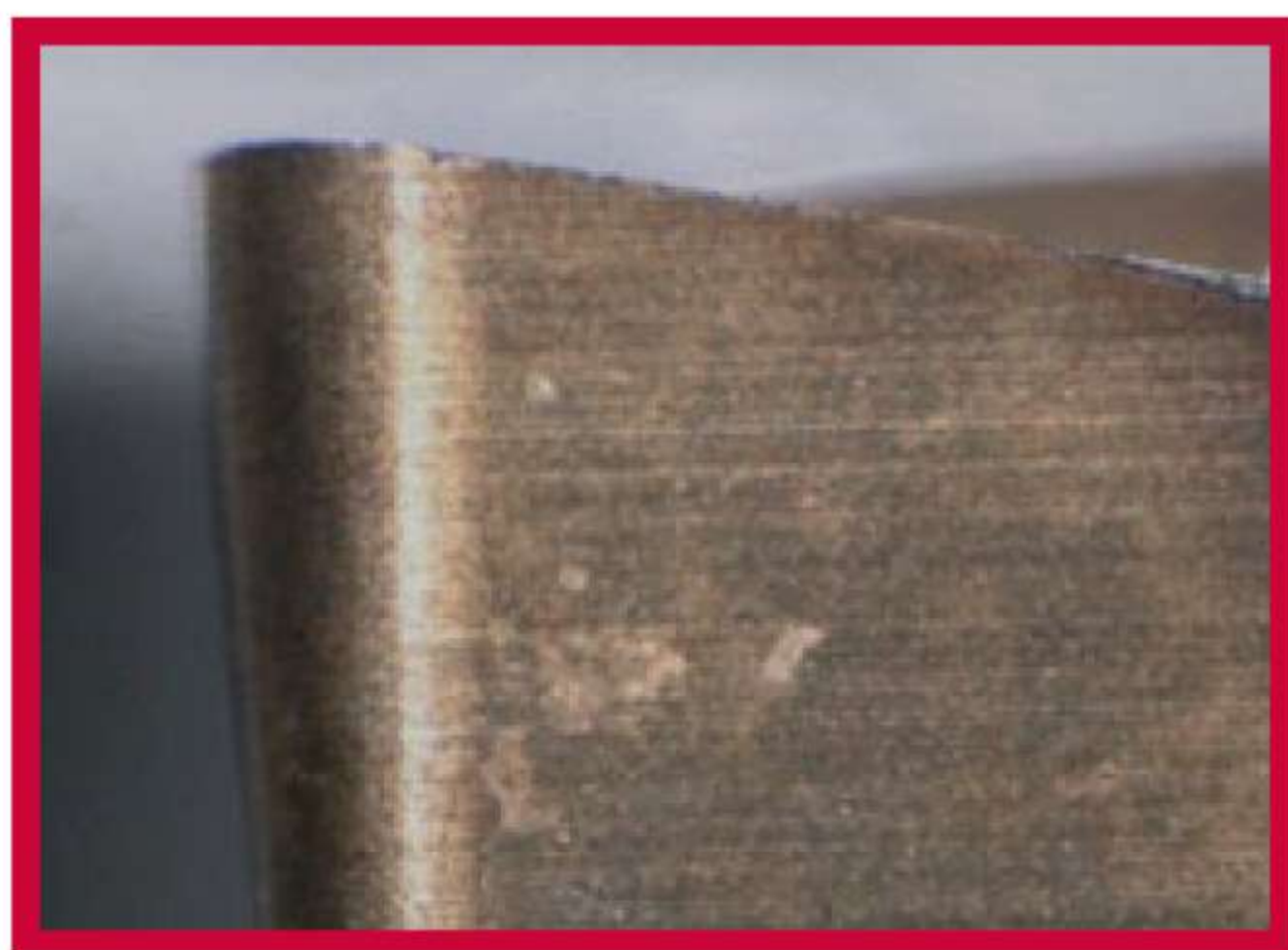
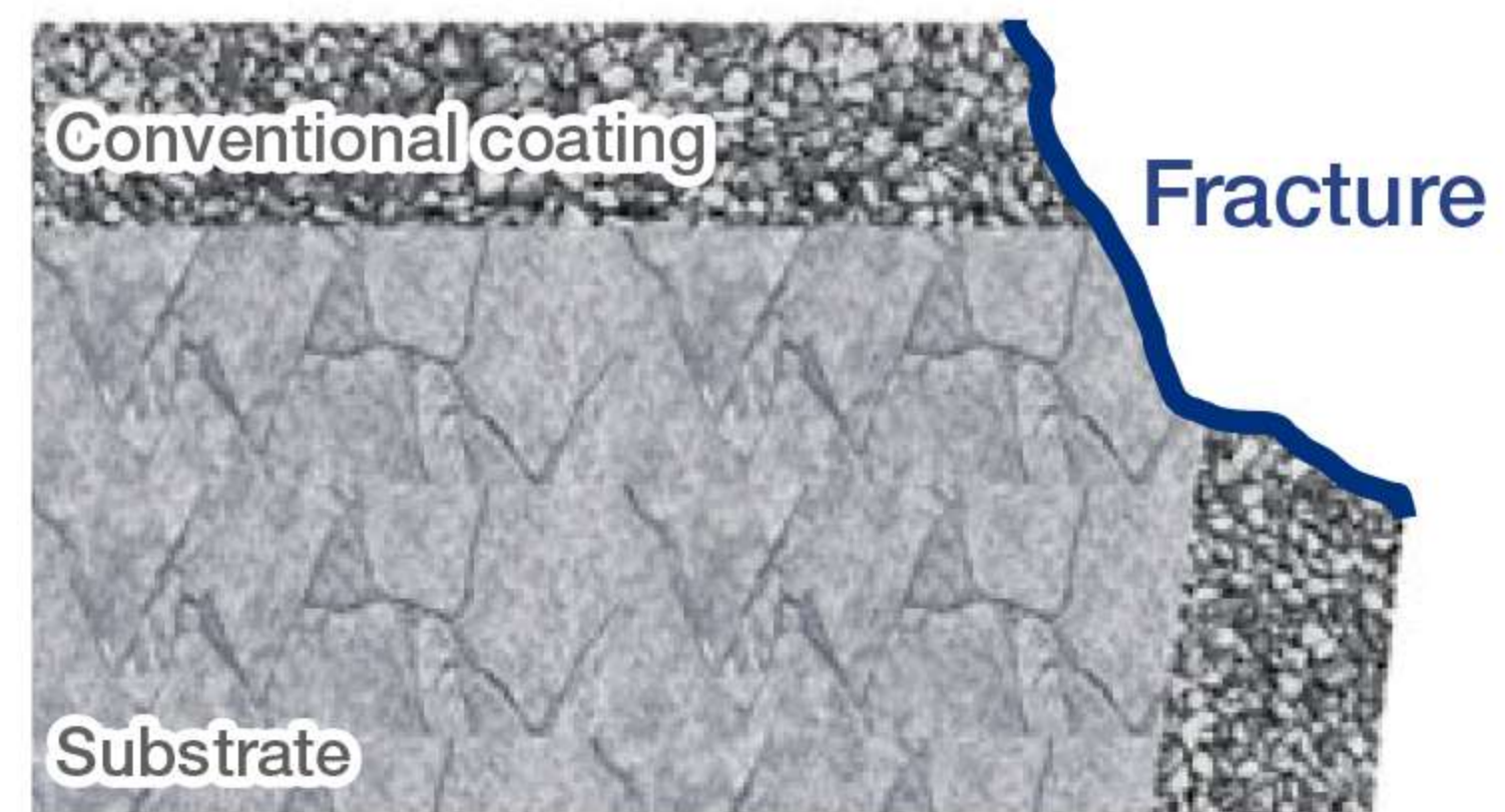
Generations of microcracks



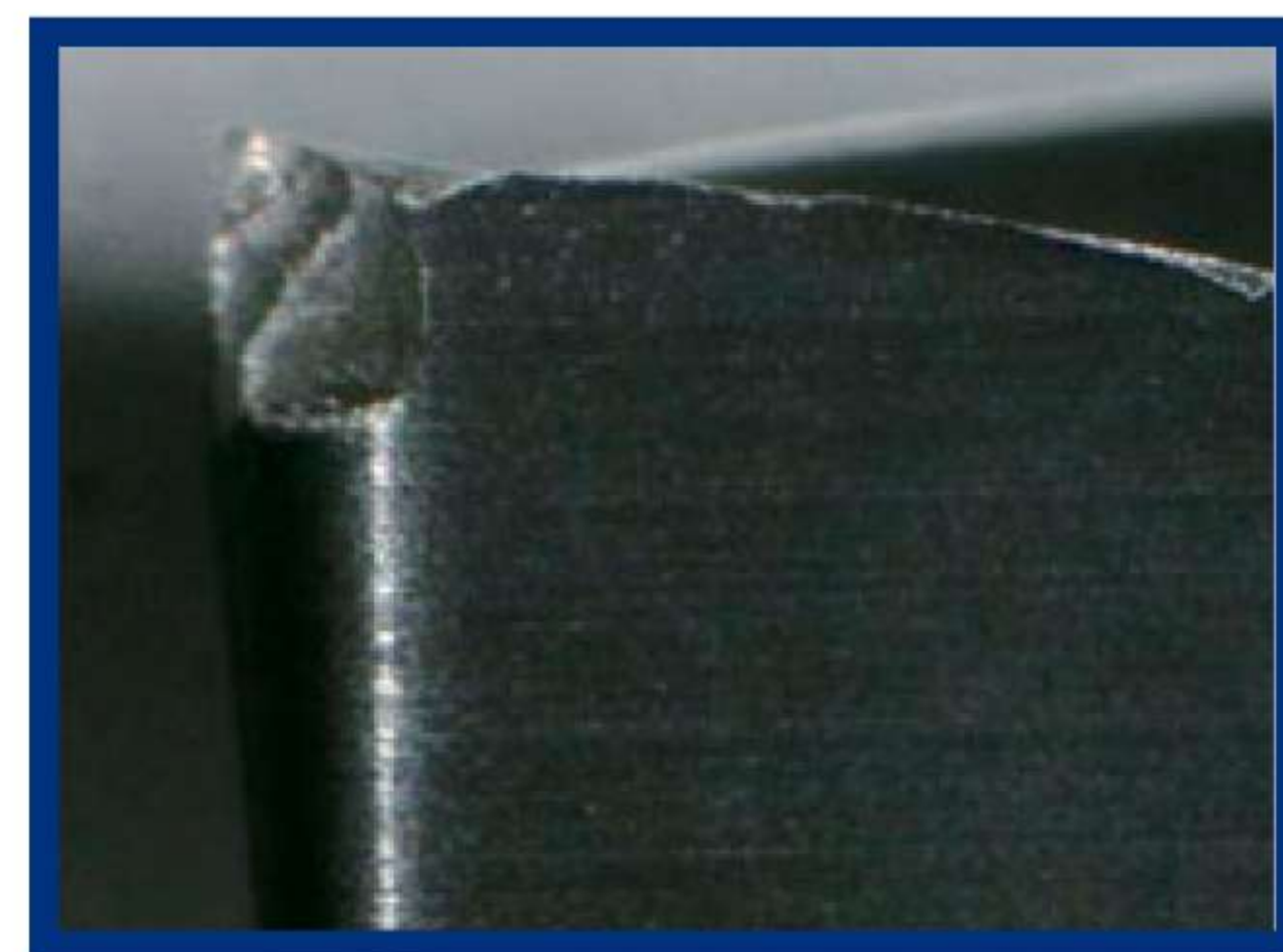
TiAlN coating prevents cracks from further propagation



