Member IMC Group Tungaloy

SM TOOLS®

TurnLine

For more information

Grades for small parts machining

SH7025

Tungaloy Report No. 561-G

Superior surface quality and process security in small part machining

TUNGALOY ADDFORCE ACCELERATED LINES

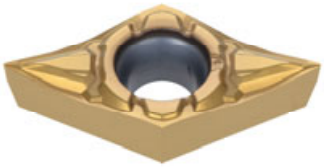
S-CU-CHP
688T710
S-CU-CHP
T04387

TUNGALOY ADDFORCE TURN
ACCELERATED TURNING & THREADING

SH7025

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

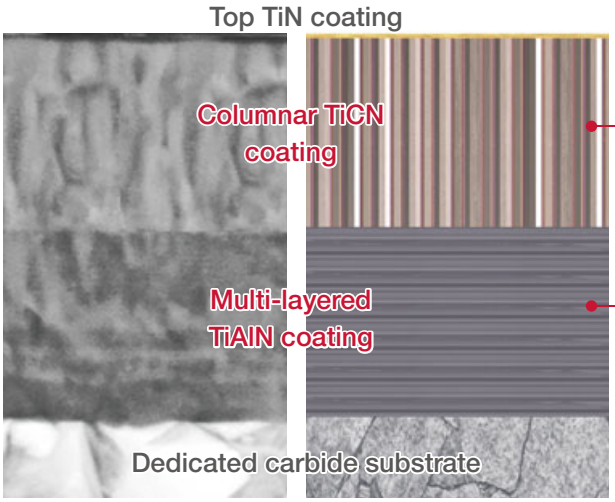
New insert grade for high surface quality



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



Cross sectional micrograph Cross sectional image

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.

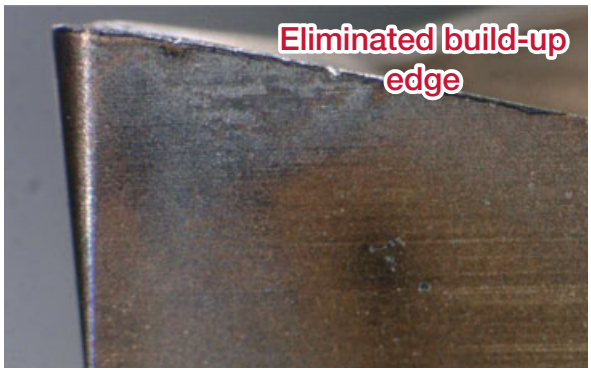
3 For superior process security

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

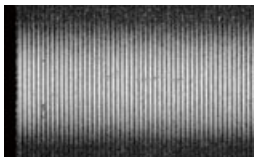
1 For high surface quality

Built-up edge resistant TiCN coating improves surface finish quality

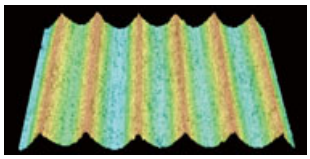
SH7025



O.D. surface quality



Actual image

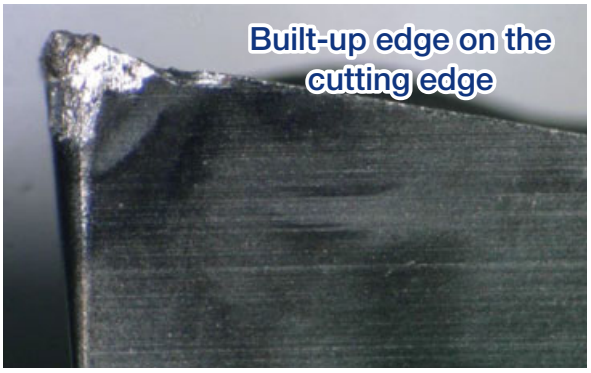


3D surface profile

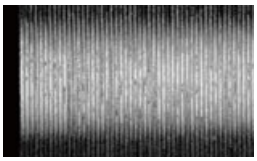
Surface roughness chart

High quality surface finish!

