



Grades for small parts machining

SH7025

Tungaloy Report No. 561-US

For more information

Superior surface quality and process security in small part machining







SH7025



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

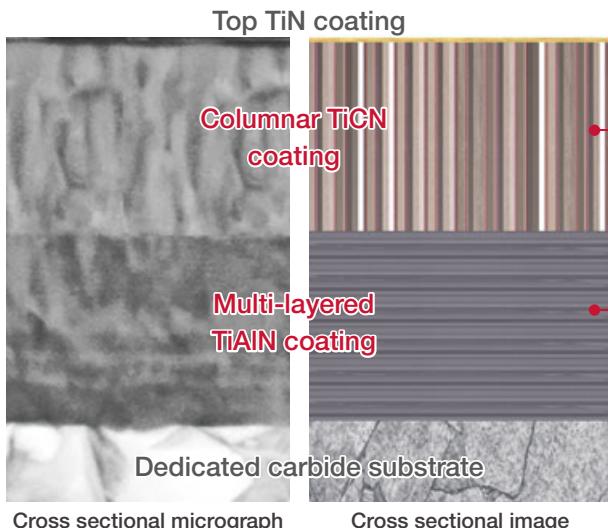
New insert grade for high surface quality



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



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.

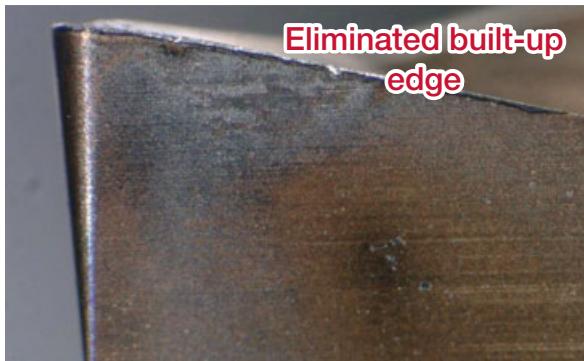
③ For superior process security

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

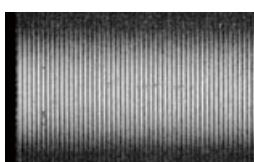
① For high surface quality

Built-up edge resistant TiCN coating improves surface finish quality

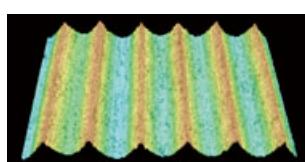
SH7025



O.D. surface quality



Actual image



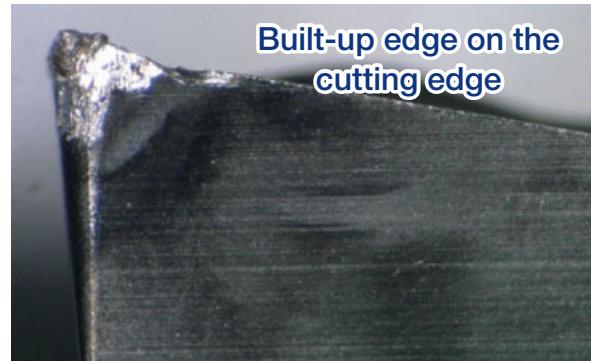
3D surface profile

Surface roughness chart

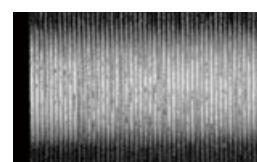


High quality surface finish!

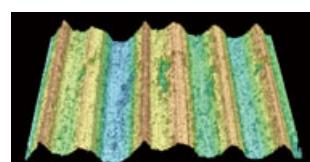
Conventional



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



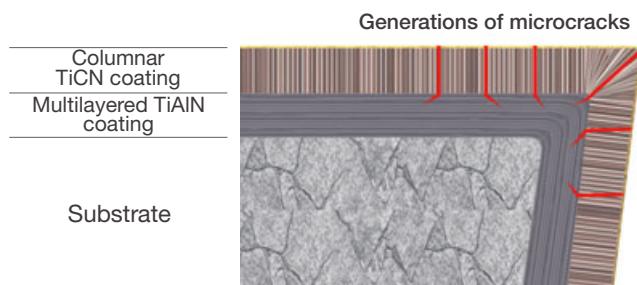
Poor surface quality,
creating a pile of part scraps