Crack reaches the substrate causing catastrophic failure



Eliminates fractures and provides security



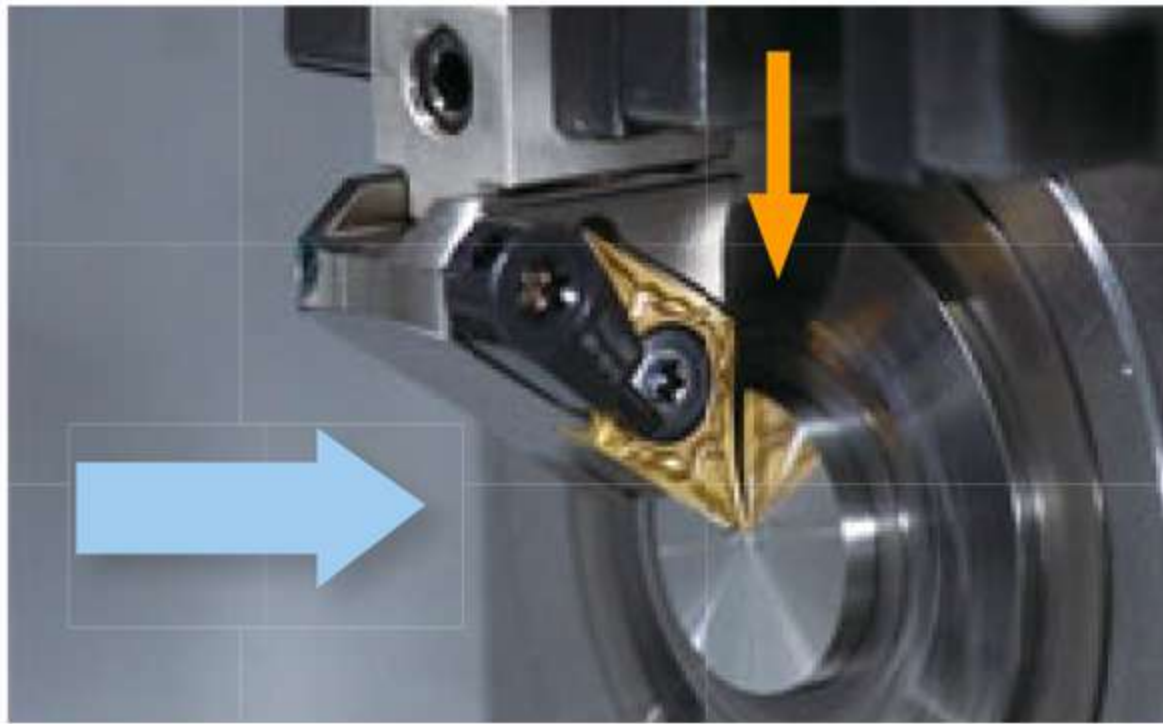
Catastrophic failure

### CUTTING PERFORMANCE

#### 3D surface profiling analysis

#### Face turning

Below images are viewed in this direction



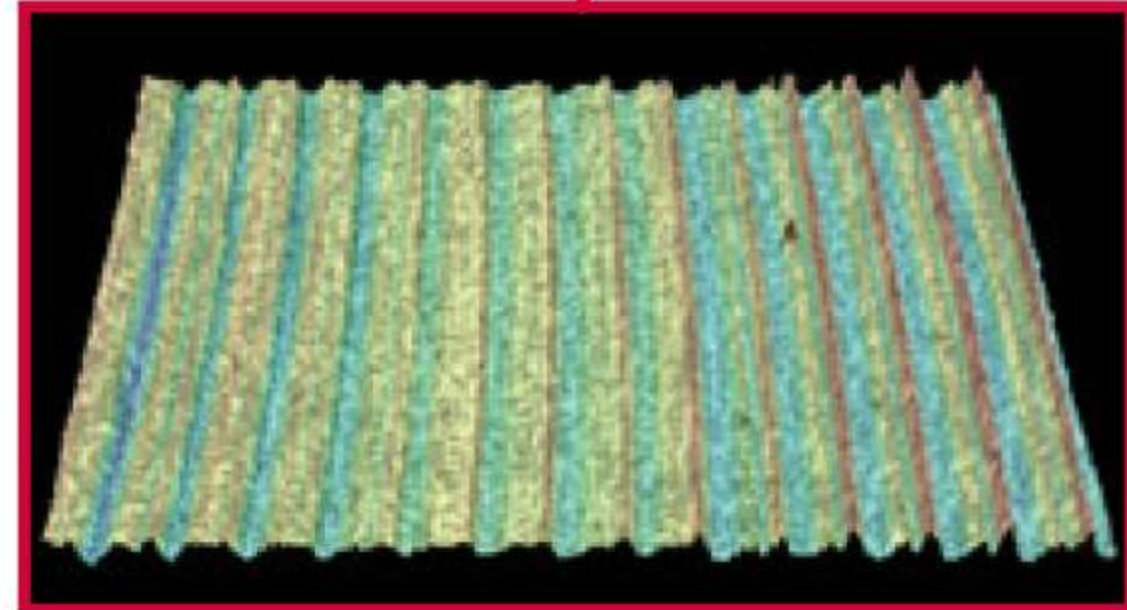
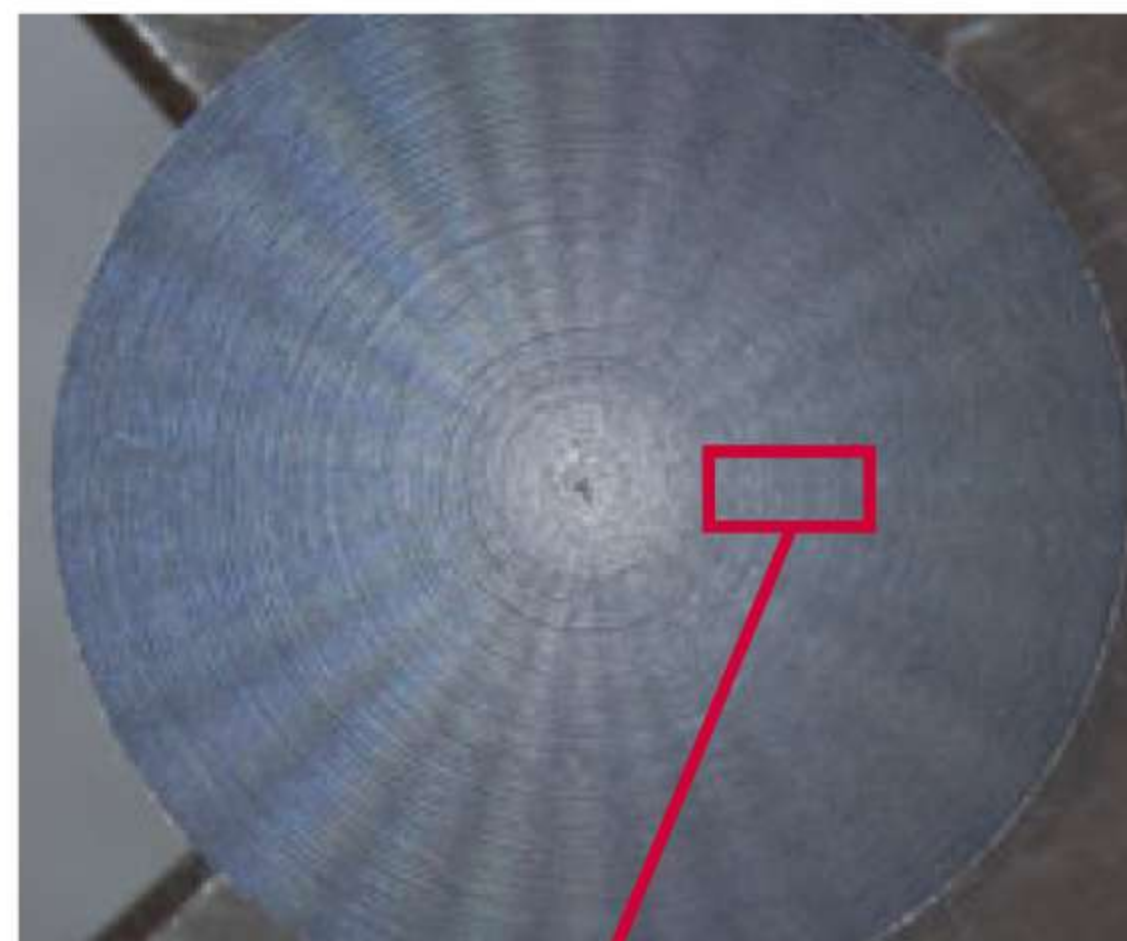
#### Case 1

**P** SUJ2 / 100Cr6

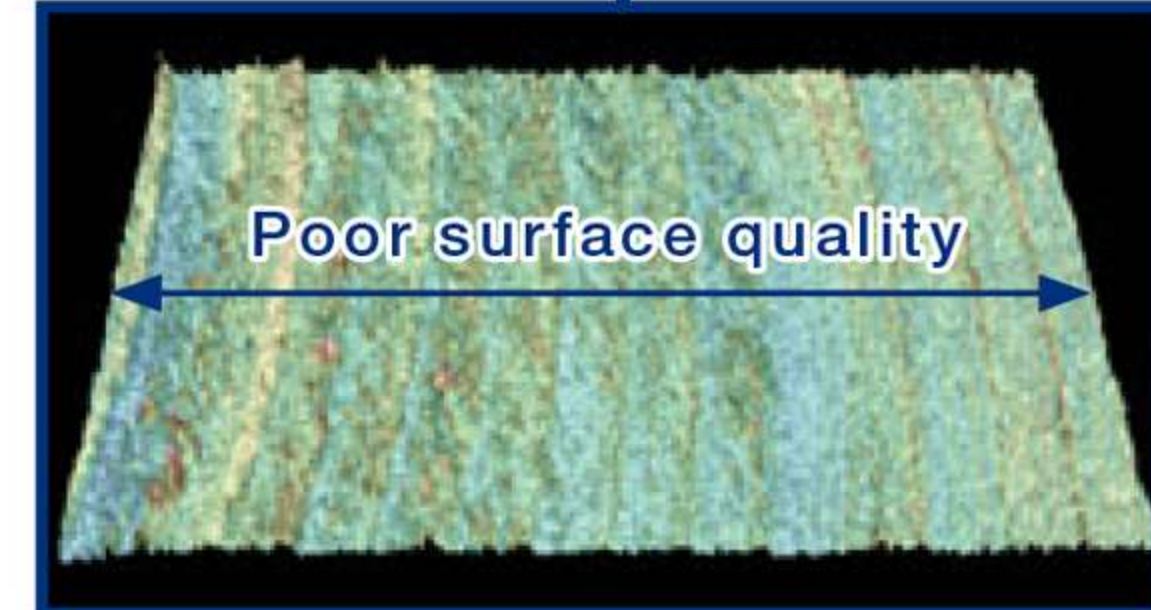
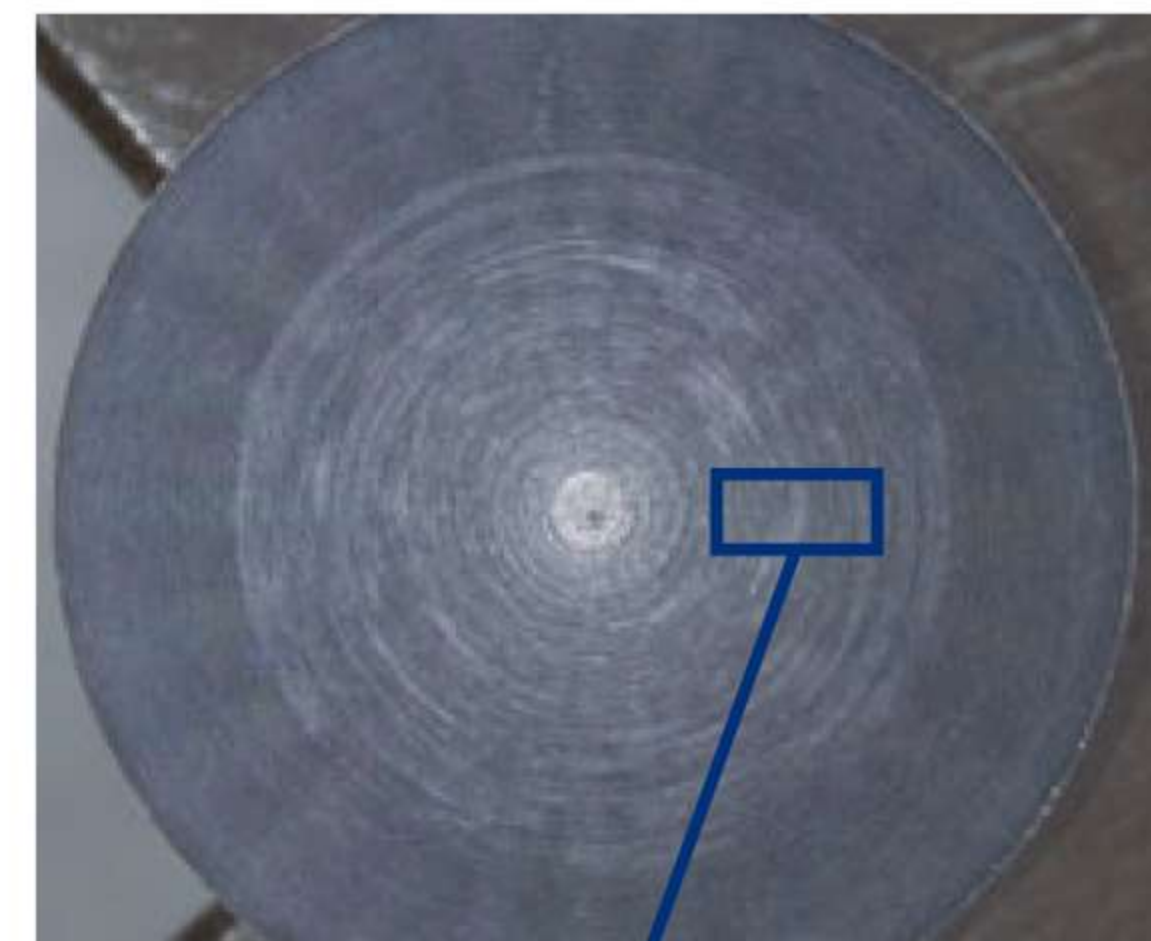
Insert : DCGT11T302 type  
 Cutting speed :  $V_c = 150$  m/min  
 Feed :  $f = 0.05$  mm/rev  
 Depth of cut :  $a_p = 0.3$  mm  
 Coolant : Wet