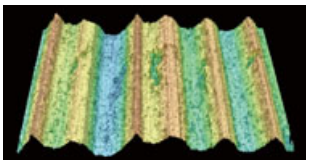
Conventional



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

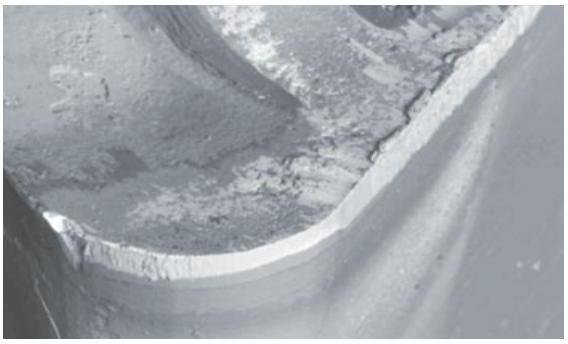
SH7025

Columnar-structured TiCN coating slows wear progression

Extended tool life

Maintains excellent surface quality with no part scraps

Conventional



Rapid flank wear progression

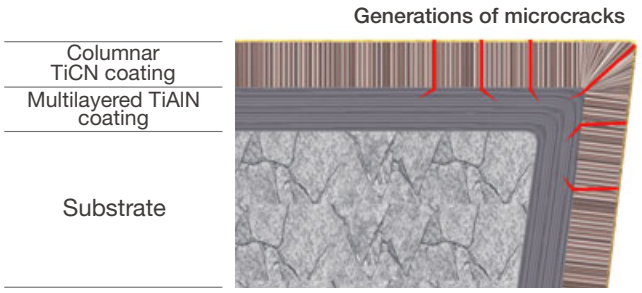
Poor surface quality, creating a pile of part scraps

SH7025

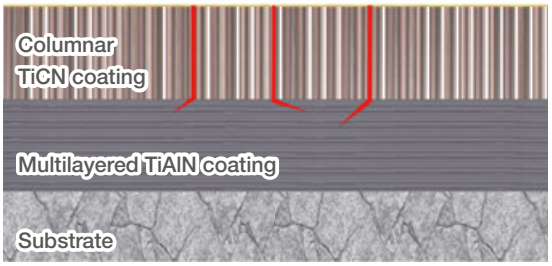
3 Superior process security

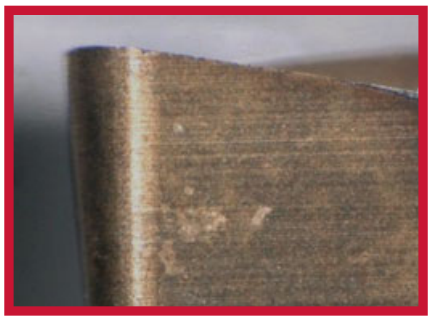
Chipping-resistant multi-layered TiAlN coating provides process security.

SH7025



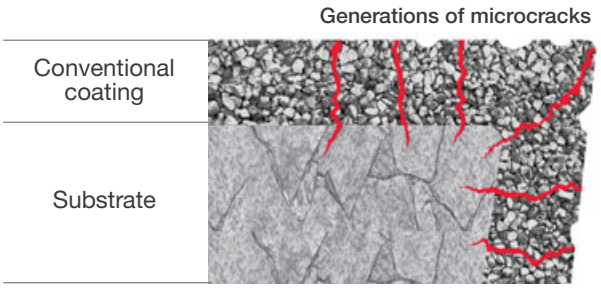
TiAlN coating prevents cracks from further propagation