SH7025

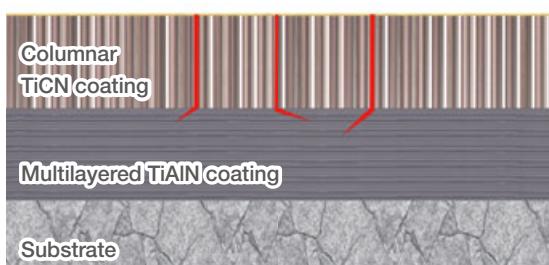
③ Superior process security

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

SH7025

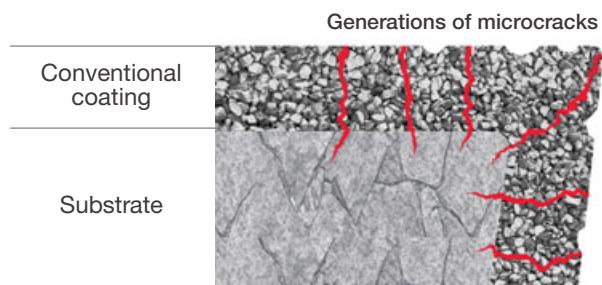


TiAlN coating prevents cracks from further propagation

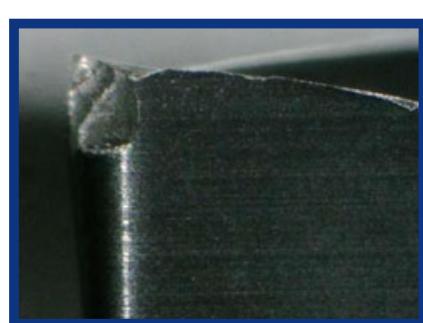
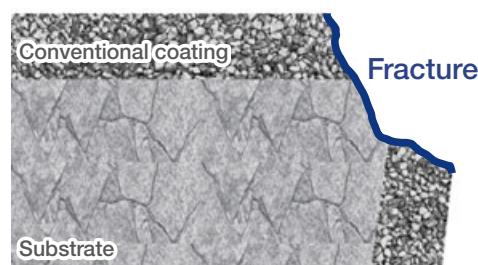


Eliminates fractures and provides security

Conventional



Crack reaches the substrate causing catastrophic failure



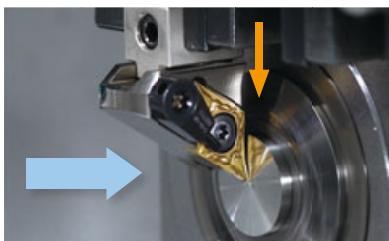
Catastrophic failure

CUTTING PERFORMANCE

3D surface profiling analysis

Face turning

Below images
are viewed in
this direction



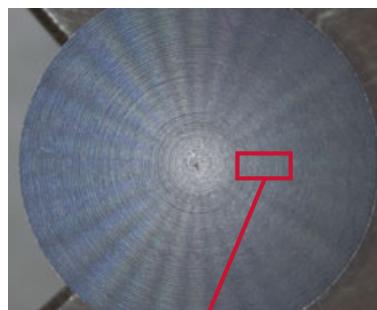
Case 1

P SUJ2 / 100Cr6

Insert : DCGT 32.50.5
Cutting speed : $V_c = 492$ sfm
Feed : $f = 0.0020$ ipr
Depth of cut : $a_p = 0.012"$
Coolant : Wet

Provides high quality
surface finish

SH7025



Conventional



Poor surface quality

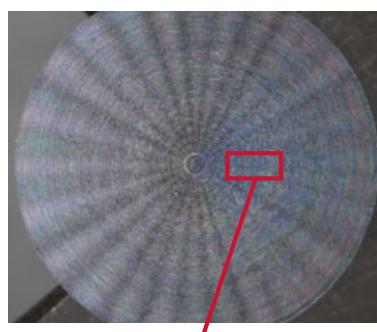
Case 2

M SUS316L /
X2CrNiMo17-12-2

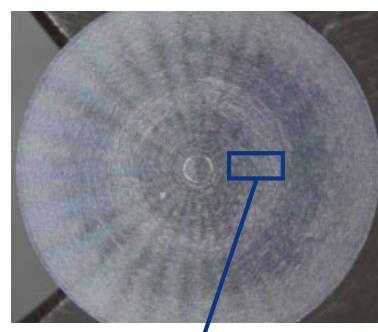
Insert : DCGT 32.50.5
Cutting speed : $V_c = 328$ sfm
Feed : $f = 0.0020$ ipr
Depth of cut : $a_p = 0.012"$
Coolant : Wet

Provides high quality
surface finish

SH7025



Conventional



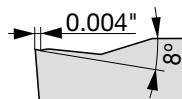
Poor surface quality

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

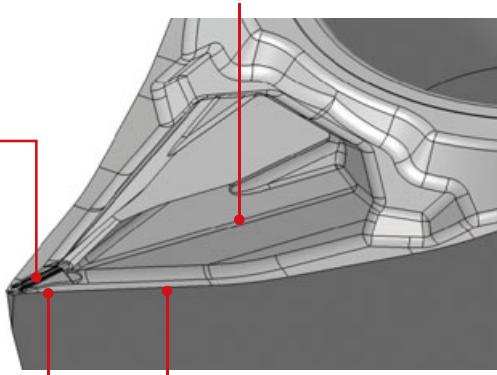


Eliminates chip nesting and other chip-associated issues that impede the shop's productivity and provides stable chip breaking over a wide range of feed rates and D.O.C.