Provides high quality surface finish

**SH7025**



Conventional



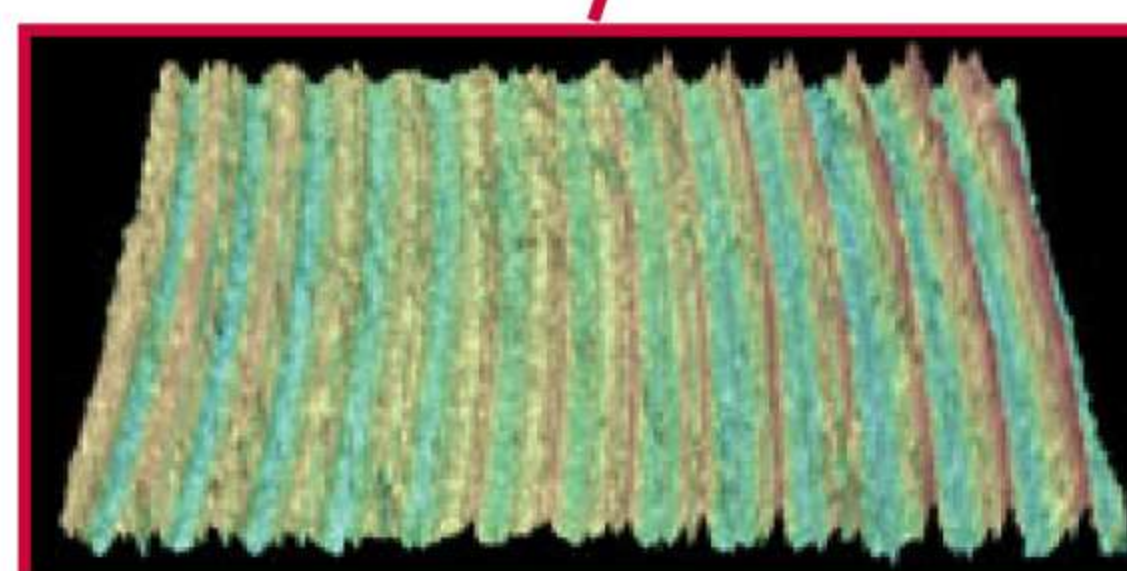
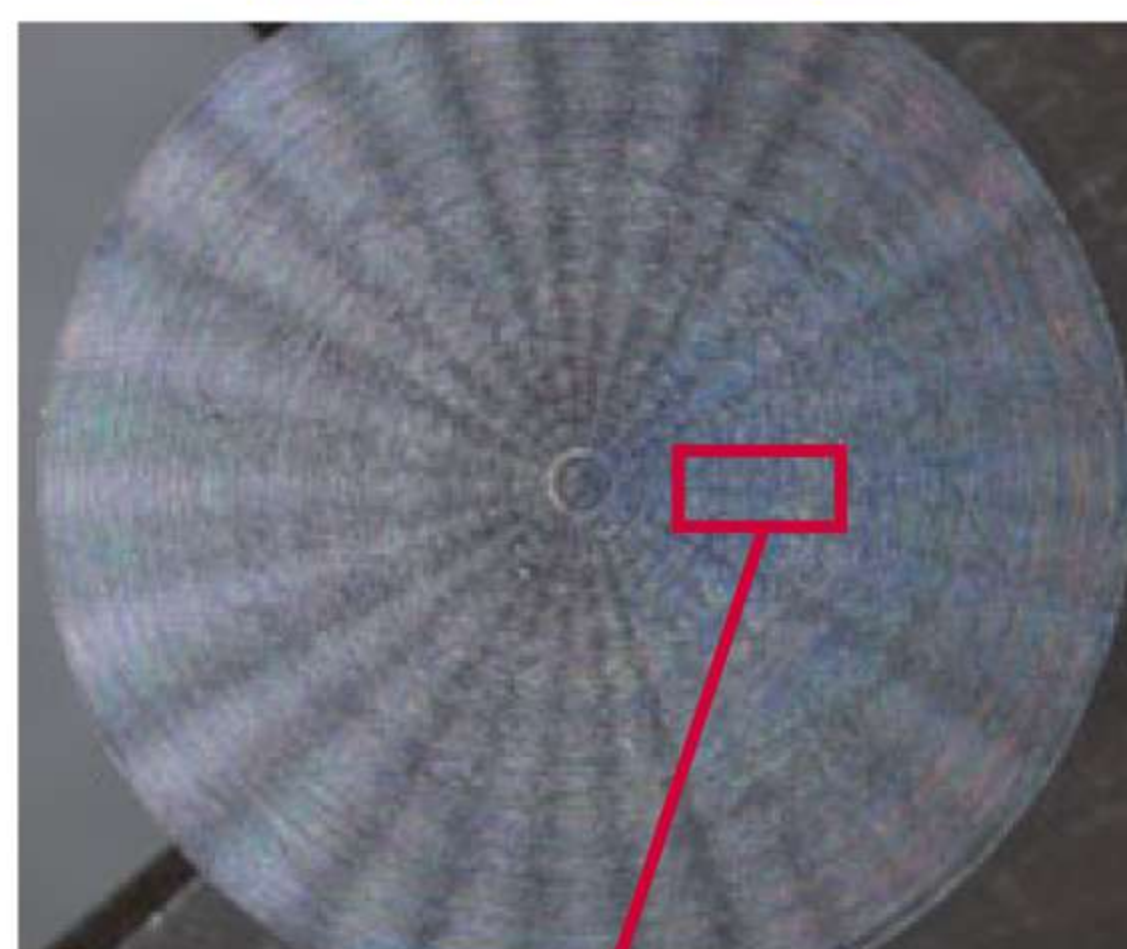
#### Case 2

**M** SUS316L / X2CrNiMo17-12-2

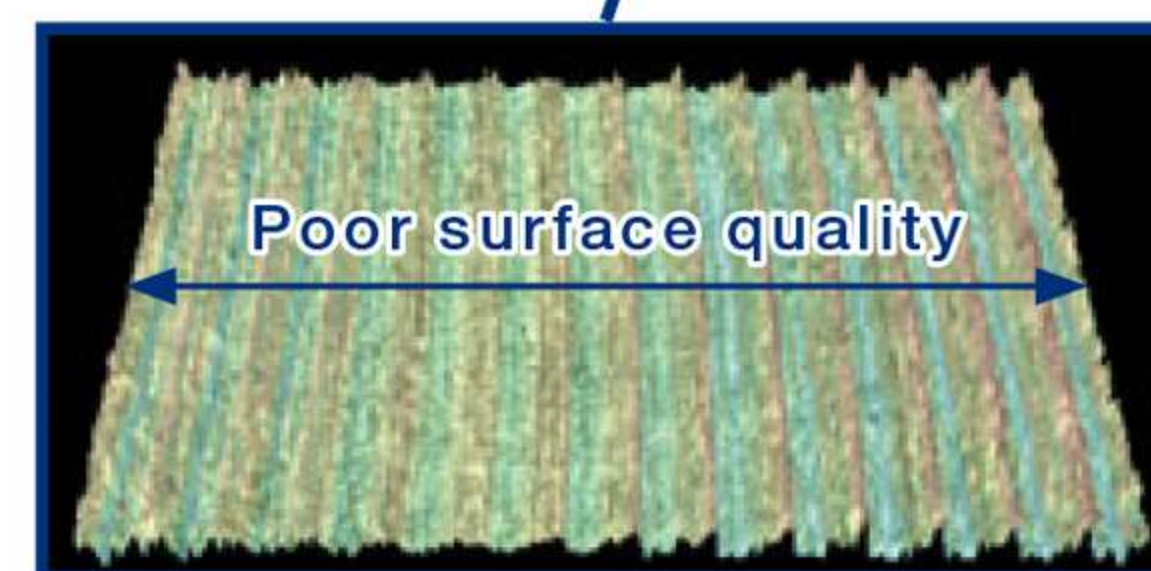
Insert : DCGT11T302 type  
 Cutting speed :  $V_c = 100$  m/min  
 Feed :  $f = 0.05$  mm/rev  
 Depth of cut :  $a_p = 0.3$  mm  
 Coolant : Wet

Provides high quality surface finish

**SH7025**



Conventional



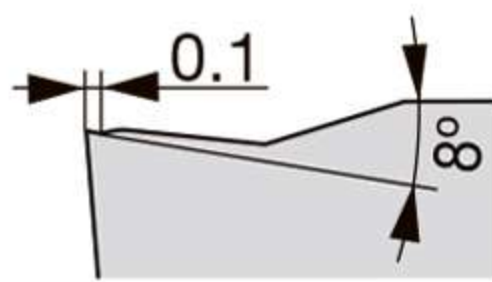
# SH7025

## 3D pressed-in chipbreaker series dedicated for turning small parts

Now available in SH7025 to ensure consistent and reliable chip control

**New**

### JP First choice chipbreaker for high precision finishing



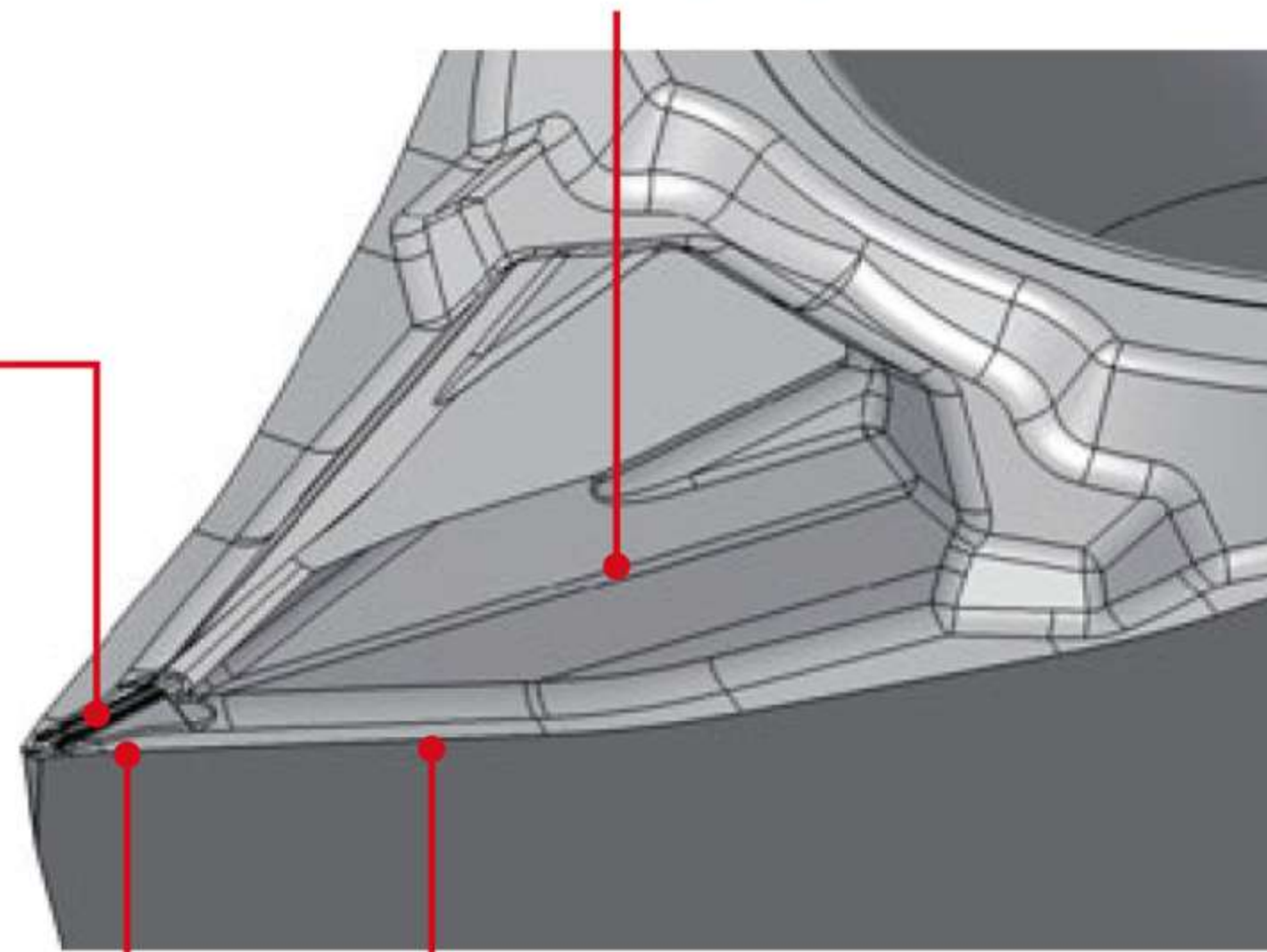
Eliminates chip nesting and other chip-associated issues that impede the shop's productivity and provides stable chip breaking over a wide range of feed rates and D.O.C.

