

GrooveLine



TUNGCUT

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Tungaloy Report No. 391S2-G

Expanded lineup with **AH8005** and **KS05F** grade inserts for HRSA and DGS geometry with **0.05 or 0.1 mm corner radii**



INDUSTRY 4.0
FEED the SPEED!



For more information

New AH8005

Incredible reliability in grooving of heat-resistant alloys

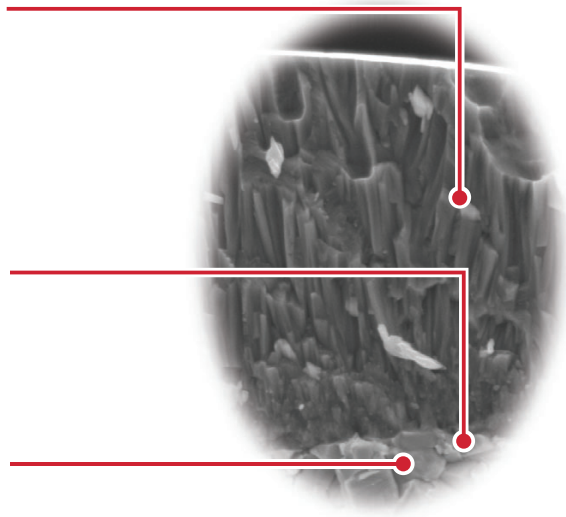
- Nano-multi-layered AlTiN coating with high Al content

- Increases hardness by 20%
- Prevents micro cracks from developing
- Long tool life & stable machining

- Improved adhesion strength

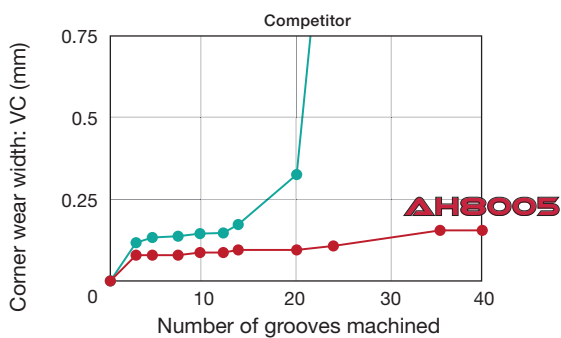
Prevents notch wear that tends to occur in machining heat-resistant alloys

- Newly developed substrates

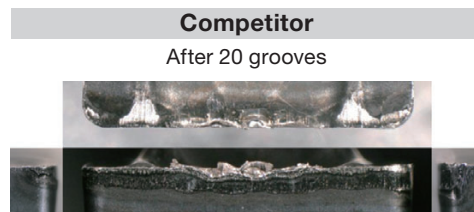


CUTTING PERFORMANCE

S Inconel718

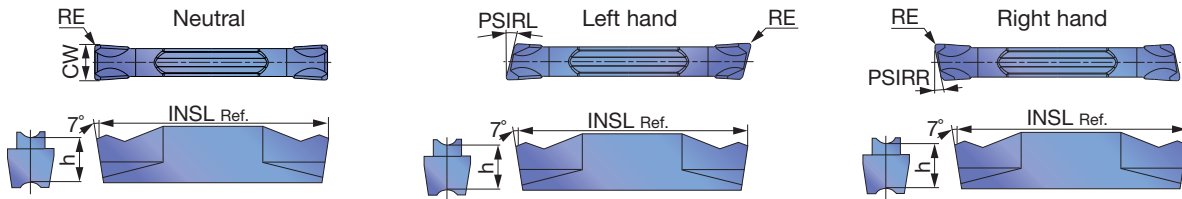


Cutting speed : $V_c = 60$ m/min
 Feed : $f = 0.05$ mm/rev
 Groove width : $CW = 5$ mm
 Depth of cut : $a_p = 5$ mm
 Machining : External grooving
 Coolant : Wet (7MPa)



DGM

External grooving and parting, 2 corners



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

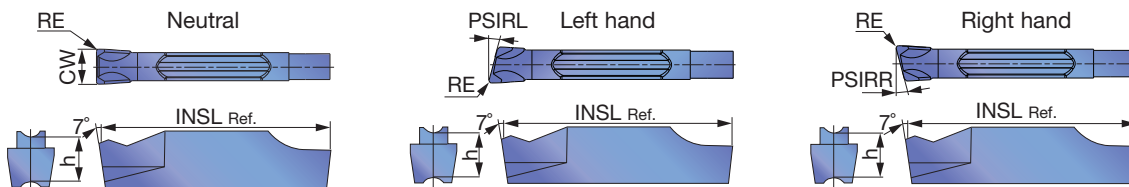
★ : First choice
☆ : Second choice

Designation	Seat size	HAND	CW±0.05	RE	Coated						Cermet	Uncoated	INSL	h	PSIRL	PSIRR	
					T9225	AH7025	AH725	AH8005	AH905	GH130	NS9530	KS05F					
DGM2-020	2	N	2	0.2	●	●	●	●	●	●	●	●	●	20	5	0°	0°
DGM3-020	3	N	3	0.2	●	●	●	●	●	●	●	●	●	20	5	0°	0°
DGM4-030	4	N	4	0.3	●	●	●	●	●	●	●	●	●	20	5	0°	0°
DGM5-030	5	N	5	0.3	●	●	●	●	●	●	●	●	●	25	5.5	0°	0°
DGM6-030	6	N	6	0.3	●	●	●	●	●	●	●	●	●	25	5.5	0°	0°
DGM8-040	8	N	8	0.4	●	●	●	●	●	●	●	●	●	30	6.7	0°	0°

