



TETRAMCUT

Tungaloy Report No. 416S7-G

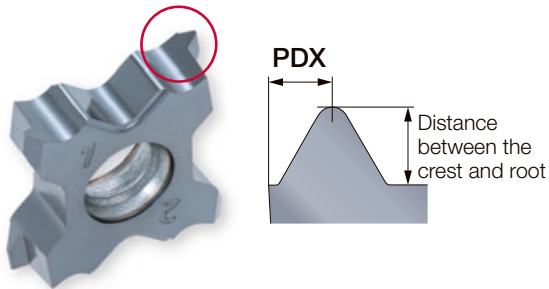
Expansion of **AH8015 grade** for threading inserts



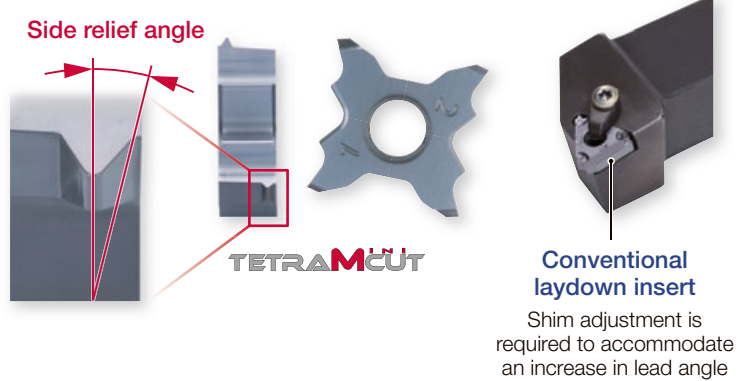
TETRAMCUT

Four advantages

1 Excellent accessibility to the wall, minimize incomplete thread



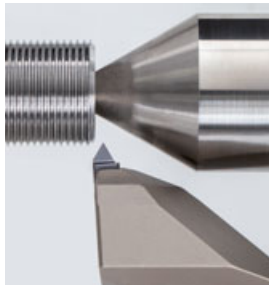
2 Side relief angle eliminating the need for shim adjustment as with the case for a 16ER laydown insert



3 High accessibility to the center lathe

TETRAMCUT

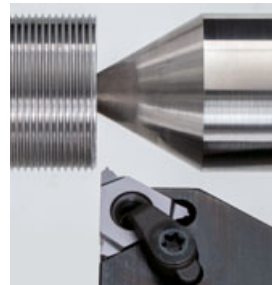
M16x1



Insert: TCT18R-60N-020

Conventional

M24x1



Insert: 16ER10ISO

4 The insert has positive rake angle on the tool holder, allowing a light cutting and accurate threading operations

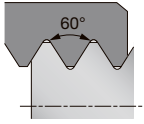


Expanded product lineup

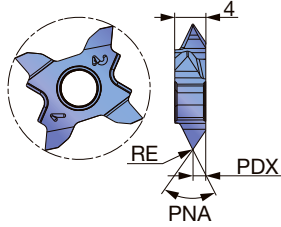
	Partial		Full profile				
	60°	New 55°	ISO	New UN	New W		New UNJ
Thread type	ISO metric threads	Whitworth threads	ISO metric threads	Unified national threads series	Whitworth threads	British standard parallel pipe	Unified inch screw threads
	Unified national threads series		Coarse and fine	60° inch threads	British standard whitworth, British standard fine	55° inch thread	
	M, UN, UNC, UNF, UNEF, UNS	G, BSP, PF, BSPP	M	UN, UNR, UNC, UNRC, UNF, UNRF, UNEF, UNREF, UNS, UNRS	BSW, BSF, W	G, BSP, PF, BSPP	UNJ, UNJC, UNJF, UNEF, UNJS
TETRAMCUT Threading insert	●	●	●	●	●	●	●

INSERTS

TCT18R/L-60 (Threading insert)



60° thread angle
(General purpose)



Right-hand (R) shown.

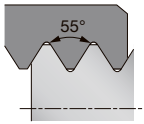
P	Steel	★	★																		
M	Stainless	★	★																		
K	Cast iron	★	★																		
N	Non-ferrous																				
S	Superalloys	★	★																		
H	Hard materials																				

★ : First choice
☆ : Second choice

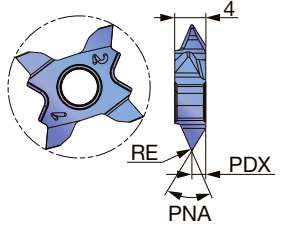
Designation	HAND	RE	Coated		Pitch	PDX	PNA
			SH725	AH725			
TCT18FR-60A-005	R	0.05	●		0.4 - 1	0.6	60°
TCT18FR-60A-010	R	0.1	●		1 - 2	1	60°
TCT18R-60N-010	R	0.1		●	0.8 - 3	1.6	60°
TCT18L-60N-010	L	0.1		●	0.8 - 3	1.6	60°
TCT18R-60N-020	R	0.2		●	1.5 - 3	1.6	60°
TCT18L-60N-020	L	0.2		●	1.5 - 3	1.6	60°

5 pieces per package
● : Line up

TCT18R/L-55 (Threading insert)



55° thread angle
(General purpose)



Right-hand (R) shown.