- Effective chip breaking for high part quality
- Versatile geometry designed for a broad application range
- Eliminates burr generation and controls vibration during aggressive D.O.C.

#### Secondary rake with multiple facets

Guides and redirects chips generated during machining at great cutting depths

A protrusion extending towards the nose radius  
Provides excellent chip control in finish to super-finish cutting



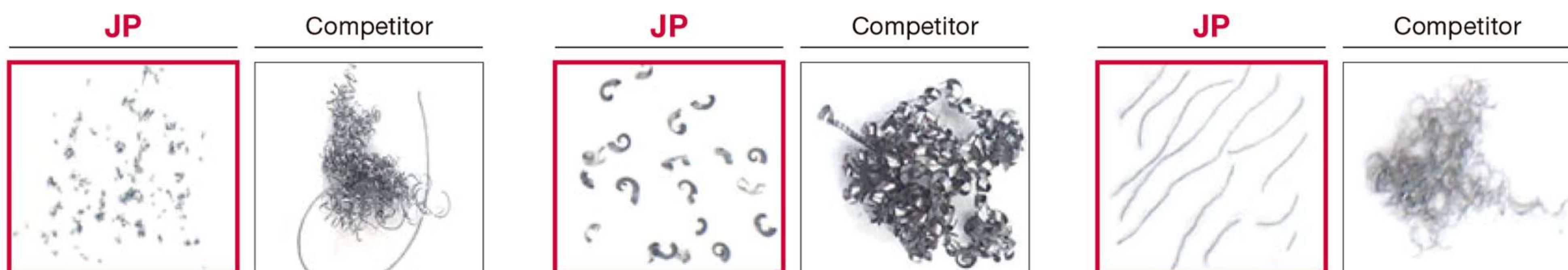
#### Cutting edge with a steep inclination angle

- For better chip evacuation
- For reduced cutting loads

#### Primary rake with variable angles

Controls the generation of burrs and vibration when machining at a maximum cutting depth capability

### ■ Chip control



**P** Insert : DCGT11T301FN-JP  
Workpiece material : S45C / C45  
Cutting speed :  $V_c = 80$  m/min  
Feed :  $f = 0.02$  mm/rev  
Depth of cut :  $a_p = 0.5$  mm  
Coolant : Wet

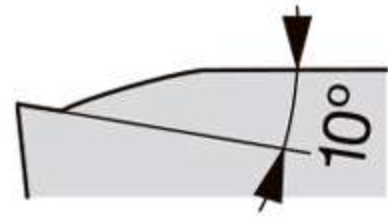
**P** Insert : DCGT11T301FN-JP  
Workpiece material : S45C / C45  
Cutting speed :  $V_c = 80$  m/min  
Feed :  $f = 0.03$  mm/rev  
Depth of cut :  $a_p = 3$  mm  
Coolant : Wet

**M** Insert : DCGT11T301FN-JP  
Workpiece material : SUS304 / X5CrNi18-9  
Cutting speed :  $V_c = 80$  m/min  
Feed :  $f = 0.03$  mm/rev  
Depth of cut :  $a_p = 0.05$  mm  
Coolant : Wet

JP chipbreaker provides superior chip control over a broad range of applications from super-finishing with light D.O.C. to aggressive cutting depth.



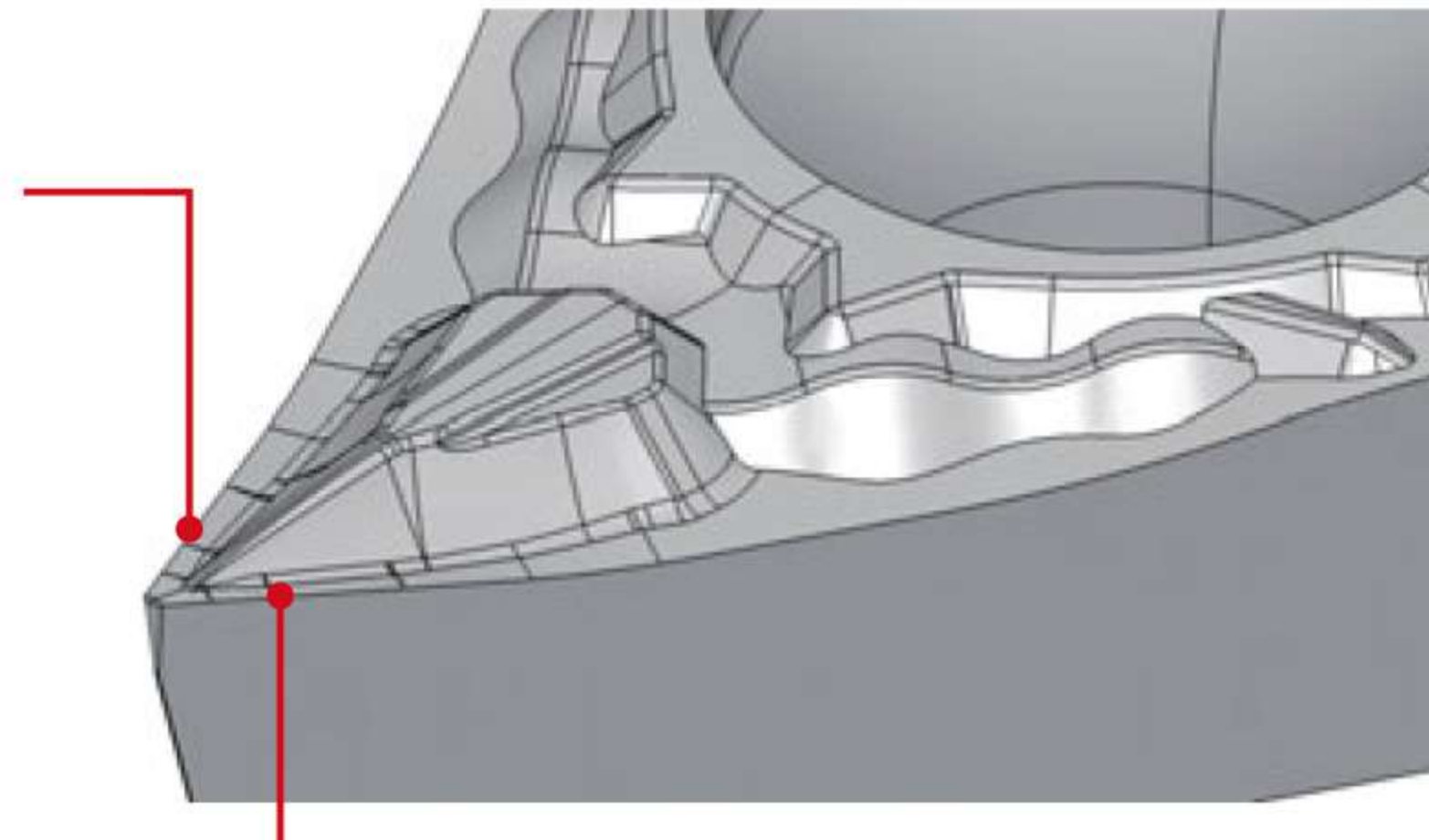
### JS First choice chipbreaker for finish cutting



Chipbreaker geometry that allows light cutting action and excellent chip breaking

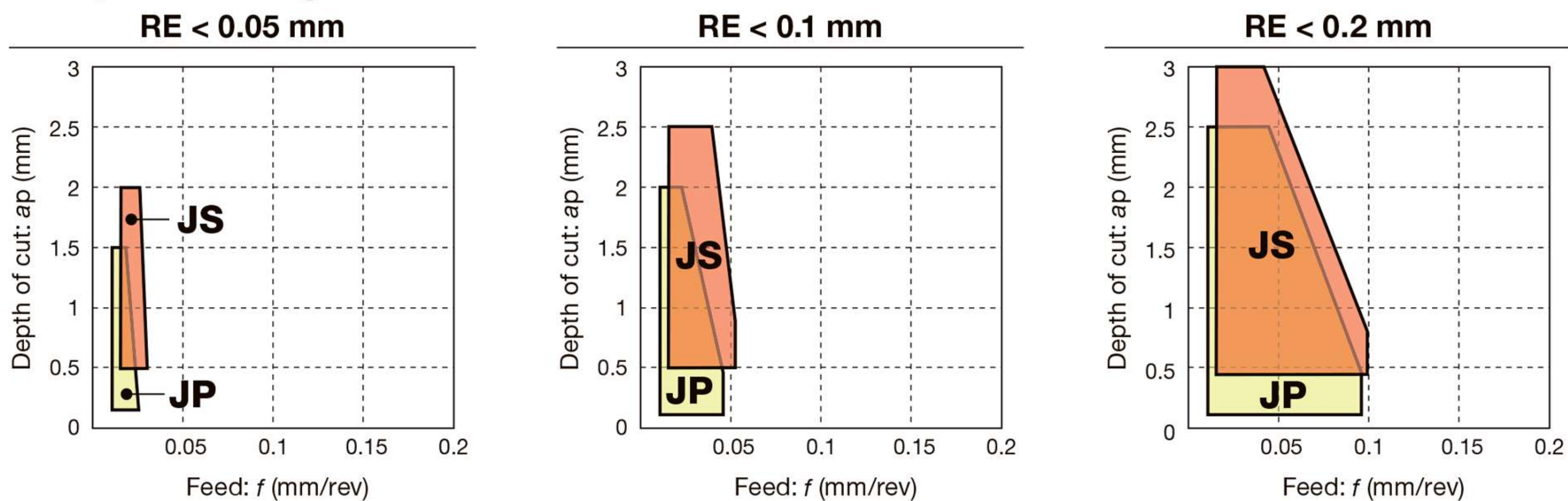
- A steep cutting edge inclination angle for better chip control and reduced cutting load
- A unique protrusion that extends towards the radius effectively controls chip flow from small to large cutting depths

Cutting edge with a steep inclination angle  
Provides good chip evacuation and reduced cutting loads



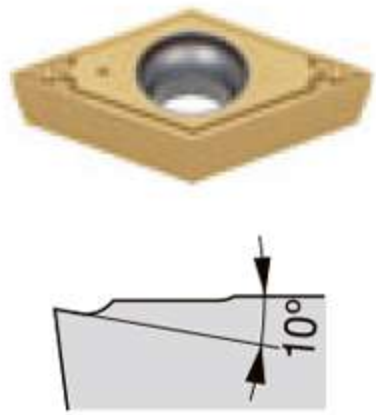
Rake with variable angles and steep protrusion  
Provides stable chip control in the small to large cutting depth range and also maintains cutting edge integrity and sharpness over extended period of time

