



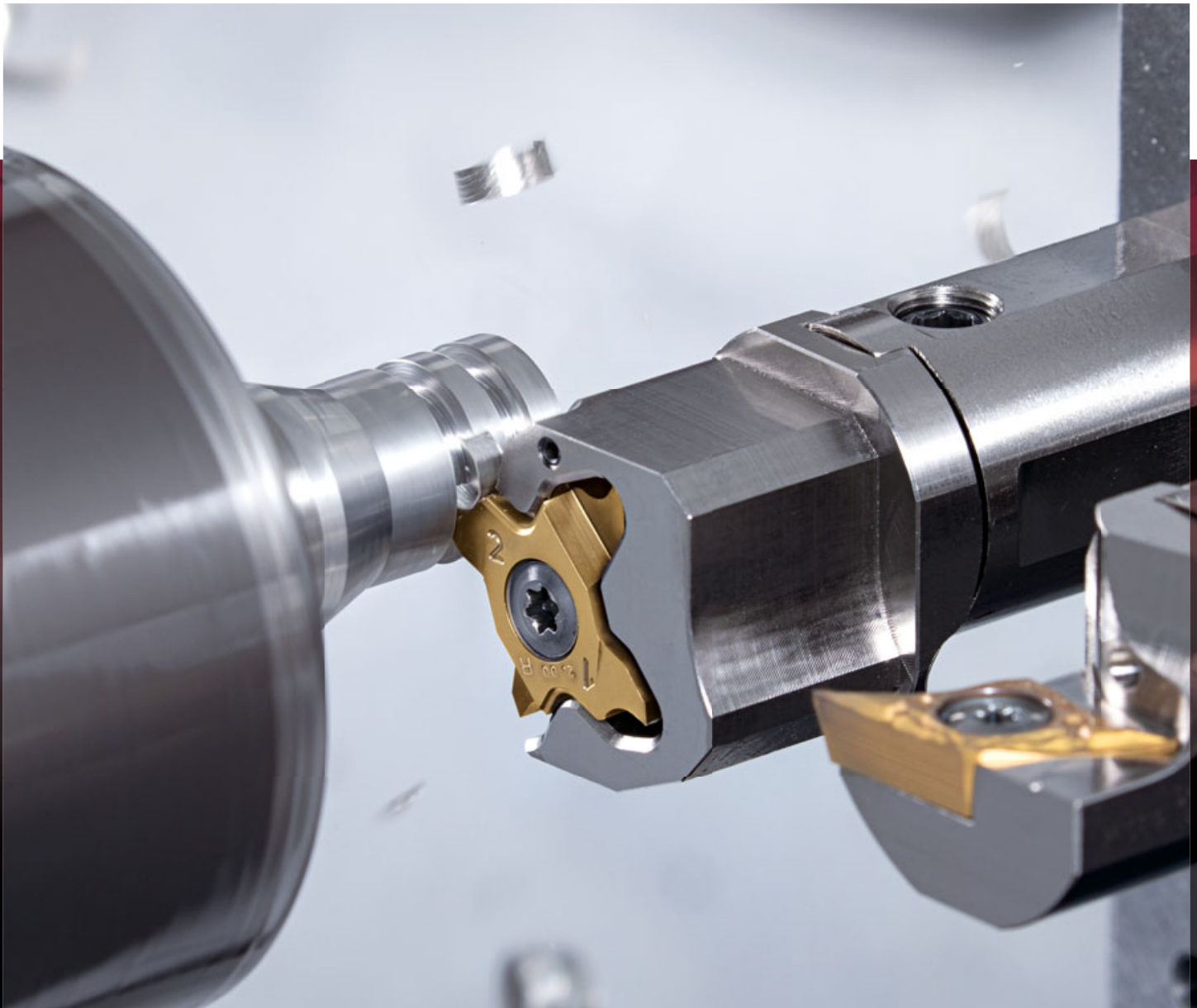
For more information

High precision grooving tool

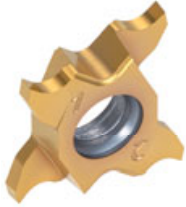
TETRAMCUT

Tungaloy Report No. 416S8-G

Introducing the latest PVD grade **SH7025**



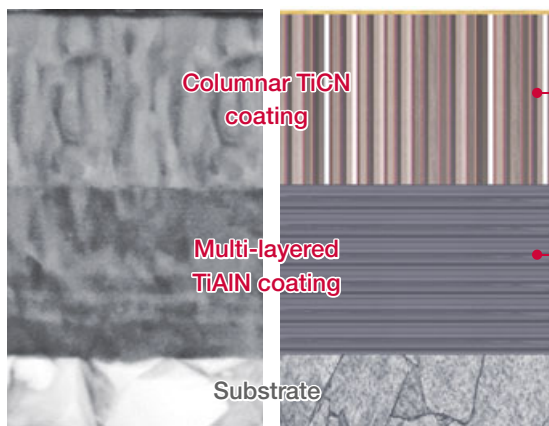
SH7025 - the latest PVD insert grade for superior surface quality and process security



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.

Outer layer TiN coating



Cross sectional micrograph

Cross sectional diagram

For high surface quality

Built-up edge resistant TiCN coating improves surface finish quality.

For extremely long tool life

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