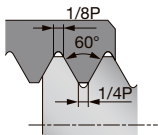
P	Steel	★																			
M	Stainless	★																			
K	Cast iron	★																			
N	Non-ferrous																				
S	Superalloys	★																			
H	Hard materials																				

★ : First choice
☆ : Second choice

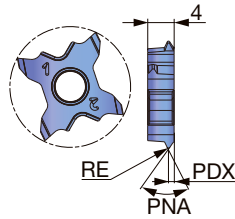
Designation	HAND	RE	Coated		TPI	PDX	PNA
			AH8015				
TCT18R-55N-010	R	0.1	●		28 - 8	1.6	55°
TCT18L-55N-010	L	0.1	●		28 - 8	1.6	55°
TCT18R-55N-020	R	0.2	●		16 - 8	1.6	55°
TCT18L-55N-020	L	0.2	●		16 - 8	1.6	55°

5 pieces per package
● : New product

TCT18R-ISO (Full profile threading insert)



ISO metric
(General purpose)



Right-hand (R) shown.

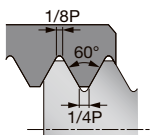
P	Steel	★	★																	
M	Stainless	★	★																	
K	Cast iron	★	★																	
N	Non-ferrous																			
S	Superalloys	★	★																	
H	Hard materials																			

★ : First choice
☆ : Second choice

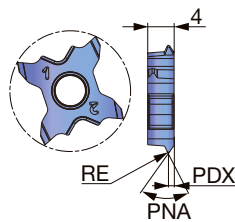
Designation	HAND	RE	Coated		Pitch	PDX	PNA
			SH725	AH725			
TCT18FR-05ISO	R	0.06	●		0.5	0.35	60°
TCT18FR-07ISO	R	0.09	●		0.7	0.45	60°
TCT18FR-075ISO	R	0.09	●		0.75	0.5	60°
TCT18FR-08ISO	R	0.1	●		0.8	0.5	60°
TCT18R-10ISO	R	0.13		●	1	0.6	60°
TCT18R-125ISO	R	0.17		●	1.25	0.7	60°
TCT18R-15ISO	R	0.2		●	1.5	0.8	60°

5 pieces per package
● : Line up

TCT18R-UN (Full profile threading insert)



Unified
(General purpose)



Right-hand (R) shown.

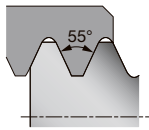
P	Steel	★																		
M	Stainless	★																		
K	Cast iron	★																		
N	Non-ferrous																			
S	Superalloys	★																		
H	Hard materials																			

★ : First choice
☆ : Second choice

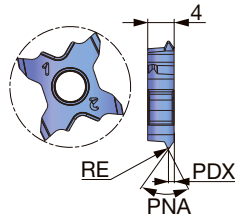
Designation	HAND	RE	Coated		TPI	PDX	PNA
			AH8015				
TCT18R-32UN	R	0.1	●		32	0.5	60°
TCT18R-28UN	R	0.12	●		28	0.55	60°
TCT18R-24UN	R	0.13	●		24	0.65	60°
TCT18R-20UN	R	0.16	●		20	0.75	60°
TCT18R-18UN	R	0.18	●		18	0.8	60°
TCT18R-16UN	R	0.2	●		16	0.9	60°

5 pieces per package
● : New product

TCT18R-W (Full profile threading insert)



Whitworth, Parallel pipe thread



Right-hand (R) shown.

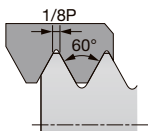
P	Steel	★								
M	Stainless	★								
K	Cast iron	★								
N	Non-ferrous									
S	Superalloys	★								
H	Hard materials									

★ : First choice
☆ : Second choice

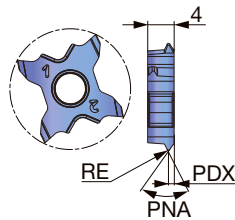
Designation	HAND	RE	Coated								TPI	PDX	PNA
			AH8015										
TCT18R-28W	R	0.11	●								28	0.6	55°
TCT18R-19W	R	0.17	●								19	0.8	55°
TCT18R-14W	R	0.23	●								14	1.05	55°
TCT18R-11W	R	0.29	●								11	1.3	55°

5 pieces per package
● : New product

TCT18R-UNJ (Full profile threading insert)



UNJ (Aerospace industry)



Right-hand (R) shown.