#### Chip control range

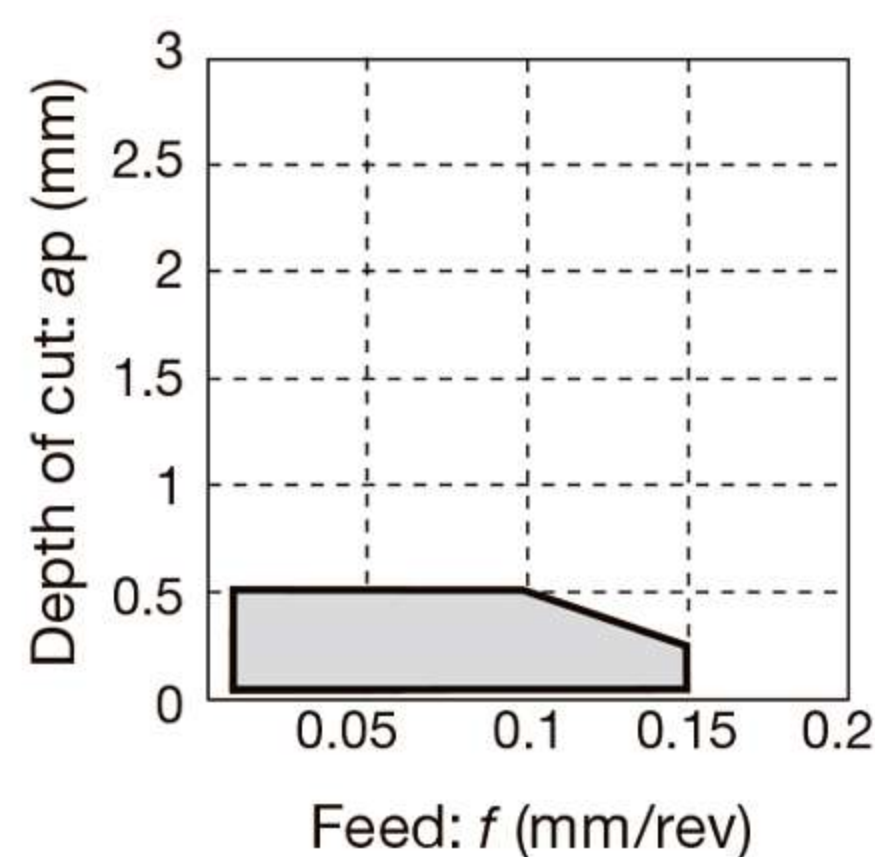


#### Complementary chipbreakers

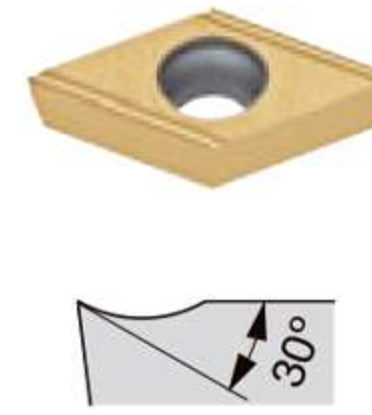
##### 01



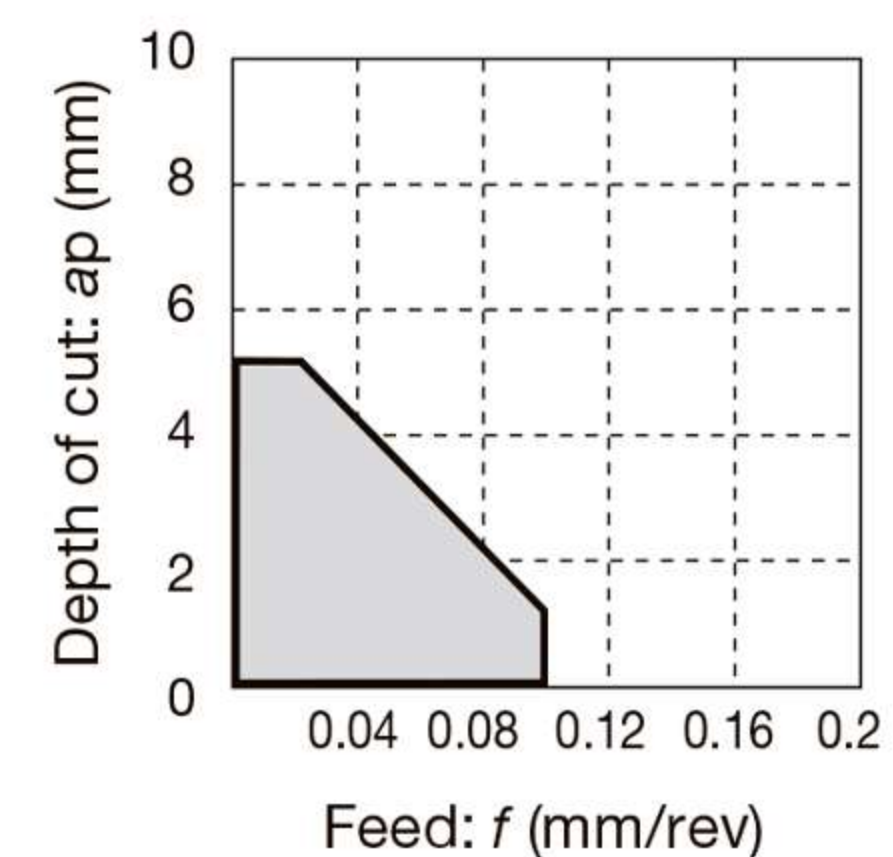
Pressed-in chipbreaker for high part quality that provides good chip control in the light D.O.C. range.



##### J10



Ground-in chipbreaker that demonstrates good chip control when machining at varying cutting depths.



#### STANDARD CUTTING CONDITIONS

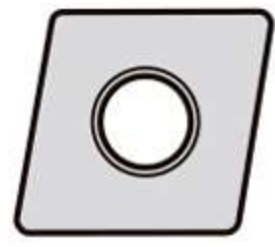
ISO	Workpiece material	Chip-breaker	Grade	Cutting speed Vc (m/min)	Depth of cut ap (mm)	Feed: f (mm/rev)			
						RE < 0.03	RE < 0.1	RE < 0.2	RE < 0.4
P	Carbon steel Alloy steel	JP	SH7025	10 - 200	0.05 - 2.5	0.02 - 0.03	0.02 - 0.05	0.02 - 0.1	-
		JS	SH7025	10 - 200	0.5 - 3	0.02 - 0.03	0.02 - 0.05	0.02 - 0.1	0.05 - 0.2
M	Stainless steel	JP	SH7025	10 - 200	0.05 - 2.5	0.02 - 0.03	0.02 - 0.05	0.02 - 0.1	-
		JS	SH7025	10 - 200	0.5 - 3	0.02-0.03	0.02-0.05	0.02-0.1	0.05-0.2

# SH7025

## Insert POSITIVE TYPE

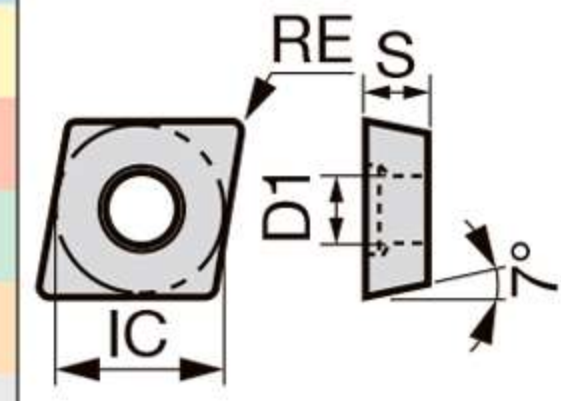
● : Continuous cutting  
 ● : Light interrupted cutting  
 ✖ : Heavy interrupted cutting

### CC



Rhombic, 80°  
with hole  
Positive 7°

P	Steel	●●
M	Stainless	●●
K	Cast iron	●●
N	Non-ferrous	●●
S	Superalloy	●●
H	Hard material	●●



Application	Chipbreaker	Designation	SH7025	Coated				Dimension (mm)			
				RE	IC	S	D1				
Precision finishing (sharp edge)		<b>JP</b> CCGT060200FN-JP	●				<0.05	6.35	2.38	2.8	
		CCGT060201FN-JP	●				<0.1	6.35	2.38	2.8	
		CCGT060202FN-JP	●				<0.2	6.35	2.38	2.8	
		CCGT09T300FN-JP	●				<0.05	9.525	3.97	4.4	
		CCGT09T301FN-JP	●				<0.1	9.525	3.97	4.4	
		CCGT09T302FN-JP	●				<0.2	9.525	3.97	4.4	
		<b>01</b> CCGT060202F-01	●				<0.2	6.35	2.38	2.8	
		CCGT060204F-01	●				<0.4	6.35	2.38	2.8	
		CCGT09T302F-01	●				<0.2	9.525	3.97	4.4	
		CCGT09T304F-01	●				<0.4	9.525	3.97	4.4	
Finishing (sharp edge)		<b>JS</b> CCGT03X101F-JS	●				<0.1	3.57	1.39	1.9	
		CCGT03X102F-JS	●				<0.2	3.57	1.39	1.9	
		CCGT03X104F-JS	●				<0.4	3.57	1.39	1.9	
		CCGT04T101F-JS	●				<0.1	4.37	1.79	2.2	
		CCGT04T102F-JS	●				<0.2	4.37	1.79	2.2	
		CCGT04T104F-JS	●				<0.4	4.37	1.79	2.2	
		<b>JS</b> CCGT060200FN-JS	●				<0.05	6.35	2.38	2.8	
		CCGT060201FN-JS	●				<0.1	6.35	2.38	2.8	
		CCGT060202FN-JS	●				<0.2	6.35	2.38	2.8	
		CCGT060204FN-JS	●				<0.4	6.35	2.38	2.8	
Finishing (sharp edge)		<b>W08</b> CCGT03X100FL-W08	●				0.03	3.57	1.39	1.9	
		CCGT03X101FL-W08	●				0.1	3.57	1.39	1.9	
		CCGT03X102FL-W08	●				0.2	3.57	1.39	1.9	
		CCGT03X102FR-W08	●				0.2	3.57	1.39	1.9	
		CCGT03X104FL-W08	●				0.4	3.57	1.39	1.9	
		CCGT03X104FR-W08	●				0.4	3.57	1.39	1.9	
		CCGT04T100FL-W08	●				0.03	4.37	1.79	2.2	
		CCGT04T101FL-W08	●				0.1	4.37	1.79	2.2	
		CCGT04T102FL-W08	●				0.2	4.37	1.79	2.2	
		CCGT04T102FR-W08	●				0.2	4.37	1.79	2.2	
		CCGT04T104FL-W08	●				0.4	4.37	1.79	2.2	
		CCGT04T104FR-W08	●				0.4	4.37	1.79	2.2	

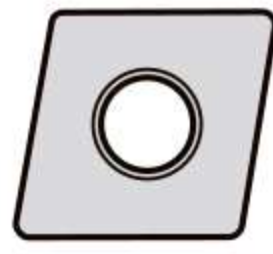
Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New

### Insert POSITIVE TYPE

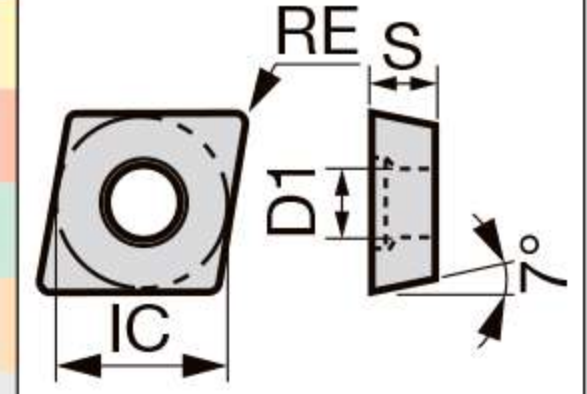
- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

# CC



Rhombic, 80°  
with hole  
Positive 7°

Material	Coating	Application
P Steel	●●	
M Stainless	●●	
K Cast iron		
N Non-ferrous		
S Superalloy		
H Hard material		



Application	Chipbreaker	Designation	Coated	Dimension (mm)				
				RE	IC	S	D1	
Finishing (sharp edge)		<b>J10</b> CCGT060200FR-J10	●		0.03	6.35	2.38	2.8
		CCGT060201FR-J10	●		0.1	6.35	2.38	2.8
		CCGT060202FR-J10	●		0.2	6.35	2.38	2.8
		CCGT060202FL-J10	●		0.2	6.35	2.38	2.8
		CCGT09T300FR-J10	●		0.03	9.525	3.97	4.4
		CCGT09T301FR-J10	●		0.1	9.525	3.97	4.4
		CCGT09T302FR-J10	●		0.2	9.525	3.97	4.4
		CCGT09T302FL-J10	●		0.2	9.525	3.97	4.4

● : New

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## SH7025

### Insert POSITIVE TYPE

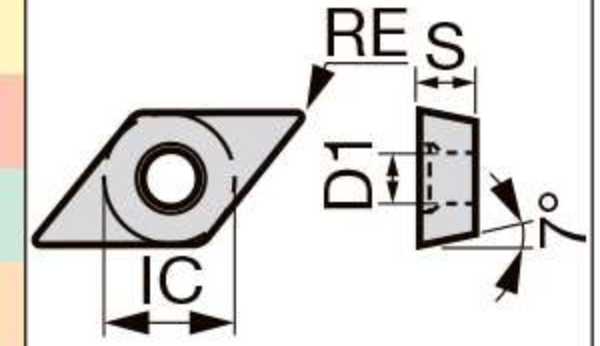
● : Continuous cutting  
 ● : Light interrupted cutting  
 \* : Heavy interrupted cutting

# DC

Rhombic, 55°  
 with hole  
 Positive 7°



P	Steel	●●
M	Stainless	●●
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Designation	Coated	Dimension (mm)				
				SH7025	RE	IC	S	D1
Precision finishing (sharp edge)		JP DCGT070200FN-JP	●		<0.05	6.35	2.38	2.8
		DCGT070201FN-JP	●		<0.1	6.35	2.38	2.8
		DCGT070202FN-JP	●		<0.2	6.35	2.38	2.8
		DCGT11T300FN-JP	●		<0.05	9.525	3.97	4.4
		DCGT11T301FN-JP	●		<0.1	9.525	3.97	4.4
		01 DCGT070202F-01	●		<0.2	6.35	2.38	2.8
		DCGT070204F-01	●		<0.4	6.35	2.38	2.8
		DCGT11T302F-01	●		<0.2	9.525	3.97	4.4
		DCGT11T304F-01	●		<0.4	9.525	3.97	4.4
Finishing (sharp edge)		JS DCGT070200FN-JS	●		<0.05	6.35	2.38	2.8
		DCGT070201FN-JS	●		<0.1	6.35	2.38	2.8
		DCGT070202FN-JS	●		<0.2	6.35	2.38	2.8
		DCGT11T300FN-JS	●		<0.05	9.525	3.97	4.4
		DCGT11T301FN-JS	●		<0.1	9.525	3.97	4.4
		DCGT11T302FN-JS	●		<0.2	9.525	3.97	4.4
		DCGT11T304FN-JS	●		<0.4	9.525	3.97	4.4
Finishing (sharp edge)		J10 DCGT070200FR-J10	●		0.03	6.35	2.38	2.8
		DCGT070201FR-J10	●		0.1	6.35	2.38	2.8
		DCGT070202FR-J10	●		0.2	6.35	2.38	2.8
		DCGT070202FL-J10	●		0.2	6.35	2.38	2.8
		DCGT070204FR-J10	●		0.4	6.35	2.38	2.8
		DCGT070204FL-J10	●		0.4	6.35	2.38	2.8
		DCGT11T300FR-J10	●		0.03	9.525	3.97	4.4
		DCGT11T301FR-J10	●		0.1	9.525	3.97	4.4
		DCGT11T302FR-J10	●		0.2	9.525	3.97	4.4
		DCGT11T302FL-J10	●		0.2	9.525	3.97	4.4