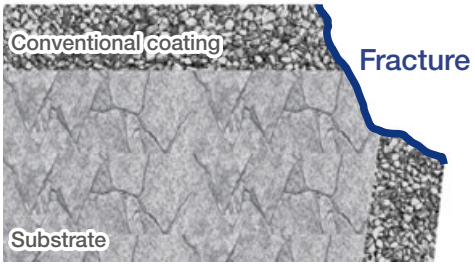


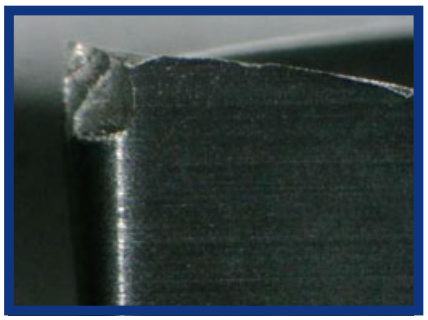
Eliminates fractures and provides security

Conventional



Crack reaches the substrate causing catastrophic failure



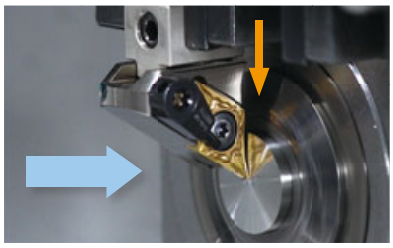


Catastrophic failure

CUTTING PERFORMANCE

3D surface profiling analysis

Face turning



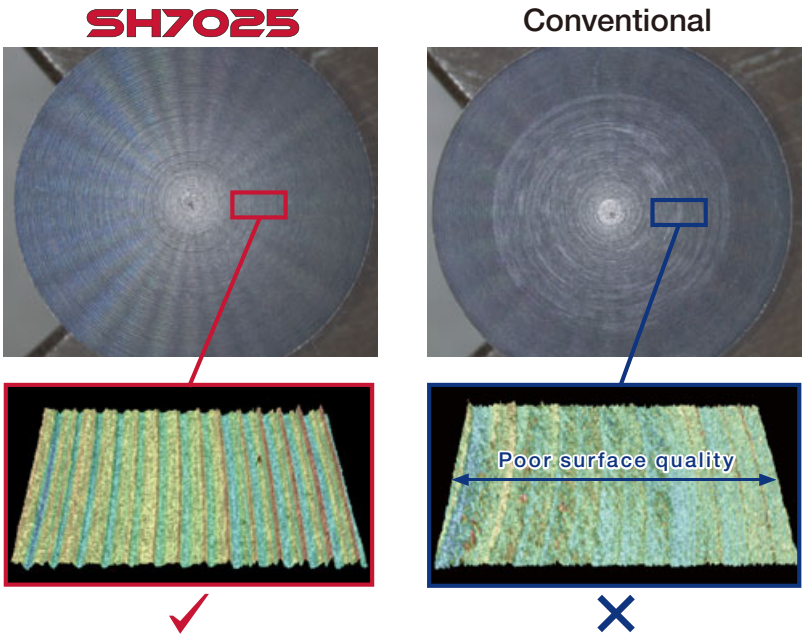
Below images are viewed in this direction

Case 1

P SUJ2 / 100Cr6

Insert : DCGT11T302 type
Cutting speed : *Vc* = 150 m/min
Feed : *f* = 0.05 mm/rev
Depth of cut : *ap* = 0.3 mm
Coolant : Wet