● : New
● : Line up

SGM

External deep grooving and parting, 1 corner



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

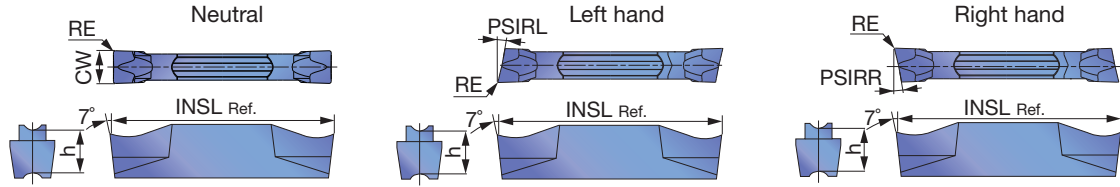
★ : First choice
☆ : Second choice

Designation	Seat size	HAND	CW±0.05	RE	Coated				Uncoated	INSL	h	PSIRL	PSIRR
					AH7025	AH725	AH8005	GH130	KS05F				
SGM2-020	2	N	2	0.2	●	●	●	●	●	20	5	0°	0°
SGM3-020	3	N	3	0.2	●	●	●	●	●	20	5	0°	0°
SGM4-030	4	N	4	0.3	●	●	●	●	●	20	5	0°	0°
SGM5-030	5	N	5	0.3	●	●	●	●	●	25	5.5	0°	0°
SGM6-030	6	N	6	0.3	●	●	●	●	●	25	5.5	0°	0°
SGM8-040	8	N	8	0.4	●	●	●	●	●	30	6.7	0°	0°

● : New
● : Line up

DGS

External grooving and parting, 2 corners



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

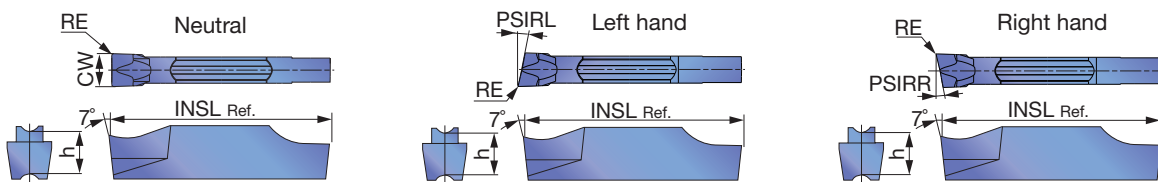
★ : First choice
☆ : Second choice

Designation	Seat size	HAND	CW±0.05	RE	Coated					Cermet	Uncoated		INSL	h	PSIRL	PSIRR
					T9225	AH7025	AH725	AH8005	GH130	NS9530	KS05F					
DGS1.4-005	1	N	1.4	0.05			●						16	4.3	0°	0°
DGS1.4-010	1	N	1.4	0.1			●						16	4.3	0°	0°
DGS2-005	2	N	2	0.05			●						20	5	0°	0°
DGS2-010	2	N	2	0.1			●						20	5	0°	0°
DGS2-020	2	N	2	0.2	●	●	●	●	●	●	●		20	5	0°	0°
DGS3-020	3	N	3	0.2	●	●	●	●	●	●	●		20	5	0°	0°
DGS4-030	4	N	4	0.3	●	●	●	●	●	●	●		20	5	0°	0°
DGS5-030	5	N	5	0.3	●	●	●	●	●	●	●		25	5.5	0°	0°
DGS6-030	6	N	6	0.3	●	●	●	●	●	●	●		25	5.5	0°	0°

● : New
● : Line up

SGS

External deep grooving and parting, 1 corner



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

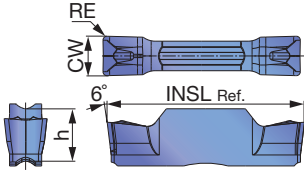
★ : First choice
☆ : Second choice

Designation	Seat size	HAND	CW±0.05	RE	Coated				Uncoated		INSL	h	PSIRL	PSIRR	
					AH7025	AH725	AH8005	GH130	KS05F						
SGS2-020	2	N	2	0.2	●	●	●	●	●			20	5	0°	0°
SGS3-020	3	N	3	0.2	●	●	●	●	●			20	5	0°	0°
SGS4-030	4	N	4	0.3	●	●	●	●	●			20	5	0°	0°
SGS5-030	5	N	5	0.3	●	●	●	●	●			25	5.5	0°	0°
SGS6-030	6	N	6	0.3	●	●	●	●	●			25	5.5	0°	0°