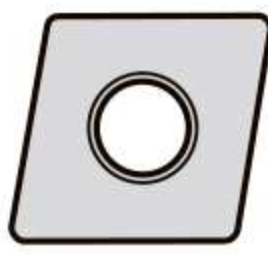
Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New

● : Continuous cutting  
 ●● : Light interrupted cutting  
 ⊛ : Heavy interrupted cutting

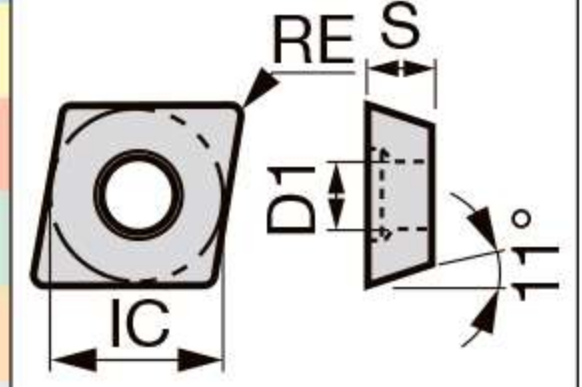
### Insert POSITIVE TYPE

# EP



Rhombic, 75°  
with hole  
Positive 11°

P	Steel	●●																			
M	Stainless	●●																			
K	Cast iron																				
N	Non-ferrous																				
S	Superalloy																				
H	Hard material																				



Application	Chipbreaker	Designation	Coated																	Dimension (mm)					
			SH7025																		RE	IC	S	D1	
Finishing (sharp edge)		<b>JS</b> EPGT03X101F-JS ●																			<0.1	3.57	1.39	1.9	
		EPGT03X102F-JS ●																				<0.2	3.57	1.39	1.9
		EPGT03X104F-JS ●																				<0.4	3.57	1.39	1.9
		EPGT040101F-JS ●																				<0.1	3.97	1.59	2.3
		EPGT040102F-JS ●																				<0.2	3.97	1.59	2.3
		EPGT040104F-JS ●																				<0.4	3.97	1.59	2.3
Finishing (sharp edge)		<b>J08</b> EPGT040102FL-J08 ●																			0.2	3.97	1.59	2.3	
		EPGT040104FL-J08 ●																				0.4	3.97	1.59	2.3
Finishing (sharp edge)		<b>W08</b> EPGT03X100FL-W08 ●																			0.03	3.57	1.39	1.9	
		EPGT03X101FL-W08 ●																				0.1	3.57	1.39	1.9
		EPGT03X102FL-W08 ●																				0.2	3.57	1.39	1.9
		EPGT03X102FR-W08 ●																				0.2	3.57	1.39	1.9
		EPGT03X104FL-W08 ●																				0.4	3.57	1.39	1.9
		EPGT03X104FR-W08 ●																				0.4	3.57	1.39	1.9
		EPGT040100FL-W08 ●																				0.03	3.97	1.59	2.3
		EPGT040101FL-W08 ●																				0.1	3.97	1.59	2.3
		EPGT040102FL-W08 ●																				0.2	3.97	1.59	2.3
		EPGT040102FR-W08 ●																				0.2	3.97	1.59	2.3
		EPGT040104FL-W08 ●																				0.4	3.97	1.59	2.3
		EPGT040104FR-W08 ●																				0.4	3.97	1.59	2.3

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

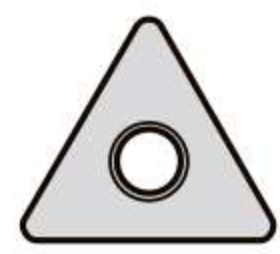
● : New

# SH7025

## Insert POSITIVE TYPE

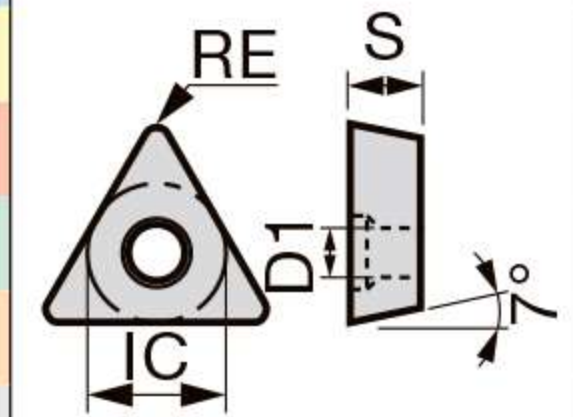
- : Continuous cutting
- ◐ : Light interrupted cutting
- ✳ : Heavy interrupted cutting

### TC



Triangular with hole  
Positive 7°

P	Steel	●●	
M	Stainless	●●	
K	Cast iron		
N	Non-ferrous		
S	Superalloy		
H	Hard material		



Application	Chipbreaker	Designation	Coated				Dimension (mm)			
			SH7025				RE	IC	S	D1
Precision finishing (sharp edge)	<p>JP</p>	TCGT110200FN-JP	●				<0.05	6.35	2.38	2.8
		TCGT110201FN-JP	●				<0.1	6.35	2.38	2.8
		TCGT110202FN-JP	●				<0.2	6.35	2.38	2.8
	<p>O1</p>	TCGT110202F-01	●				<0.2	6.35	2.38	2.8
		TCGT110204F-01	●				<0.4	6.35	2.38	2.8
Finishing (sharp edge)	<p>JS</p>	TCGT110200FN-JS	●				<0.05	6.35	2.38	2.8
		TCGT110201FN-JS	●				<0.1	6.35	2.38	2.8
		TCGT110202FN-JS	●				<0.2	6.35	2.38	2.8
		TCGT110204FN-JS	●				<0.4	6.35	2.38	2.8
	<p>J08</p>	TCGT080200FR-J08	●				0.03	4.76	2.38	2.3
Finishing (sharp edge)	<p>J10</p>	TCGT080201FR-J08	●				0.1	4.76	2.38	2.3
		TCGT080202FR-J08	●				0.2	4.76	2.38	2.3
		TCGT080202FL-J08	●				0.2	4.76	2.38	2.3
		TCGT080204FR-J08	●				0.4	4.76	2.38	2.3
		TCGT110200FR-J10	●				0.03	6.35	2.38	2.8
		TCGT110201FR-J10	●				0.1	6.35	2.38	2.8
	TCGT110202FR-J10	●				0.2	6.35	2.38	2.8	
	TCGT110202FL-J10	●				0.2	6.35	2.38	2.8	
	TCGT110204FR-J10	●				0.4	6.35	2.38	2.8	
	TCGT110300FR-J10	●				0.03	6.35	3.18	2.8	
	TCGT110301FR-J10	●				0.1	6.35	3.18	2.8	
	TCGT110302FR-J10	●				0.2	6.35	3.18	2.8	
	TCGT110302FL-J10	●				0.2	6.35	3.18	2.8	

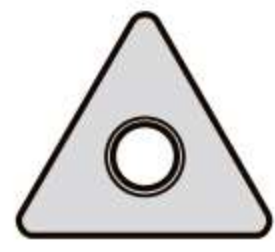
Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New

● : Continuous cutting  
 ●● : Light interrupted cutting  
 ●●● : Heavy interrupted cutting

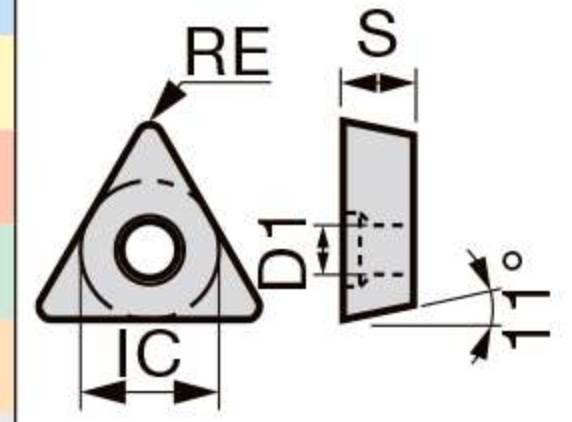
### Insert POSITIVE TYPE

# TP



**Triangular with hole**  
**Positive 11°**

P	Steel	●●
M	Stainless	●●
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Designation	SH7025	Dimension (mm)			
				RE	IC	S	D1
Finishing (sharp edge)		<b>JS</b> TPGT070101F-JS	●	<0.1	4.37	1.59	2.58
		TPGT070102F-JS	●	<0.2	4.37	1.59	2.58
		TPGT070104F-JS	●	<0.4	4.37	1.59	2.58
Finishing (sharp edge)		<b>W08</b> TPGT070100FL-W08	●	0.03	4.37	1.59	2.58
		TPGT070101FL-W08	●	0.1	4.37	1.59	2.58
		TPGT070102FR-W08	●	0.2	4.37	1.59	2.58
		TPGT070102FL-W08	●	0.2	4.37	1.59	2.58
		TPGT070104FR-W08	●	0.4	4.37	1.59	2.58
		TPGT070104FL-W08	●	0.4	4.37	1.59	2.58

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

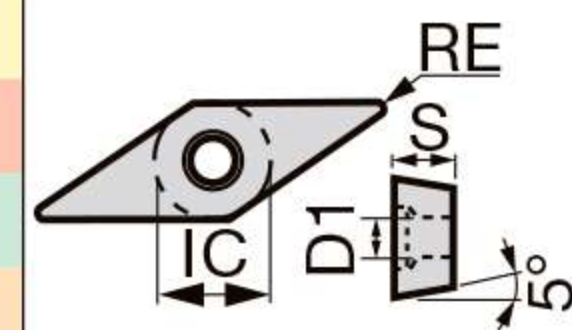
● : New

# VB



**Rhombic, 35° with hole**  
**Positive 5°**

P	Steel	●●
M	Stainless	●●
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Designation	SH7025	Dimension (mm)			
				RE	IC	S	D1
Precision finishing (sharp edge)		<b>JP</b> VBGT110300FN-JP	●	<0.05	6.35	3.18	2.8
		VBGT110301FN-JP	●	<0.1	6.35	3.18	2.8
		VBGT110302FN-JP	●	<0.2	6.35	3.18	2.8
Finishing (sharp edge)		<b>JS</b> VBGT110300FN-JS	●	<0.05	6.35	3.18	2.8
		VBGT110301FN-JS	●	<0.1	6.35	3.18	2.8
		VBGT110302FN-JS	●	<0.2	6.35	3.18	2.8
		VBGT110304FN-JS	●	<0.4	6.35	3.18	2.8
For external turning on Swiss lathes (sharp edge)		<b>J10</b> VBGT110300FR-J10	●	0.03	6.35	3.18	2.8
		VBGT110301FR-J10	●	0.1	6.35	3.18	2.8
		VBGT110302FR-J10	●	0.2	6.35	3.18	2.8
		VBGT110302FL-J10	●	0.2	6.35	3.18	2.8
		VBGT110304FR-J10	●	0.4	6.35	3.18	2.8
		VBGT110304FL-J10	●	0.4	6.35	3.18	2.8

Tungaloy Report No. 561-G

## SH7025

Insert POSITIVE TYPE

- : Continuous cutting
- : Light interrupted cutting
- : Heavy interrupted cutting

### VP

35° Rhombic  
with hole  
Positive 11°

P	Steel	●●●
M	Stainless	●●●
K	Cast iron	●●●
N	Non-ferrous	●●●
S	Superalloy	●●●
H	Hard material	●●●

Application	Chipbreaker	Designation	Coated				Dimension (mm)			
			SH7025				RE	IC	S	D1
Precision finishing (sharp edge)		JP VPGT110300FN-JP	●				<0.05	6.35	3.18	2.8
		VPGT110301FN-JP	●				<0.1	6.35	3.18	2.8
		VPGT110302FN-JP	●				<0.2	6.35	3.18	2.8
Finishing (sharp edge)		JS VPGT110300FN-JS	●				<0.05	6.35	3.18	2.8
		VPGT110301FN-JS	●				<0.1	6.35	3.18	2.8
		VPGT110302FN-JS	●				<0.2	6.35	3.18	2.8
		VPGT110304FN-JS	●				<0.4	6.35	3.18	2.8