Provides high quality surface finish

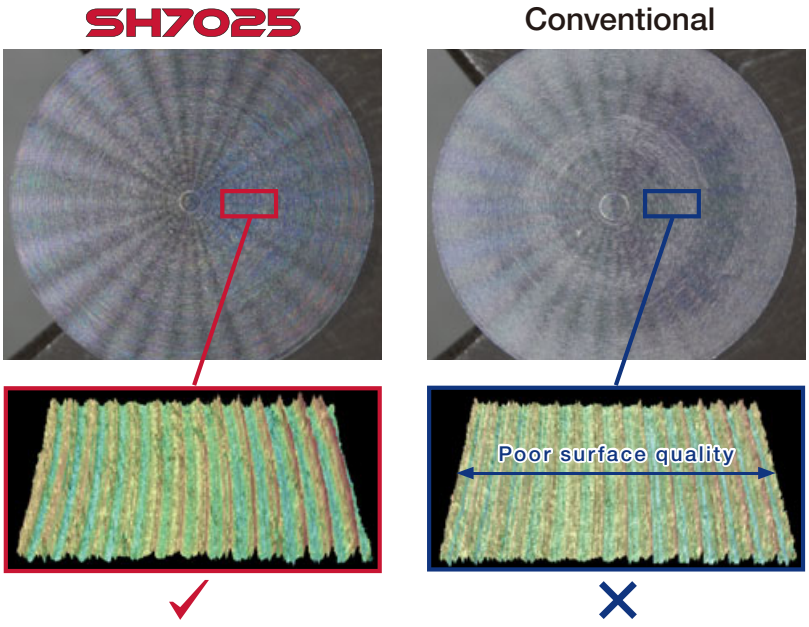


Case 2

M SUS316L / X2CrNiMo17-12-2

Insert : DCGT11T302 type
Cutting speed : *Vc* = 100 m/min
Feed : *f* = 0.05 mm/rev
Depth of cut : *ap* = 0.3 mm
Coolant : Wet

Provides high quality surface finish



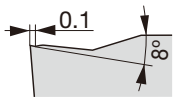
SH7025

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

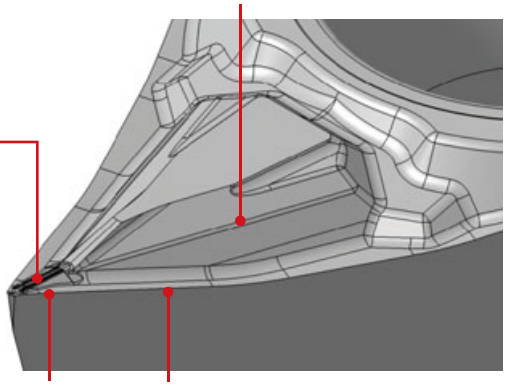


Eliminates chip nesting and other chip-associated issues that impede the shop's productivity and provides stable chip breaking over a wide range of feed rates and D.O.C.

- 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

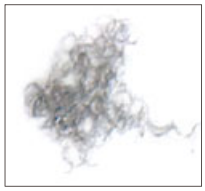
A protrusion extending towards the nose radius
Provides excellent chip control in finish to super-finish cutting



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

JP	Competitor	JP	Competitor	JP	Competitor
					

P

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

P

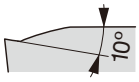
Insert	: DCGT11T301FN-JP
Workpiece material	: S45C / C45
Cutting speed	: *Vc* = 80 m/min
Feed	: *f* = 0.03mm/rev
Depth of cut	: *ap* = 3 mm
Coolant	: Wet

M

Insert	: DCGT11T301FN-JP
Workpiece material	: SUS304 / X5CrNi18-9
Cutting speed	: *Vc* = 80 m/min
Feed	: *f* = 0.03 mm/rev
Depth of cut	: *ap* = 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.

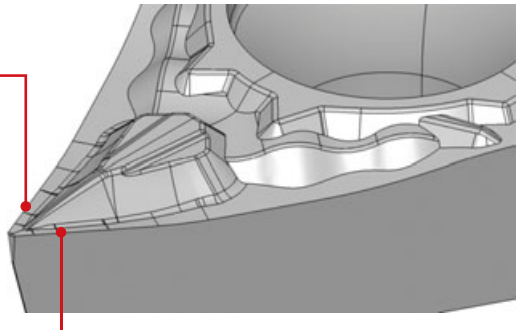
JS First choice chipbreaker for finish cutting