- 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 : DCGT 32.50 FN-JP
Workpiece material : 1045
Cutting speed : $V_c = 262$ sfm
Feed : $f = 0.0008$ ipr
Depth of cut : $ap = 0.020"$
Coolant : Wet



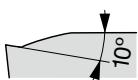
P Insert : DCGT 32.50 FN-JP
Workpiece material : 1045
Cutting speed : $V_c = 262$ sfm
Feed : $f = 0.0012$ ipr
Depth of cut : $ap = 0.118"$
Coolant : Wet



M Insert : DCGT 32.50 FN-JP
Workpiece material : 304SS
Cutting speed : $V_c = 262$ sfm
Feed : $f = 0.012$ ipr
Depth of cut : $ap = 0.0020"$
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

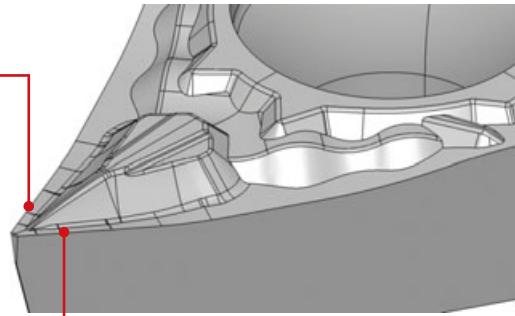


Chipbreaker geometry that allows light cutting action and excellent chip breaking

- 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

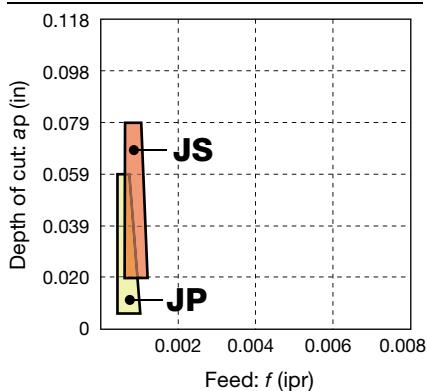


Rake with variable angles and steep protrusion

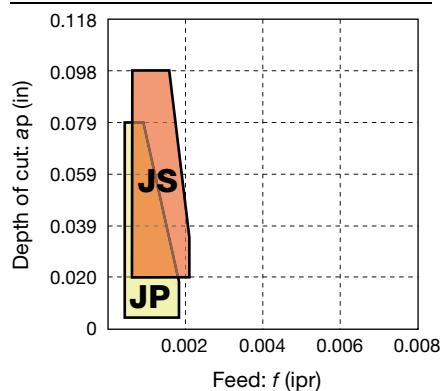
Provides stable chip control in the small to large cutting depth range and also maintains cutting edge integrity and sharpness over extended period of time

■ Chip control range

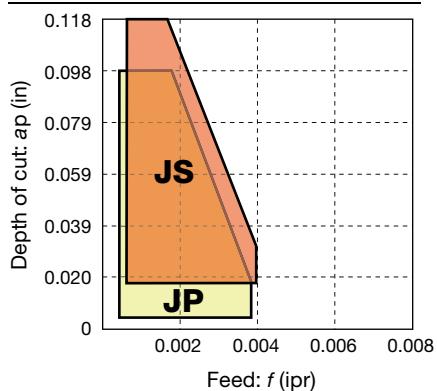
RE < 0.0020"



RE < 0.004"

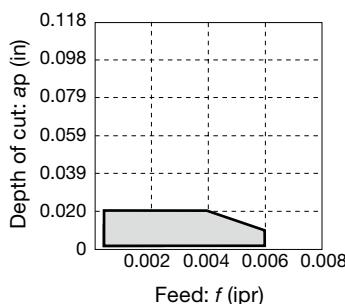
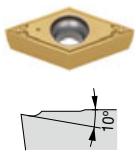


RE < 0.008"



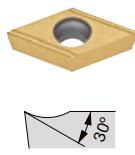
■ Complementary chipbreakers

01

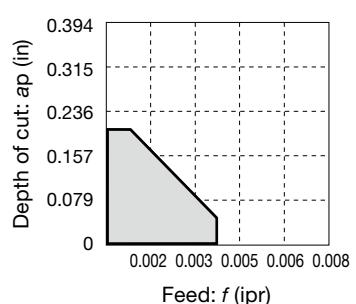


Pressed-in chipbreaker for high part quality that provides good chip control in the light D.O.C. range.