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New

### WB

Trigon, 80°  
with hole  
Positive 5°

P	Steel	●●●
M	Stainless	●●●
K	Cast iron	●●●
N	Non-ferrous	●●●
S	Superalloy	●●●
H	Hard material	●●●

Application	Chipbreaker	Designation	Coated				Dimension (mm)			
			SH7025				RE	IC	S	D1
Finishing (sharp edge)		JS WBG030101FR-JS	●				<0.1	3.97	1.59	2.3
		WBG030101FL-JS	●				<0.1	3.97	1.59	2.3
		WBG030102FR-JS	●				<0.2	3.97	1.59	2.3
		WBG030102FL-JS	●				<0.2	3.97	1.59	2.3
		WBG030104FR-JS	●				<0.4	3.97	1.59	2.3
		WBG030104FL-JS	●				<0.4	3.97	1.59	2.3
Finishing (sharp edge)		W08 WBG030100FL-W08	●				0.03	3.97	1.59	2.3
		WBG030101FL-W08	●				0.1	3.97	1.59	2.3
		WBG030102FL-W08	●				0.2	3.97	1.59	2.3
		WBG030102FR-W08	●				0.2	3.97	1.59	2.3
		WBG030104FL-W08	●				0.4	3.97	1.59	2.3
		WBG030104FR-W08	●				0.4	3.97	1.59	2.3

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New





## SH7025

### Insert POSITIVE TYPE

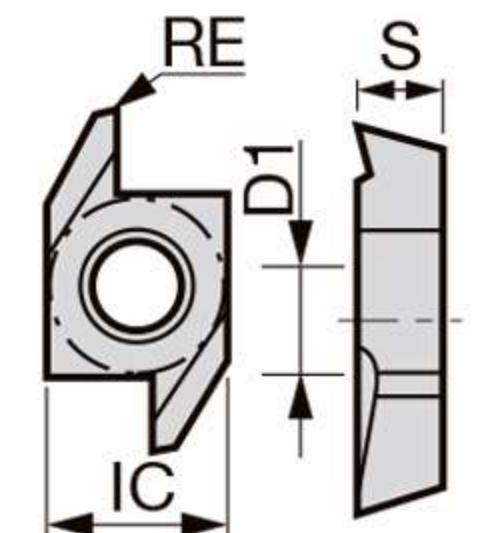
● : Continuous cutting  
 ● : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

## J10E



Back turning

P	Steel	●●
M	Stainless	●●
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Designation	Coated				Dimension (mm)			
			SH7025				RE	IC	S	D1
Back turning	-	J10ER005BF	●				0.05	6.35	3.18	3.0
		J10EL005BF	●				0.05	6.35	3.18	3.0
		J10ER010BF	●				0.10	6.35	3.18	3.0
		J10EL010BF	●				0.10	6.35	3.18	3.0
		J10EL015BF	●				0.15	6.35	3.18	3.0
		J10ER015BF	●				0.15	6.35	3.18	3.0

● : New

## J-SERIES INSERT

### 60° thread angle (General purpose)

Right hand (R) shown.