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

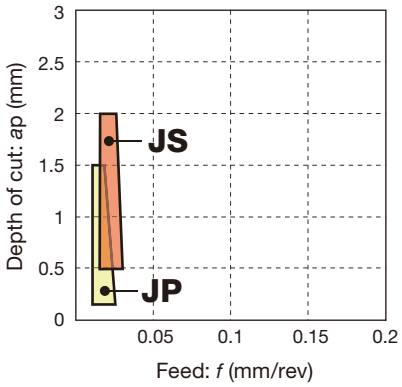
Cutting edge with a steep inclination angle
Provides good chip evacuation and reduced cutting loads



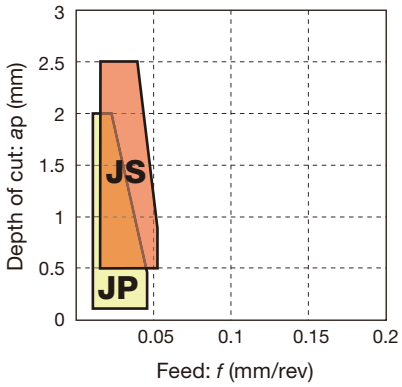
Rake with variable angles and steep protrusion
Provides stable chip control in the small to large cutting depth range and also maintains cutting edge integrity and sharpness over extended period of time

Chip control range

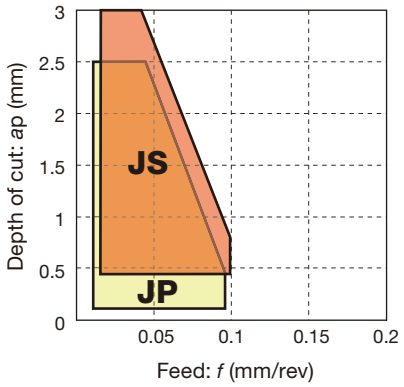
RE < 0.05 mm



RE < 0.1 mm

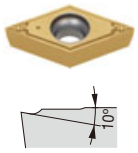


RE < 0.2 mm

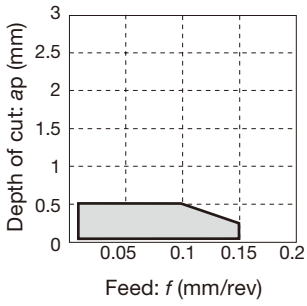


Complementary chipbreakers

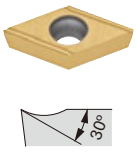
01



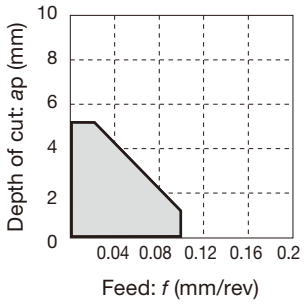
Pressed-in chipbreaker for high part quality that provides good chip control in the light D.O.C. range.



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

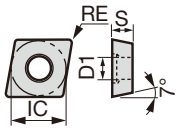
Insert POSITIVE TYPE

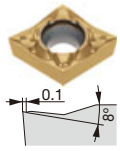
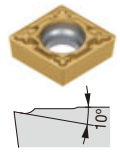
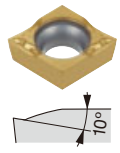
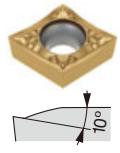
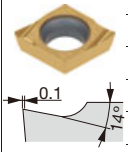
● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

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	Coated SH7025	RE	IC	S	D1
Precision finishing (sharp edge)	JP	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
	01	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)	JS	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
	JS	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
		CCGT09T300FN-JS	●	<0.05	9.525	3.97	4.4
		CCGT09T301FN-JS	●	<0.1	9.525	3.97	4.4
		CCGT09T302FN-JS	●	<0.2	9.525	3.97	4.4
		CCGT09T304FN-JS	●	<0.4	9.525	3.97	4.4
Finishing (sharp edge)	W08	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

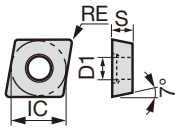
Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

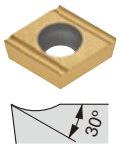
CC

Rhombic, 80° with hole Positive 7°

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



Application	Chipbreaker	Designation	Coated SH7025	Dimension (mm) RE	IC	S	D1
Finishing (sharp edge)	J10	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