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 (sfm)	Depth of cut ap (in)	Feed: f (ipr)			
						RE < 0.0012"	RE < 0.004"	RE < 0.008"	RE < 0.016"
P	Carbon steel Alloy steel	JP	SH7025	33 - 656	0.0020 - 0.0980	0.0008 - 0.0012	0.0008 - 0.0020	0.0008 - 0.0040	-
		JS	SH7025	33 - 656	0.0200 - 0.1180	0.0008 - 0.0012	0.0008 - 0.0020	0.0008 - 0.0040	0.0020 - 0.0080
M	Stainless steel	JP	SH7025	33 - 656	0.0020 - 0.0980	0.0008 - 0.0012	0.0008 - 0.0020	0.0008 - 0.0040	-
		JS	SH7025	33 - 656	0.0200 - 0.1180	0.0008 - 0.0012	0.0008 - 0.0020	0.0008 - 0.0040	0.0020 - 0.0080

Insert POSITIVE TYPE

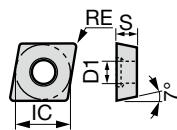
- : Continuous cutting
- : Light interrupted cutting
- : Heavy interrupted cutting

CC

Rhombic, 80°
with hole
Positive 7°



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



Application	Designation	Coated								Dimension (in)			
		RE	IC	S	D1	RE	IC	S	D1	RE	IC	S	D1
Precision finishing (sharp edge)	Chipbreaker	SH7025											
	Inch	CCGT21.5V FN-JP	CCGT060200FN-JP	●						<0.002	0.250	0.094	0.110
	JP	CCGT21.50 FN-JP	CCGT060201FN-JP	●						<0.004	0.250	0.094	0.110
		CCGT21.50.5 FN-JP	CCGT060202FN-JP	●						<0.008	0.250	0.094	0.110
		CCGT32.5V FN-JP	CCGT09T300FN-JP	●						<0.002	0.375	0.156	0.173
		CCGT32.50 FN-JP	CCGT09T301FN-JP	●						<0.004	0.375	0.156	0.173
		CCGT32.50.5 FN-JP	CCGT09T302FN-JP	●						<0.008	0.375	0.156	0.173
	01	CCGT21.50.5 F-01	CCGT060202F-01	●						<0.008	0.250	0.094	0.110
		CCGT21.51 F-01	CCGT060204F-01	●						<0.016	0.250	0.094	0.110
		CCGT32.50.5 F-01	CCGT09T302F-01	●						<0.008	0.375	0.156	0.173
Finishing (sharp edge)	JS	CCGT4.51.80 F-JS	CCGT03X101F-JS	●						<0.004	0.141	0.055	0.075
		CCGT4.51.80.5 F-JS	CCGT03X102F-JS	●						<0.008	0.141	0.055	0.075
		CCGT4.51.81 F-JS	CCGT03X104F-JS	●						<0.016	0.141	0.055	0.075
		CCGT5.52.20 F-JS	CCGT04T101F-JS	●						<0.004	0.172	0.070	0.091
		CCGT5.52.20.5 F-JS	CCGT04T102F-JS	●						<0.008	0.172	0.070	0.091
		CCGT5.52.21 F-JS	CCGT04T104F-JS	●						<0.016	0.172	0.070	0.091
	JS	CCGT21.5V FN-JS	CCGT060200FN-JS	●						<0.002	0.250	0.094	0.110
		CCGT21.50 FN-JS	CCGT060201FN-JS	●						<0.004	0.250	0.094	0.110
		CCGT21.50.5 FN-JS	CCGT060202FN-JS	●						<0.008	0.250	0.094	0.110
		CCGT21.51 FN-JS	CCGT060204FN-JS	●						<0.016	0.250	0.094	0.110
Finishing (sharp edge)	CCGT32.5V FN-JS	CCGT09T300FN-JS	●							<0.002	0.375	0.156	0.173
		CCGT32.50 FN-JS	CCGT09T301FN-JS	●						<0.004	0.375	0.156	0.173
		CCGT32.50.5 FN-JS	CCGT09T302FN-JS	●						<0.008	0.375	0.156	0.173
		CCGT32.51 FN-JS	CCGT09T304FN-JS	●						<0.016	0.375	0.156	0.173
	W08	CCGT4.51.8V FL-W08	CCGT03X100FL-W08	●						0.0012	0.141	0.055	0.075
		CCGT4.51.80 FL-W08	CCGT03X101FL-W08	●						0.004	0.141	0.055	0.075
		CCGT4.51.80.5FR-W08	CCGT03X102FL-W08	●						0.008	0.141	0.055	0.075
		CCGT4.51.80.5FL-W08	CCGT03X102FR-W08	●						0.008	0.141	0.055	0.075
		CCGT4.51.81 FR-W08	CCGT03X104FL-W08	●						0.016	0.141	0.055	0.075
		CCGT4.51.81 FL-W08	CCGT03X104FR-W08	●						0.016	0.141	0.055	0.075
Finishing (sharp edge)	CCGT5.52.2V FL-W08	CCGT04T100FL-W08	●							0.0012	0.172	0.070	0.091
		CCGT5.52.20 FL-W08	CCGT04T101FL-W08	●						0.004	0.172	0.070	0.091
		CCGT5.52.20.5FR-W08	CCGT04T102FL-W08	●						0.008	0.172	0.070	0.091
		CCGT5.52.20.5FL-W08	CCGT04T102FR-W08	●						0.008	0.172	0.070	0.091
		CCGT5.52.21 FR-W08	CCGT04T104FL-W08	●						0.016	0.172	0.070	0.091
		CCGT5.52.21 FL-W08	CCGT04T104FR-W08	●						0.016	0.172	0.070	0.091