1-Type JXT1R  
2-Type JXT2R

#### Applicable toolholder

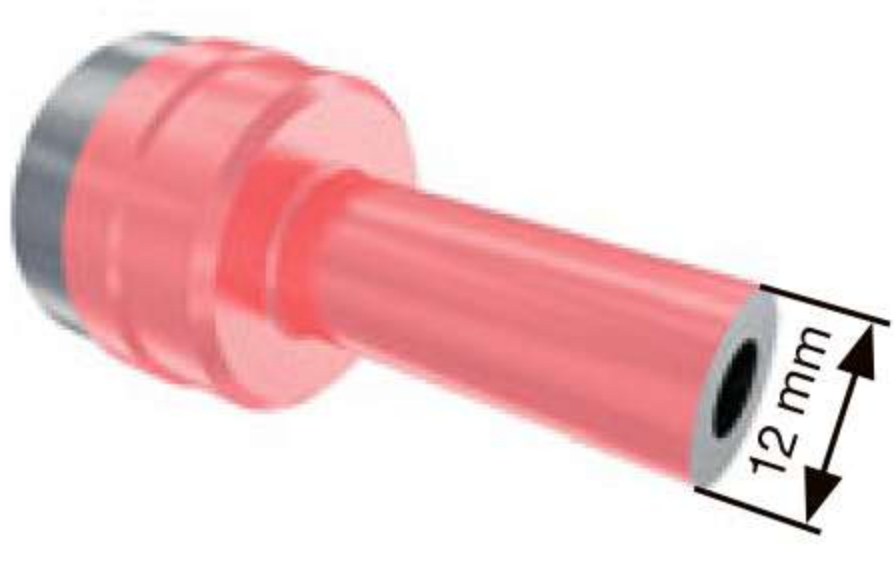
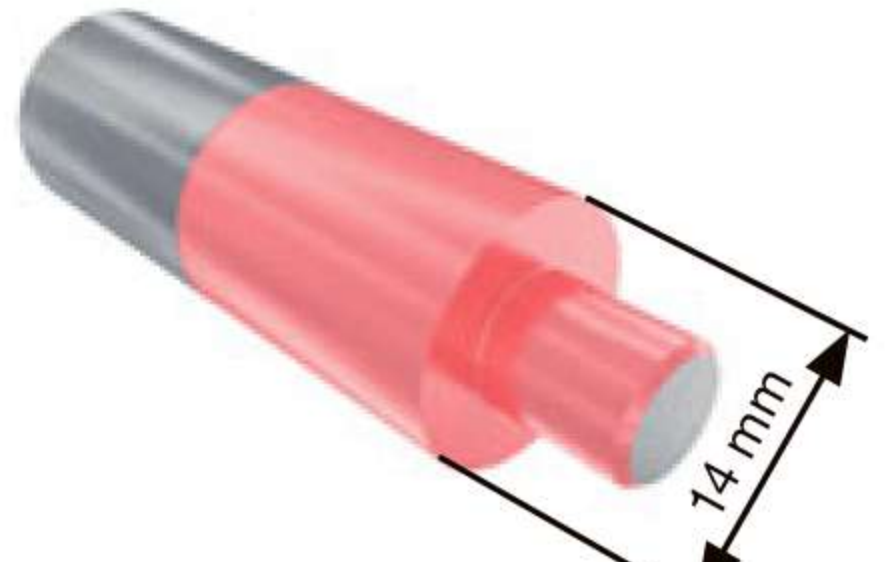
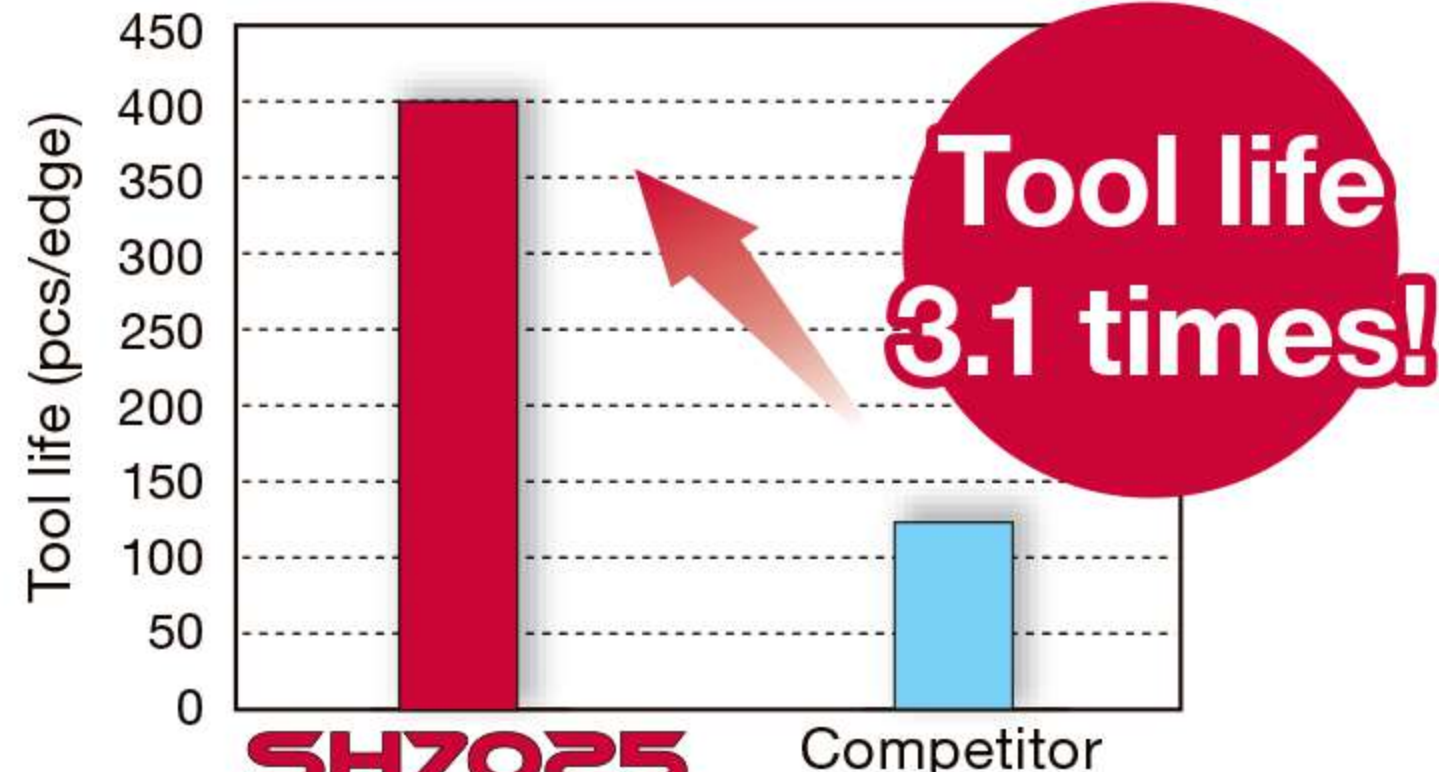
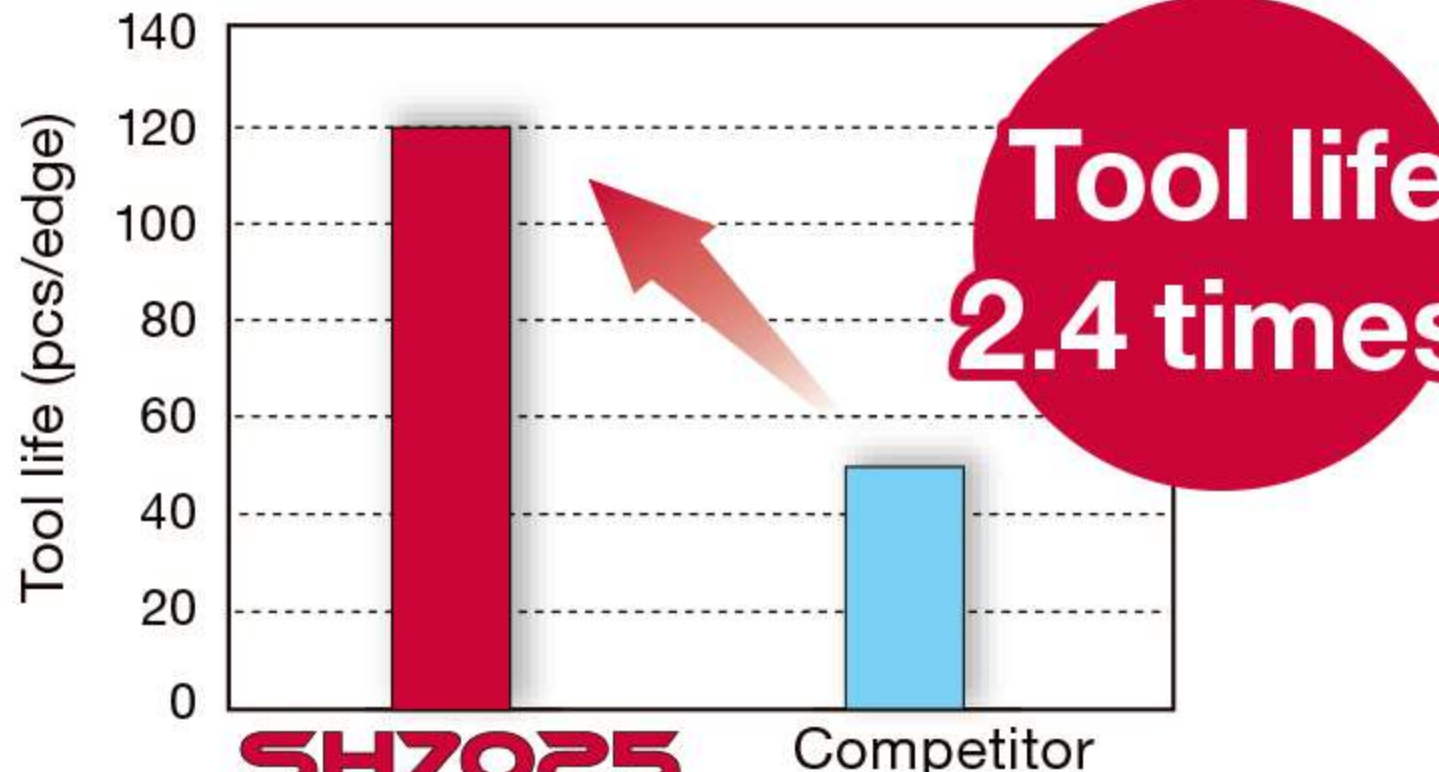
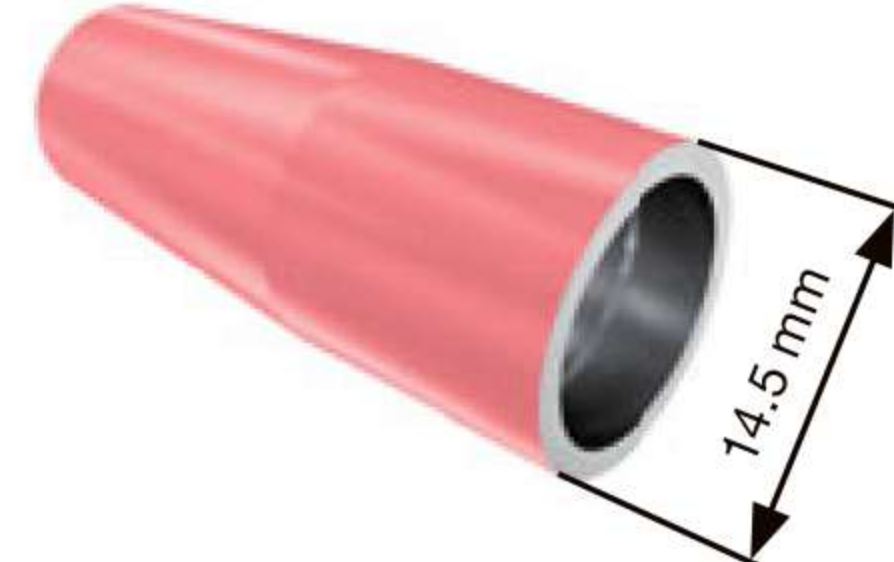
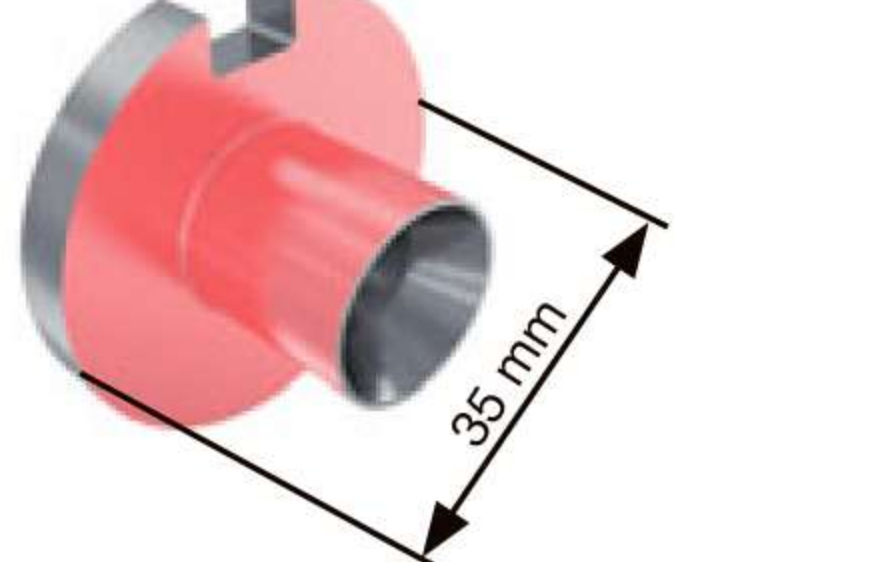
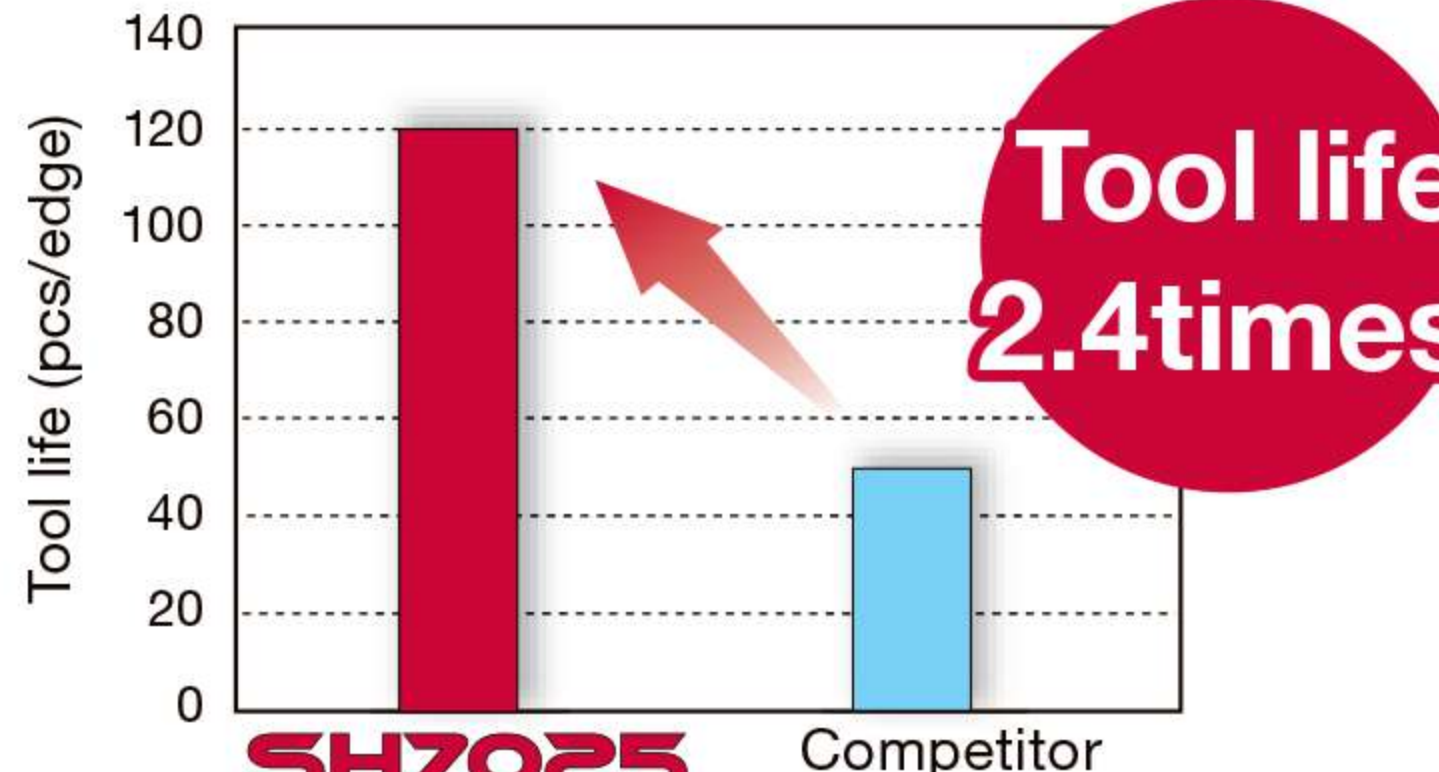
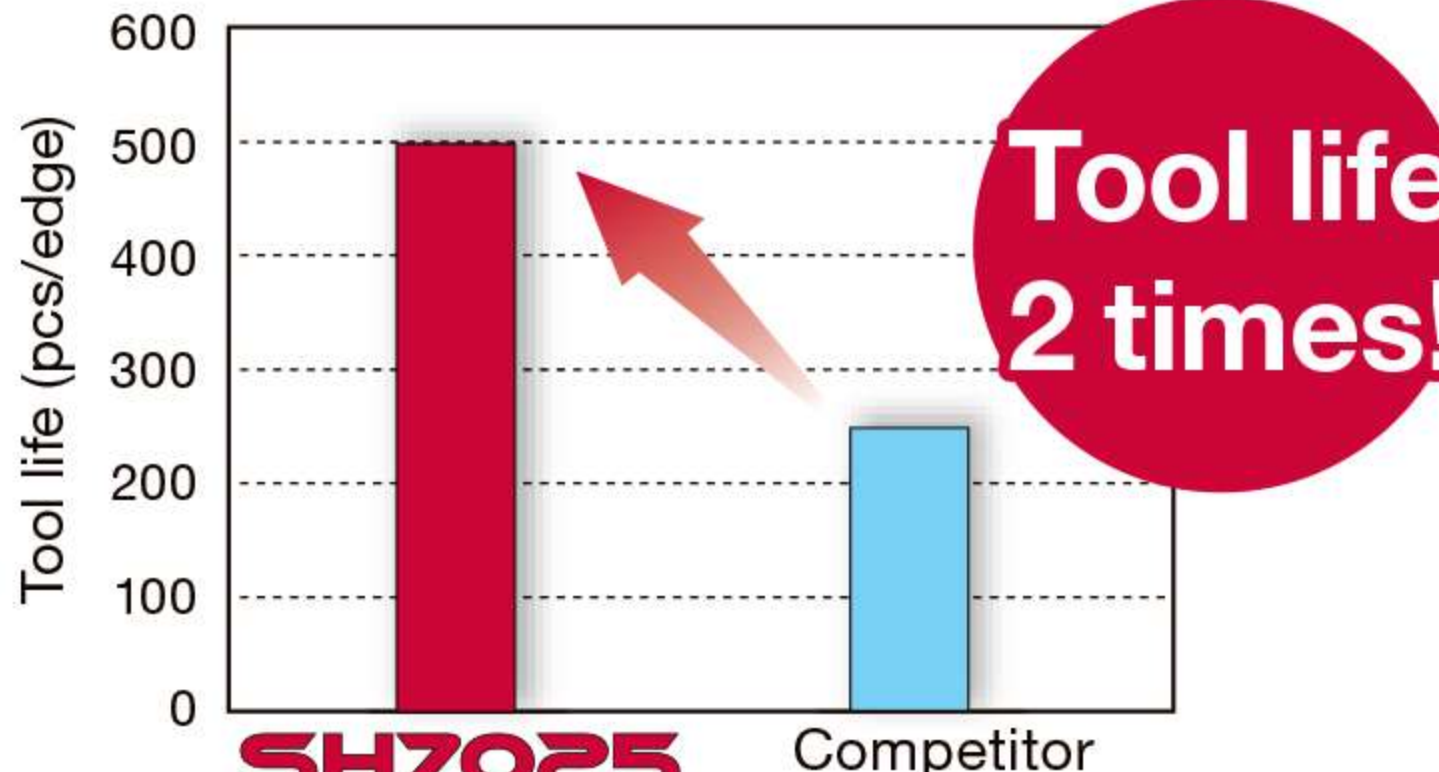
External
JSXBR**K8
JSXBR**K8-C

#### Partial-profile insert

Pitch	TPI	Hand of cut	External insert				
			Designation	Grade	IC	S	RE
				Coated			
0.5 - 1	25 - 48	R	JXT1R6000F	SH7025 ●	8	3.97	0.03
0.5 - 1	25 - 48	R	JXT2R6000F	SH7025 ●	8	3.97	0.03

● : New / 10 pieces per package

### PRACTICAL EXAMPLES

Workpiece type		Guide for linear motion bearing	Spool pin
Insert		DCGT11T302FN-JP	DCGT11T302FN-JP
Grade		SH7025	SH7025
		SUS316	SCM415
Workpiece material		 <b>M</b>	 <b>P</b>
Cutting conditions	Cutting speed: $V_c$ (m/min)	150	150
	Feed : $f$ (mm/rev)	0.03	0.03
	Depth of cut : $a_p$ (mm)	0.1	0.05
	Machining	External and face turning	External and face turning
	Coolant	Wet	Wet
Results	 <p>SH7025 grade insert eliminated built-up edge while substantially extending tool life.</p>	 <p>SH7025 significantly prolonged tool life over the competitor grade with no part scraps.</p>	
Workpiece type		Pin	Flange
Insert		DCGT11T301FN-JP	DCGT11T302FN-JS
Grade		SH7025	SH7025
		SUS410 / X12Cr13	SUM23
Workpiece material		 <b>M</b>	 <b>P</b>
Cutting conditions	Cutting speed: $V_c$ (m/min)	2,000	1,300
	Feed : $f$ (mm/rev)	0.05	0.03 - 0.05
	Depth of cut : $a_p$ (mm)	0.5	3
	Machining	External turning	External and face turning
	Coolant	Wet	Wet
Results	 <p>SH7025 eliminated insert fracture that caused part surface deterioration and provided long, predictable tool life.</p>	 <p>SH7025 provided slower flank wear progression and eliminated part surface deterioration.</p>	

# CONTACT US



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