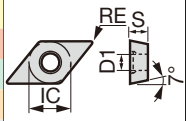
Insert POSITIVE TYPE

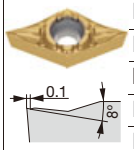
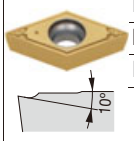
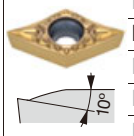
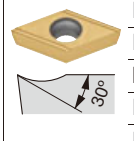
● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

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 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
		DCGT11T302FN-JP	●	<0.2	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

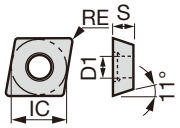
Insert POSITIVE TYPE

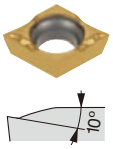
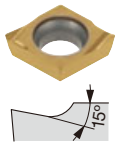
● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

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 SH7025	RE	IC	S	D1
Finishing (sharp edge)	JS	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)	J08	EPGT040102FL-J08	●	0.2	3.97	1.59	2.3
		EPGT040104FL-J08	●	0.4	3.97	1.59	2.3
Finishing (sharp edge)	W08	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

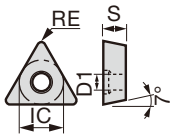
Insert POSITIVE TYPE

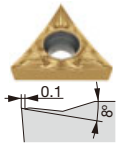
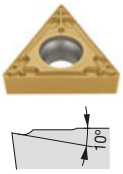
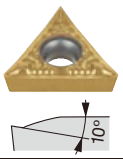
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TC

Triangular with hole Positive 7°

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



Application	Chipbreaker	Designation	Coated SH7025	RE	IC	S	D1
Precision finishing (sharp edge)	JP	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
	01	TCGT110202F-01	●	<0.2	6.35	2.38	2.8
		TCGT110204F-01	●	<0.4	6.35	2.38	2.8
Finishing (sharp edge)	JS	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
Finishing (sharp edge)	J08	TCGT080200FR-J08	●	0.03	4.76	2.38	2.3
		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
	J10	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

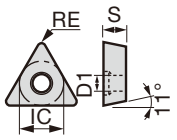
Insert POSITIVE TYPE

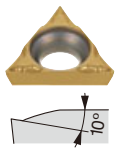
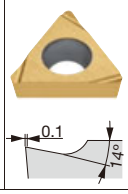
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TP

Triangular with hole Positive 11°

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



Application	Chipbreaker	Designation	Coated SH7025	Dimension (mm) RE	IC	S	D1
Finishing (sharp edge)	JS	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)	W08	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

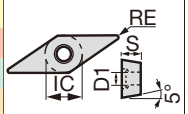
Corner radius (RE) with a sign of inequality (<) means minus tolerance.

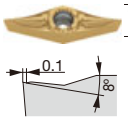
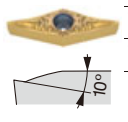
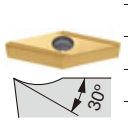
● : New

VB

Rhombic, 35° with hole Positive 5°

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



Application	Chipbreaker	Designation	Coated SH7025	Dimension (mm) RE	IC	S	D1
Precision finishing (sharp edge)	JP	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)	JS	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)	J10	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

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

● : New

SH7025

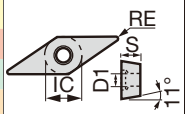
Insert POSITIVE TYPE

● : 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 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