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

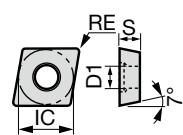
● : New

Insert **POSITIVE TYPE**

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



**Rhombic, 80°
with hole
Positive 7°**



Application	Designation	Inch	Metric	SH7025	Coated	Dimension (in)			
						RE	IC	S	D1
Finishing (sharp edge)	J10	CCGT21.5V FR-J10	CCGT060200FR-J10	●		0.0012	0.250	0.094	0.110
		CCGT21.50 FR-J10	CCGT060201FR-J10	●		0.004	0.250	0.094	0.110
		CCGT21.50.5 FR-J10	CCGT060202FR-J10	●		0.008	0.250	0.094	0.110
		CCGT21.50.5 FL-J10	CCGT060202FL-J10	●		0.008	0.250	0.094	0.110
		CCGT32.5V FR-J10	CCGT09T300FR-J10	●		0.0012	0.375	0.156	0.173
		CCGT32.50 FR-J10	CCGT09T301FR-J10	●		0.004	0.375	0.156	0.173
		CCGT32.50.5 FR-J10	CCGT09T302FR-J10	●		0.008	0.375	0.156	0.173
		CCGT32.50.5 FL-J10	CCGT09T302FL-J10	●		0.008	0.375	0.156	0.173

● : New

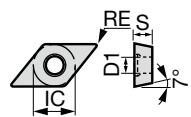
SH7025

Insert **POSITIVE TYPE**

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

DC

Rhombic, 55°
with hole
Positive 7°



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

: New

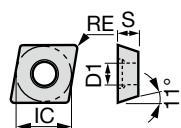
Insert **POSITIVE TYPE**

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

EP



**Rhombic, 75°
with hole
Positive 11°**



Application	Designation	Material	Coated	Dimension (in)				
				SH7025	RE	IC	S	D1
Finishing (sharp edge)	Chipbreaker	Inch	Metric					
	JS	EPGT4.51.80 F-JS	EPGT03X101F-JS	●	<0.004	0.141	0.055	0.075
		EPGT4.51.80.5 F-JS	EPGT03X102F-JS	●	<0.008	0.141	0.055	0.075
		EPGT4.51.81 F-JS	EPGT03X104F-JS	●	<0.016	0.141	0.055	0.075
		EPGT520 F-JS	EPGT040101F-JS	●	<0.004	0.156	0.063	0.091
		EPGT520.5 F-JS	EPGT040102F-JS	●	<0.008	0.156	0.063	0.091
Finishing (sharp edge)		EPGT521 F-JS	EPGT040104F-JS	●	<0.016	0.156	0.063	0.091
	J08	EPGT520.5 FL-J08	EPGT040102FL-J08	●	0.008	0.156	0.063	0.091
		EPGT521 FL-J08	EPGT040104FL-J08	●	0.016	0.156	0.063	0.091
Finishing (sharp edge)	W08	EPGT4.51.8V FL-W08	EPGT03X100FL-W08	●	0.0012	0.141	0.055	0.075
		EPGT4.51.80 FL-W08	EPGT03X101FL-W08	●	0.004	0.141	0.055	0.075
		EPGT4.51.80.5FR-W08	EPGT03X102FL-W08	●	0.008	0.141	0.055	0.075
		EPGT4.51.80.5FL-W08	EPGT03X102FR-W08	●	0.008	0.141	0.055	0.075
		EPGT4.51.81 FR-W08	EPGT03X104FL-W08	●	0.016	0.141	0.055	0.075
		EPGT4.51.81 FL-W08	EPGT03X104FR-W08	●	0.016	0.141	0.055	0.075
		EPGT52V FL-W08	EPGT040100FL-W08	●	0.0012	0.156	0.063	0.091
		EPGT520 FL-W08	EPGT040101FL-W08	●	0.004	0.156	0.063	0.091
		EPGT520.5 FR-W08	EPGT040102FL-W08	●	0.008	0.156	0.063	0.091
		EPGT520.5 FL-W08	EPGT040102FR-W08	●	0.008	0.156	0.063	0.091
		EPGT521 FR-W08	EPGT040104FL-W08	●	0.016	0.156	0.063	0.091
		EPGT521 FL-W08	EPGT040104FR-W08	●	0.016	0.156	0.063	0.091