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

★ : First choice
☆ : Second choice

Designation	HAND	RE	Coated								TPI	PDX	PNA
			AH8015										
TCT18R-32UNJ	R	0.13	●								32	0.5	60°
TCT18R-28UNJ	R	0.15	●								28	0.55	60°

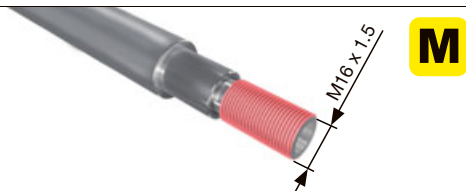
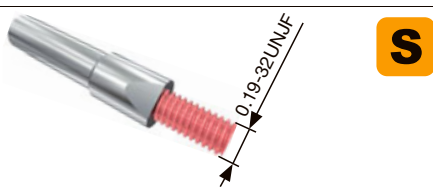
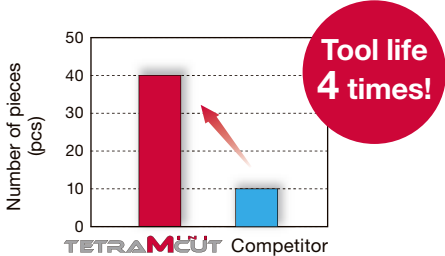
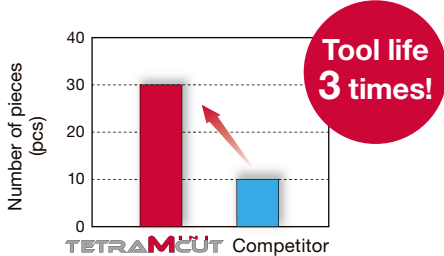
5 pieces per package
● : New product

STANDARD CUTTING CONDITIONS

TCT18R/L / TCT18FR

ISO	Workpiece material	Hardness	Grade	Cutting speed Vc (m/min)	Pitch (mm)	Threads per inch (TPI)
P	Steel / Alloy steel S45C, SCM440, etc. C45, 42CrMoS4, etc.	< 200HB	AH8015	80 - 180	0.8 - 3.175	32 - 8
			AH725	60 - 150	0.8 - 3.0	32 - 8
			SH725	60 - 150	0.4 - 2.0	64 - 12
		> 200HB	AH8015	60 - 160	0.8 - 3.175	32 - 8
			AH725	60 - 150	0.8 - 3.0	32 - 8
			SH725	60 - 150	0.4 - 2.0	64 - 12
M	Stainless steel SUS304, etc. X5CrNi18-9, etc.	-	AH8015	50 - 130	0.8 - 3.175	32 - 8
		-	AH725	50 - 80	0.8 - 3.0	32 - 8
		-	SH725	50 - 80	0.4 - 2.0	64 - 12
K	Cast iron FC250, FC300, etc. 250, 300, etc.	-	AH8015	60 - 150	0.8 - 3.175	32 - 8
		-	AH725	50 - 100	0.8 - 3.0	32 - 8
		-	SH725	50 - 100	0.4 - 2.0	64 - 12
S	Superalloys Ti-6Al-4V, Inconel718, etc.	-	AH8015	20 - 80	0.8 - 3.175	32 - 8
		-	AH725	20 - 80	0.8 - 3.0	32 - 8
		-	SH725	20 - 80	0.4 - 2.0	64 - 12

PRACTICAL EXAMPLES

Workpiece type		Ball screw shaft	Turbine blade
Toolholder		STCR1616X18	STCR2525Z18
Insert		TCT18R-60N-010	TCT18R-32UNJ
Grade		AH725	AH8015
Workpiece material		SUS304 / X5CrNi18-9	Inconel718
Cutting conditions			
Cutting speed : Vc (m/min)		60	30
Pitch (mm)		1.5	TPI = 32 (pitch = 0.79 mm)
Machining		Threading (M16 x 1.5)	Threading
Coolant		Wet	Wet
Machine		Swiss lathe	Lathe
Results		 <p>Competitor's laydown type insert resulted in chattering and a short tool life. TetraMini-Cut threading insert prevents chattering and achieves a tool life four times longer, thanks to its positive rake angle.</p>	 <p>Competitor's laydown type insert resulted in chattering and a short tool life due to corner fracture. TetraMini-Cut threading insert not only prevents chattering but also achieves high accuracy threading with a tool life three times longer.</p>

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