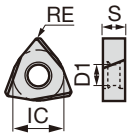
Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : 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 SH7025	RE	IC	S	D1
Finishing (sharp edge)	JS	WBGT030101FR-JS	●	<0.1	3.97	1.59	2.3
		WBGT030101FL-JS	●	<0.1	3.97	1.59	2.3
		WBGT030102FR-JS	●	<0.2	3.97	1.59	2.3
		WBGT030102FL-JS	●	<0.2	3.97	1.59	2.3
		WBGT030104FR-JS	●	<0.4	3.97	1.59	2.3
		WBGT030104FL-JS	●	<0.4	3.97	1.59	2.3
Finishing (sharp edge)	W08	WBGT030100FL-W08	●	0.03	3.97	1.59	2.3
		WBGT030101FL-W08	●	0.1	3.97	1.59	2.3
		WBGT030102FL-W08	●	0.2	3.97	1.59	2.3
		WBGT030102FR-W08	●	0.2	3.97	1.59	2.3
		WBGT030104FL-W08	●	0.4	3.97	1.59	2.3
		WBGT030104FR-W08	●	0.4	3.97	1.59	2.3

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

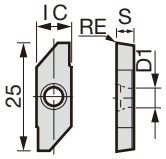
● : New

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

JXF

Front turning

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



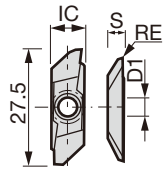
Application	Chipbreaker	Designation	Coated SH7025	Dimension (mm) RE	IC	S	D1
Front turning	-	JXFR8000F	●	0.03	8	3.97	4.4
		JXFR8010F	●	0.1	8	3.97	4.4

● : New

JXB

Back turning

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



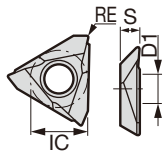
Application	Chipbreaker	Designation	Coated SH7025	Dimension (mm) RE	IC	S	D1
Back turning	-	JXBR8000F	●	0.03	8	3.97	4.4
		JXBR8005F	●	0.05	8	3.97	4.4
		JXBR8010F	●	0.10	8	3.97	4.4
		JXBR8015F	●	0.15	8	3.97	4.4

● : New

JTB

Back turning

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



Application	Chipbreaker	Designation	Coated SH7025	Dimension (mm) RE	IC	S	D1
Back turning	-	JTBR3000F	●	0.03	9.5	3.18	4.4
		JTBR3005F	●	0.05	9.5	3.18	4.4
		JTBR3010F	●	0.10	9.5	3.18	4.4
		JTBR3015F	●	0.15	9.5	3.18	4.4

● : New

SH7025

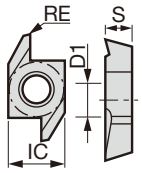
Insert POSITIVE TYPE

● : 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	



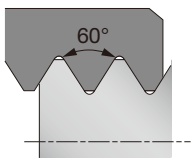
Application	Chipbreaker	Designation	Coated SH7025	Dimension (mm) RE	IC	S	D1
Back turning	-	**J10ER005BF**	●	0.05	6.35	3.18	3.0
		J10E**L005BF**	●	0.05	6.35	3.18	3.0
		J10E**R010BF**	●	0.10	6.35	3.18	3.0
		J10E**L010BF**	●	0.10	6.35	3.18	3.0
		J10E**L015BF**	●	0.15	6.35	3.18	3.0
		J10E**R015BF**	●	0.15	6.35	3.18	3.0

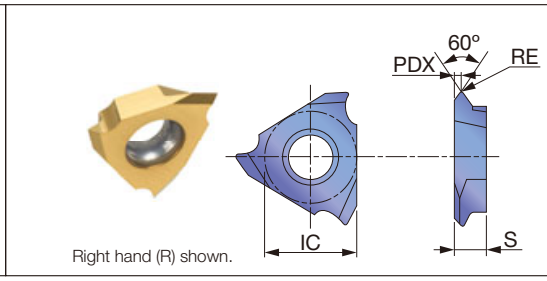
● : New

J-SERIES

INSERT

60° thread angle





Right hand (R) shown.

