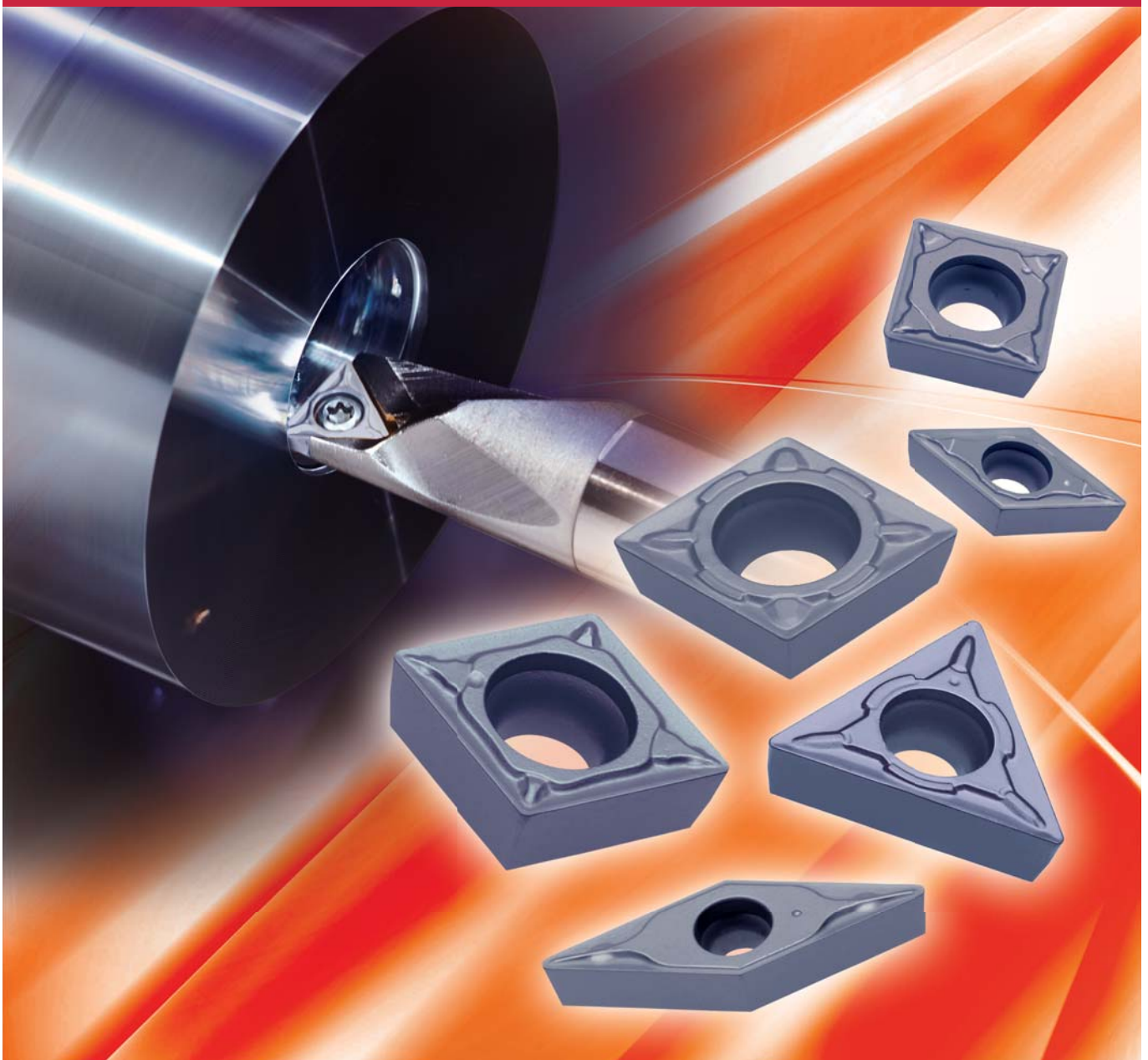


PVD coated grade for steels and stainless steels

AH725

Super Flash Coating provides High Productivity machining



“Triple Force” provides long tool life and stable operation.