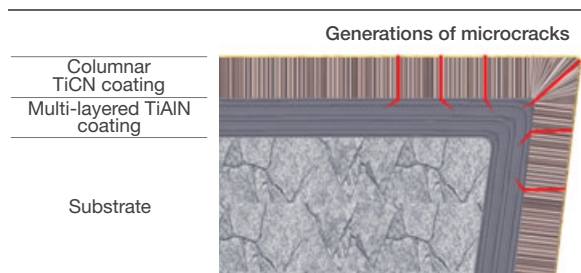
For superior process security

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

Superior process security

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

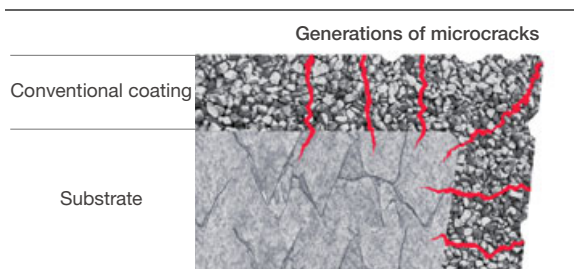
SH7025



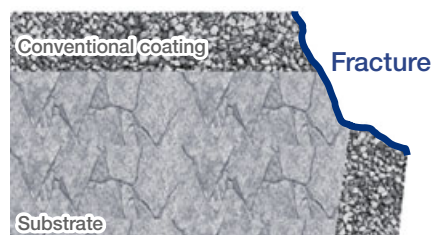
TiAlN coating prevents cracks from further propagation



Conventional

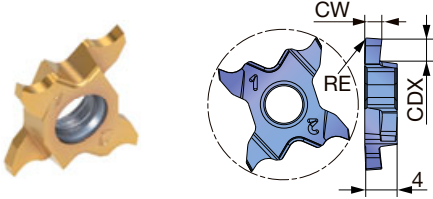


Crack reaches the substrate causing catastrophic failure



INSERTS

TCP18R/L-F



Right-hand (R) shown.

P	Steel	★							
M	Stainless	★							
K	Cast iron	★							
N	Non-ferrous								
S	Superalloys	★							
H	Hard materials								