Applicable toolholder

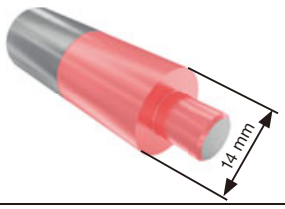
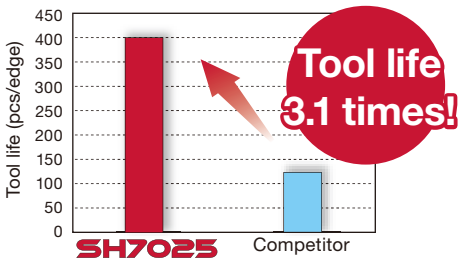
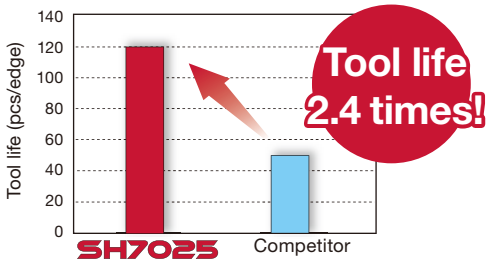
External
JSTTR**3

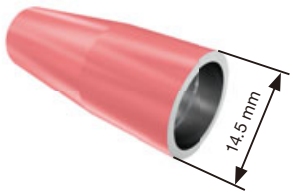
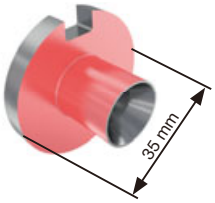
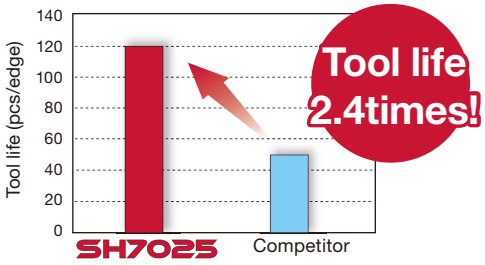
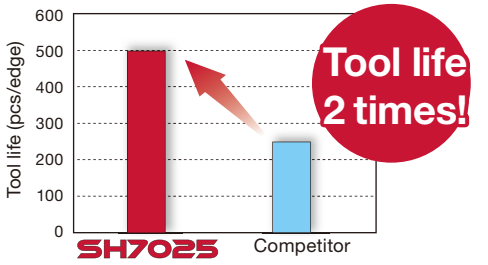
Partial-profile insert

Pitch	TPI	Hand of cut	External insert Designation	Grade Coated SH7025	IC	PDX	S	RE
0.5 - 1	25 - 48	R/L	**JTTR3005F**	●	9.525	0.6	3.18	0.05
0.5 - 1	25 - 48	R/L	**JTTR3010F**	●	9.525	1.1	3.18	0.1

● : New / 10 pieces per package

PRACTICAL EXAMPLES

Workpiece type		Guide for linear motion bearing	Spool pin
Insert		DCGT11T302FN-JP	DCGT11T302FN-JP
Grade		SH7025	SH7025
Workpiece material		SUS316	SCM415
			
Cutting conditions	Cutting speed: *Vc* (m/min)	150	150
	Feed : *f* (mm/rev)	0.03	0.03
	Depth of cut : *ap* (mm)	0.1	0.05
	Machining	External and face turning	External and face turning
	Coolant	Wet	Wet
Results		 SH7025 grade insert eliminated built-up edge while substantially extending tool life.	 SH7025 significantly prolonged tool life over the competitor grade with no part scraps.

Workpiece type		Pin	Flange
Insert		DCGT11T301FN-JP	DCGT11T302FN-JS
Grade		SH7025	SH7025
Workpiece material		SUS410 / X12Cr13	SUM23
			
Cutting conditions	Cutting speed: *Vc* (m/min)	90	140
	Feed : *f* (mm/rev)	0.05	0.03 - 0.05
	Depth of cut : *ap* (mm)	0.5	3
	Machining	External turning	External and face turning
	Coolant	Wet	Wet
Results		 SH7025 eliminated insert fracture that caused part surface deterioration and provided long, predictable tool life.	 SH7025 provided slower flank wear progression and eliminated part surface deterioration.

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