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

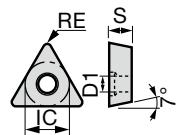
• New

Insert **POSITIVE TYPE**

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



**Triangular
with hole
Positive 7°**



Application	Designation	Material	Coated					Dimension (in)				
				SH7025								
JP	Inch	Metric										
	TCGT21.5V FN-JP	TCGT110200FN-JP	●							<0.002	0.250	0.094
	TCGT21.50 FN-JP	TCGT110201FN-JP	●							<0.004	0.250	0.094
O1	TCGT21.50.5 FN-JP	TCGT110202FN-JP	●							<0.008	0.250	0.094
	TCGT21.50.5 F-01	TCGT110202F-01	●							<0.008	0.250	0.094
	TCGT21.51 F-01	TCGT110204F-01	●							<0.016	0.250	0.094
JS	TCGT21.5V FN-JS	TCGT110200FN-JS	●							<0.002	0.250	0.094
	TCGT21.50 FN-JS	TCGT110201FN-JS	●							<0.004	0.250	0.094
	TCGT21.50.5 FN-JS	TCGT110202FN-JS	●							<0.008	0.250	0.094
J08	TCGT21.51 FN-JS	TCGT110204FN-JS	●							<0.016	0.250	0.094
	TCGT63V FR-J08	TCGT080200FR-J08	●							0.0012	0.187	0.094
	TCGT630 FR-J08	TCGT080201FR-J08	●							0.004	0.187	0.094
J10	TCGT630.5 FR-J08	TCGT080202FR-J08	●							0.008	0.187	0.094
	TCGT630.5 FL-J08	TCGT080202FL-J08	●							0.008	0.187	0.094
	TCGT631 FR-J08	TCGT080204FR-J08	●							0.016	0.187	0.094
J22	TCGT21.5V FR-J10	TCGT110200FR-J10	●							0.0012	0.250	0.094
	TCGT21.50 FR-J10	TCGT110201FR-J10	●							0.004	0.250	0.094
	TCGT21.50.5 FR-J10	TCGT110202FR-J10	●							0.008	0.250	0.094
J22V	TCGT21.50.5 FL-J10	TCGT110202FL-J10	●							0.008	0.250	0.094
	TCGT21.51 FR-J10	TCGT110204FR-J10	●							0.016	0.250	0.094
	TCGT22V FR-J10	TCGT110300FR-J10	●							0.0012	0.250	0.125
J220	TCGT220 FR-J10	TCGT110301FR-J10	●							0.004	0.250	0.125
	TCGT220.5 FR-J10	TCGT110302FR-J10	●							0.008	0.250	0.125
	TCGT220.5 FL-J10	TCGT110302FL-J10	●							0.008	0.250	0.125

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

: New

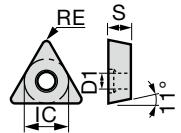
Insert POSITIVE TYPE

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

TP

 Triangular with hole Positive 11°

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



Application	Designation	Coated												Dimension (in)			
		Inch	Metric	SH7025										RE	IC	S	D1
Finishing (sharp edge)	JS	TPGT5.520 F-JS	TPGT070101F-JS	●										<0.004	0.172	0.063	0.102
		TPGT5.520.5 F-JS	TPGT070102F-JS	●										<0.008	0.172	0.063	0.102
		TPGT5.521 F-JS	TPGT070104F-JS	●										<0.016	0.172	0.063	0.102
Finishing (sharp edge)	W08	TPGT5.52V FL-W08	TPGT070100FL-W08	●										0.0012	0.172	0.063	0.102
		TPGT5.520 FL-W08	TPGT070101FL-W08	●										0.004	0.172	0.063	0.102
		TPGT5.520.5 FR-W08	TPGT070102FR-W08	●										0.008	0.172	0.063	0.102
		TPGT5.520.5 FL-W08	TPGT070102FL-W08	●										0.008	0.172	0.063	0.102
		TPGT5.521 FR-W08	TPGT070104FR-W08	●										0.016	0.172	0.063	0.102
		TPGT5.521 FL-W08	TPGT070104FL-W08	●										0.016	0.172	0.063	0.102

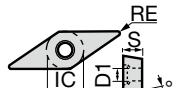
Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New

VB

 Rhombic, 35° with hole Positive 5°

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



Application	Designation	Coated												Dimension (in)			
		Inch	Metric	SH7025										RE	IC	S	D1
Precision finishing (sharp edge)	JP	VBG22V FN-JP	VBGT110300FN-JP	●										<0.002	0.250	0.125	0.110
		VBG220 FN-JP	VBGT110301FN-JP	●										<0.004	0.250	0.125	0.110
		VBG220.5 FN-JP	VBGT110302FN-JP	●										<0.008	0.250	0.125	0.110
Finishing (sharp edge)	JS	VBG22V FN-JS	VBGT110300FN-JS	●										<0.002	0.250	0.125	0.110
		VBG220 FN-JS	VBGT110301FN-JS	●										<0.004	0.250	0.125	0.110
		VBG220.5 FN-JS	VBGT110302FN-JS	●										<0.008	0.250	0.125	0.110
		VBG221 FN-JS	VBGT110304FN-JS	●										<0.016	0.250	0.125	0.110
For external turning on Swiss lathes (sharp edge)	J10	VBG22V FR-J10	VBGT110300FR-J10	●										0.0012	0.250	0.125	0.110
		VBG220 FR-J10	VBGT110301FR-J10	●										0.004	0.250	0.125	0.110
		VBG220.5 FR-J10	VBGT110302FR-J10	●										0.008	0.250	0.125	0.110
		VBG220.5 FL-J10	VBGT110302FL-J10	●										0.008	0.250	0.125	0.110
		VBG221 FR-J10	VBGT110304FR-J10	●										0.016	0.250	0.125	0.110
		VBG221 FL-J10	VBGT110304FL-J10	●										0.016	0.250	0.125	0.110