★ : First choice

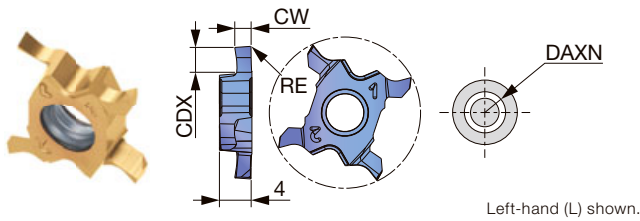
Designation	Right hand	Left hand	CW±0.02	RE	Coated					CDX
					SH7025					
TCP18R033F-005	✓		0.33	0.05	●					0.8
TCP18R043F-005	✓		0.43	0.05	●					1.2
TCP18R050F-005	✓		0.5	0.05	●					1.2
TCP18R075F-005	✓		0.75	0.05	●					2
TCP18R095F-005	✓		0.95	0.05	●					2
TCP18R100F-005	✓		1	0.05	●					2
TCP18R100F-010	✓		1	0.1	●					2
TCP18R120F-005	✓		1.2	0.05	●					2
TCP18R120F-010	✓		1.2	0.1	●					2
TCP18R125F-005	✓		1.25	0.05	●					2
TCP18R125F-010	✓		1.25	0.1	●					2
TCP18R140F-010-35	✓		1.4	0.1	●					3.5
TCP18R145F-005-35	✓		1.45	0.05	●					3.5
TCP18R145F-010-35	✓		1.45	0.1	●					3.5
TCP18R150F-005-35	✓		1.5	0.05	●					3.5
TCP18R150F-010-35	✓		1.5	0.1	●					3.5
TCP18R175F-005-35	✓		1.75	0.05	●					3.5
TCP18R175F-010-35	✓		1.75	0.1	●					3.5
TCP18R200F-005-35	✓		2	0.05	●					3.5
TCP18R200F-010-35	✓		2	0.1	●					3.5
TCP18R250F-010-35	✓		2.5	0.1	●					3.5
TCP18R300F-010-35	✓		3	0.1	●					3.5
TCP18L033F-005		✓	0.33	0.05	●					0.8
TCP18L043F-005		✓	0.43	0.05	●					1.2
TCP18L050F-005		✓	0.5	0.05	●					1.2
TCP18L075F-005		✓	0.75	0.05	●					2
TCP18L095F-005		✓	0.95	0.05	●					2
TCP18L100F-010		✓	1	0.1	●					2
TCP18L120F-010		✓	1.2	0.1	●					2
TCP18L125F-010		✓	1.25	0.1	●					2
TCP18L145F-010-35		✓	1.45	0.1	●					3.5
TCP18L150F-010-35		✓	1.5	0.1	●					3.5
TCP18L175F-010-35		✓	1.75	0.1	●					3.5
TCP18L200F-010-35		✓	2	0.1	●					3.5
TCP18L250F-010-35		✓	2.5	0.1	●					3.5
TCP18L300F-010-35		✓	3	0.1	●					3.5

5 pieces per package

● : New product

INSERT

TCF18L (Face grooving)

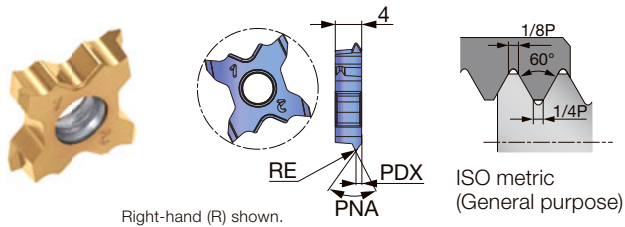


P Steel	★										
M Stainless	★										
K Cast iron	★										
N Non-ferrous											
S Superalloys	★										
H Hard materials											★: First choice

Designation	Left hand	CW±0.02	RE	Coated								CDX	DAXN
				SH7025									
TCF18L050F-005	✓	0.5	0.05	●								1	6
TCF18L100F-005	✓	1	0.05	●								2.5	6
TCF18L150F-005	✓	1.5	0.05	●								2.5	6
TCF18L200F-005	✓	2	0.05	●								3	6
TCF18L250F-005	✓	2.5	0.05	●								3	6

5 pieces per package
●: New product

TCT18R-ISO (Full profile threading insert)

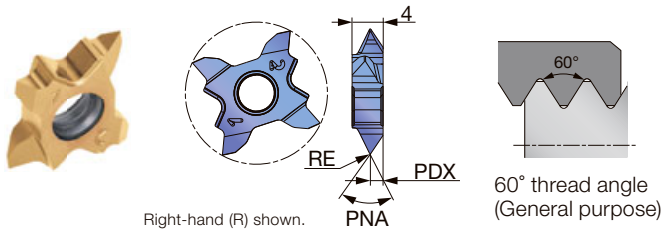


P Steel	★										
M Stainless	★										
K Cast iron	★										
N Non-ferrous											
S Superalloys	★										
H Hard materials											★: First choice

Designation	Right hand	RE	Coated								Pitch	PDX	PNA	
			SH7025											
TCT18FR-05ISO	✓	0.06	●									0.5	0.35	60°
TCT18FR-07ISO	✓	0.09	●									0.7	0.45	60°
TCT18FR-075ISO	✓	0.09	●									0.75	0.5	60°
TCT18FR-08ISO	✓	0.1	●									0.8	0.5	60°