● : New
● : Line up

DTM

External face grooving and turning



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

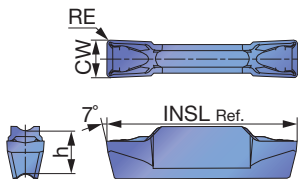
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.05	RE	Coated										INSL	h		
				AH7025	AH8005												
DTM3-030	3	3	0.3	●	●											20	5
DTM4-040	4	4	0.4	●	●											20	5
DTM4-080	4	4	0.8	●	●											20	5
DTM5-080	5	5	0.8	●	●											25	5.5
DTM6-080	6	6	0.8	●	●											25	5.5
DTM8-080	8	8	0.8	●	●											30	6.7

● : New
● : Line up

DTX

External/Internal face grooving and turning



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

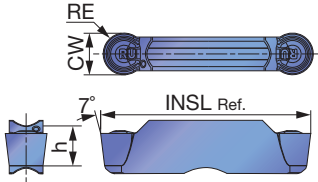
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.05	RE	Coated					Cermet		Uncoated		INSL	h	
				T9225	AH7025	AH725	AH8005	GH130	NS9530		KS05F				
DTX3-030	3	3	0.3	●	●	●	●	●		●		●		20	5
DTX4-040	4	4	0.4	●	●	●	●	●		●		●		20	5
DTX5-040	5	5	0.4	●	●	●	●	●		●		●		25	5.5
DTX6-080	6	6	0.8	●	●	●	●	●		●		●		25	5.5

● : New
● : Line up

DTR

Profiling and undercutting



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

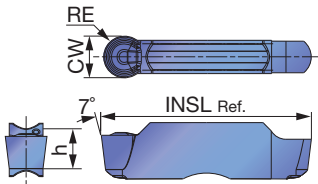
★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.05	RE	Coated						Cermet	Uncoated	INSL	h	
				T9225	AH7025	AH725	AH8005	AH905	GH130	NS9530	KS05F			
DTR3-150	3	3	1.5	●	●	●	●	●	●	●	●	●	20	5
DTR4-200	4	4	2	●	●	●	●	●	●	●	●	●	20	5
DTR5-250	5	5	2.5	●	●	●	●	●	●	●	●	●	25	5.5
DTR6-300	6	6	3	●	●	●	●	●	●	●	●	●	25	5.5
DTR8-400	8	8	4	●	●	●	●	●	●	●	●	●	30	6.7

● : New
● : Line up

STR

Profiling and undercutting, 1 corner



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

★ : First choice
☆ : Second choice

Designation	Seat size	CW±0.05	RE	Coated						Uncoated	INSL	h		
				AH7025	AH8005					KS05F				
STR3-150	3	3	1.5	●	●					●			20	5
STR4-200	4	4	2	●	●					●			20	5
STR5-250	5	5	2.5	●	●					●			25	5.5
STR6-300	6	6	3	●	●					●			25	5.5
STR8-400	8	8	4	●	●					●			30	6.7

● : New

STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Hardness	Priority	Grade	Cutting speed Vc (m/min)
P	Steel S45C, SCM435, etc. C45, 34CrMo4, etc.	< 300 HB	First choice	AH7025, AH725	50 - 180
		< 300 HB	Wear resistance	T9225, AH8005	80 - 300
		< 300 HB	Impact resistance	GH130	50 - 120
		< 300 HB	Surface quality	NS9530	80 - 220
M	Stainless steel SUS303, SUS304, etc. X10CrNiS18-9, X5CrNi18-9, etc.	< 200 HB	First choice	AH7025, AH725	50 - 120
		< 200 HB	Wear resistance	AH8005	50 - 120
		< 200 HB	Impact resistance	GH130	50 - 120
K	Grey cast iron FC250, etc. 250, etc.	-	First choice	T515, AH7025	50 - 180
		-	Impact resistance	GH130	50 - 180
	Ductile cast iron FCD450, etc. 450-10S, etc.	-	First choice	T515, AH7025	50 - 120
		-	Impact resistance	GH130	50 - 120
N	Aluminium alloys Si < 12%	-	First choice	TH10	100 - 500
		-	First choice	KS05F	100 - 600
S	Superalloys Inconel718, etc.	< HRC 40	First choice	AH8005	20 - 80
		< HRC 40	Impact resistance	AH7025, AH725	20 - 60
	Titanium alloys Ti-6Al-4V, etc.	< HRC 40	First choice	KS05F	20 - 80
		< HRC 40	Impact resistance	AH7025, AH725	20 - 80
H	Hardened steel SCM435, SUJ2, etc. 34CrMo4, B1, etc.	> HRC 50	First choice	BX360	80 - 150

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