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

● : New

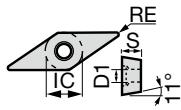
SH7025

Insert **POSITIVE TYPE**

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

VP

35° Rhombic
with hole
Positive 11°



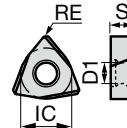
Application	Designation	Coated	Dimension (in)			
			RE	IC	S	D1
Precision finishing (sharp edge)	Chipbreaker	SH7025				
	Inch	Metric				
	JP	VPGT22V FN-JP VPGT110300FN-JP	●	<0.002	0.250	0.125
Finishing (sharp edge)	VPGT220 FN-JP VPGT110301FN-JP	●	<0.004	0.250	0.125	0.110
	VPGT220.5 FN-JP VPGT110302FN-JP	●	<0.008	0.250	0.125	0.110
	JS	VPGT22V FN-JS VPGT110300FN-JS	●	<0.002	0.250	0.125
	VPGT220 FN-JS VPGT110301FN-JS	●	<0.004	0.250	0.125	0.110
	VPGT220.5 FN-JS VPGT110302FN-JS	●	<0.008	0.250	0.125	0.110
	VPGT221 FN-JS VPGT110304FN-JS	●	<0.016	0.250	0.125	0.110

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

● : New

WB

Trigon, 80°
with hole
Positive 5°



		H material								Dimension (in)			
Application	Designation			Coated						RE	IC	S	D1
		Inch	Metric	SH7025									
Finishing (sharp edge)	JS	WBGT520 FR-JS	WBGT030101FR-JS	●						<0.004	0.156	0.063	0.091
		WBGT520 FL-JS	WBGT030101FL-JS	●						<0.004	0.156	0.063	0.091
		WBGT520.5 FR-JS	WBGT030102FR-JS	●						<0.008	0.156	0.063	0.091
		WBGT520.5 FL-JS	WBGT030102FL-JS	●						<0.008	0.156	0.063	0.091
		WBGT521 FR-JS	WBGT030104FR-JS	●						<0.016	0.156	0.063	0.091
		WBGT521 FL-JS	WBGT030104FL-JS	●						<0.016	0.156	0.063	0.091
Finishing (sharp edge)	W08	WBGT52V FL-W08	WBGT030100FL-W08	●						0.0012	0.156	0.063	0.091
		WBGT520 FL-W08	WBGT030101FL-W08	●						0.004	0.156	0.063	0.091
		WBGT520.5 FR-W08	WBGT030102FL-W08	●						0.008	0.156	0.063	0.091
		WBGT520.5 FL-W08	WBGT030102FR-W08	●						0.008	0.156	0.063	0.091
		WBGT521 FR-W08	WBGT030104FL-W08	●						0.016	0.156	0.063	0.091
		WBGT521 FL-W08	WBGT030104FR-W08	●						0.016	0.156	0.063	0.091

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

● : New

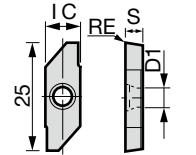
Insert **POSITIVE TYPE**

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

JXF



Front turning

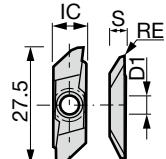


● : New

JXB



Back turning



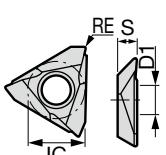
Application	Designation	Material	Coated					Dimension (in)			
				SH7025				RE	IC	S	D1
Chipbreaker	Inch	Metric									
Back turning	-	JXBR8000F	●					0.0012	0.315	0.156	0.173
	-	JXB R8005F	●					0.002	0.315	0.156	0.173
	-	JXB R8010F	●					0.004	0.315	0.156	0.173
	-	JXB R8015F	●					0.006	0.315	0.156	0.173

● : New

JTB



Back turning



Application	Designation	SH7025	Coated	Dimension (in)			
			RE	IC	S	D1	
Back turning	-	JTBR3000F	●			0.0012	0.372
	-	JTBR3005F	●			0.002	0.372
	-	JTBR3010F	●			0.004	0.372
	-	JTBR3015F	●			0.006	0.372

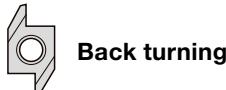
● : New

SH7025

Insert POSITIVE TYPE

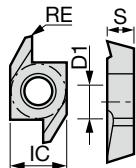
- : Continuous cutting
- : Light interrupted cutting
- : Heavy interrupted cutting