5 pieces per package
●: New product

TCT18R-60 (Threading insert)



P	Steel	★							
M	Stainless	★							
K	Cast iron	★							
N	Non-ferrous								
S	Superalloys	★							
H	Hard materials								★: First choice

Designation	Right hand	RE	Coated								Pitch	PDX	PNA	
			SH7025											
TCT18FR-60A-005	✓	0.05	●									0.4 - 1	0.6	60°
TCT18FR-60A-010	✓	0.1	●									1 - 2	1	60°

5 pieces per package
●: New product

STANDARD CUTTING CONDITIONS

TCP18R/L-F

ISO	Workpiece materials	Grades	Cutting speed Vc (m/min)	Feed f (mm/rev)
P	Low carbon steel S15C, S20C, etc. C15, C20, etc.	SH7025	80 - 180	0.03 - 0.1
	Carbon steels, Alloy steel S55C, SCM440, etc. C55, 42CrMoS4, etc.	SH7025	80 - 180	0.03 - 0.1
	Prehardened steel NAK80, PX5, etc.	SH7025	80 - 180	0.03 - 0.1
M	Stainless steel SUS304, etc. X5CrNi18-9, etc.	SH7025	50 - 120	0.03 - 0.1
K	Grey cast iron FC250, 250, etc. FC300, 300, etc.	SH7025	50 - 180	0.03 - 0.1
	Ductile cast iron FCD400, FCD600, etc. 400-15, 600-3, etc.	SH7025	50 - 180	0.03 - 0.1
S	Titanium alloys Ti-6Al-4V, etc.	SH7025	30 - 80	0.03 - 0.1
	Superalloys Inconel718, etc.	SH7025	20 - 60	0.03 - 0.1

STANDARD CUTTING CONDITIONS

TCF18L (face grooving)

ISO	Workpiece materials	Grades	Cutting speed Vc (m/min)	Feed f (mm/rev)
P	Low carbon steel S15C, S20C, etc. C15, C20, etc.	SH7025	30 - 100	0.01 - 0.04
	Carbon steels, Alloy steel S55C, SCM440, etc. C55, 42CrMoS4, etc.	SH7025	30 - 100	0.01 - 0.04
	Prehardened steel NAK80, PX5, etc.	SH7025	30 - 100	0.01 - 0.04
M	Stainless steel SUS304, etc. X5CrNi18-9, etc.	SH7025	30 - 100	0.01 - 0.04
K	Grey cast iron FC250, 250, etc. FC300, 300, etc.	SH7025	30 - 100	0.01 - 0.04
	Ductile cast iron FCD400, FCD600, etc. 400-15, 600-3, etc.	SH7025	30 - 100	0.01 - 0.04
S	Titanium alloys Ti-6Al-4V, etc.	SH7025	20 - 40	0.01 - 0.04
	Superalloys Inconel718, etc.	SH7025	10 - 30	0.01 - 0.04

TCT18FR-ISO / TCT18FR (threading)

ISO	Workpiece materials	Grades	Cutting speed Vc (m/min)	Pitch (mm)	TPI
P	Low carbon steel S15C, S20C, etc. C15, C20, etc.	SH7025	60 - 150	0.4 - 2	64 - 18
	Carbon steels, Alloy steel S55C, SCM440, etc. C55, 42CrMoS4, etc.	SH7025	60 - 150	0.4 - 2	64 - 18
	Prehardened steel NAK80, PX5, etc.	SH7025	60 - 150	0.4 - 2	64 - 18
M	Stainless steel SUS304, etc. X5CrNi18-9, etc.	SH7025	50 - 80	0.4 - 2	64 - 18
K	Grey cast iron FC250, 250, etc. FC300, 300, etc.	SH7025	50 - 100	0.4 - 2	64 - 18
	Ductile cast iron FCD400, FCD600, etc. 400-15, 600-3, etc.	SH7025	50 - 100	0.4 - 2	64 - 18
S	Titanium alloys Ti-6Al-4V, etc.	SH7025	30 - 100	0.4 - 2	64 - 18
	Superalloys Inconel718, etc.	SH7025	30 - 100	0.4 - 2	64 - 18



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