J10E



Back turning

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



Application	Chipbreaker	Designation	Coated	Dimension (in)			
				RE	IC	S	D1
Back turning		Inch	Metric	SH7025			
		-	J10ER005BF	●			0.002
		-	J10EL005BF	●			0.002
		-	J10ER010BF	●			0.004
		-	J10EL010BF	●			0.004
		-	J10EL015BF	●			0.006
		-	J10ER015BF	●			0.006

● : New

J-SERIES INSERT

60° thread angle (General purpose)



Applicable toolholder

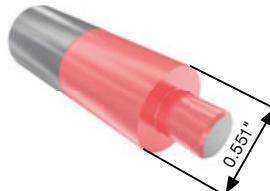
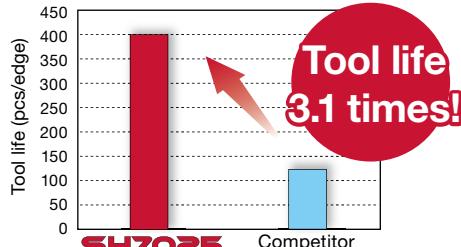
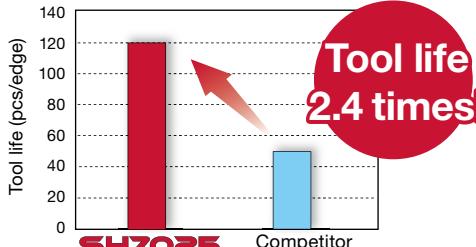
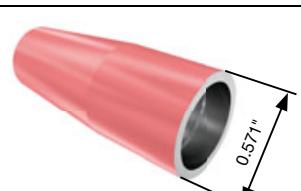
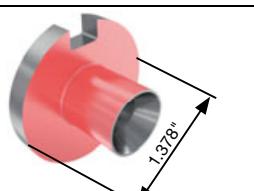
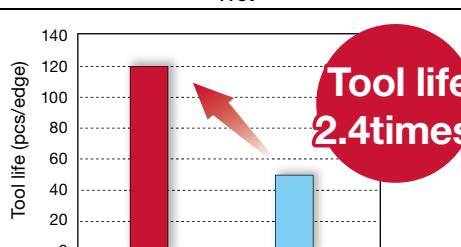
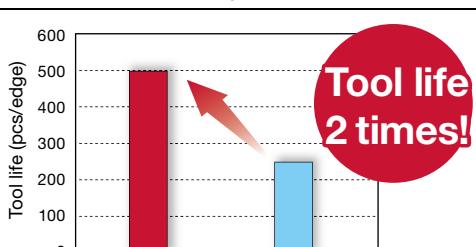
External
JSXBR**K8
JSXBR**K8-C

Partial-profile insert

Pitch (mm)	TPI	Hand of cut	External insert (in)				
			Designation	Grade	IC	S	RE
				Coated			
0.5 - 1	25 - 48	R	JXT1R6000F	●	0.315	0.156	0.0012
0.5 - 1	25 - 48	R	JXT2R6000F	●	0.315	0.156	0.0012

● : New / 10 pieces per package

PRACTICAL EXAMPLES

Workpiece type	Guide for linear motion bearing	Spool pin
Insert	DCGT 32.50.5 FN-JP	DCGT 32.50.5 FN-JP
Grade	SH7025	SH7025
	316SS	4140
Workpiece material		
Cutting conditions	Cutting speed: V_c (sfm) 492 Feed : f (ipr) 0.0012 Depth of cut : ap (in) 0.004 Machining External and face turning Coolant Wet	492 0.0012 0.0020 External and face turning Wet
Results	 <p>Tool life (pcs/edge) SH7025 Competitor</p> <p>SH7025 grade insert eliminated built-up edge while substantially extending tool life.</p>	 <p>Tool life (pcs/edge) SH7025 Competitor</p> <p>SH7025 significantly prolonged tool life over the competitor grade with no part scraps.</p>
Workpiece type	Pin	Flange
Insert	DCGT 32.50 FN-JP	DCGT 32.50.5 FN-JS
Grade	SH7025	SH7025
	Stainless steel	1215
Workpiece material		
Cutting conditions	Cutting speed: V_c (sfm) 6,562 Feed : f (ipr) 0.0020 Depth of cut : ap (in) 0.020 Machining External turning Coolant Wet	4,265 0.0012 - 0.0020 0.118 External and face turning Wet
Results	 <p>Tool life (pcs/edge) SH7025 Competitor</p> <p>SH7025 eliminated insert fracture that caused part surface deterioration and provided long, predictable tool life.</p>	 <p>Tool life (pcs/edge) SH7025 Competitor</p> <p>SH7025 provided slower flank wear progression and eliminated part surface deterioration.</p>

Other processing examples



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