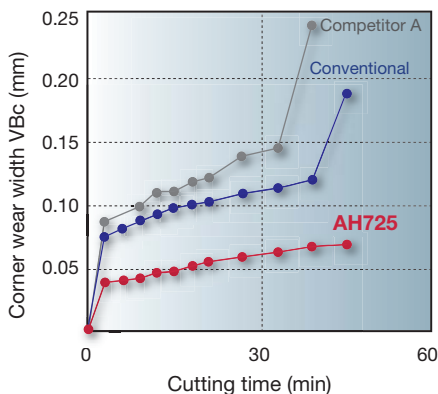


AH725 New grade for internal turning of steels

AH725 features a super tough substrate along with a (Ti,Al)N coated layer providing "Triple Force".

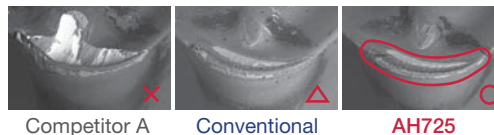
Newly improved coating layer features great adhesion strength between coating and substrate

1st Force: Excellent wear resistance

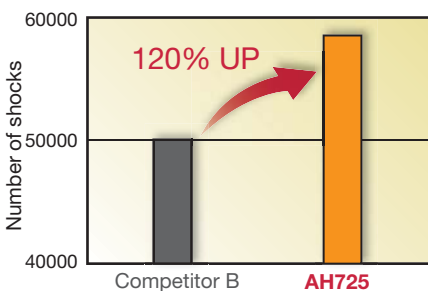


AH725 is more wear resistant than conventional and competitor's coated grades.

Work material : S45C (248HB)
 Cutting speed : $V_c = 200$ m/min
 Depth of cut : $a_p = 1.0$ mm
 Feed : $f = 0.15$ mm/rev
 Cutting fluid : Water soluble type (Internal supply)

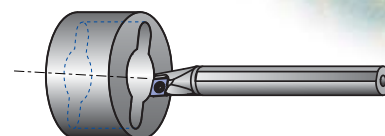


2nd Force: Well-balanced fracture resistance



AH725 features extraordinary resistance to fracturing in interrupted cutting.

Work material : S45C
 Cutting speed : $V_c = 150$ m/min
 Depth of cut : $a_p = 1.0$ mm
 Feed : $f = 0.25$ mm/rev
 Cutting fluid : Water soluble type (Internal supply)



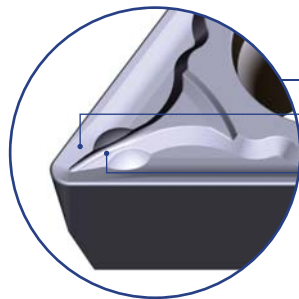
Standard cutting conditions

Grade	Cutting Speed V_c (m/min)	
	Steels	Stainless steels
AH725	50 - 120 - 180	50 - 120 - 150



PS & stainless steels in a wide variety of applications.

3rd Force: Excellent Chip Control

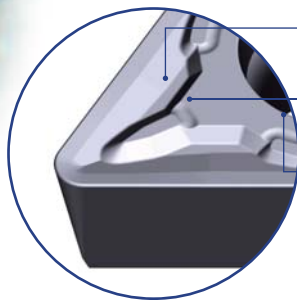


PS chipbreaker

for Finishing to Medium cutting

- Low cutting force due to high-rake angle
- Applicable in a wide range of cutting conditions due to a unique chipbreaker protrusion.

Versatile chip breaker (1st choice)



PM chipbreaker

for Medium cutting

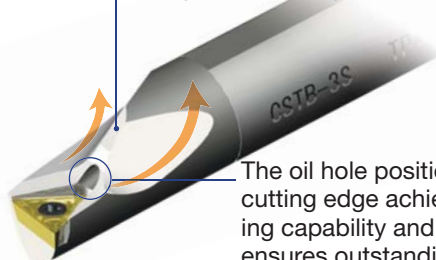
- Positive land creates low cutting force and sharp edge.
- Excellent chip control due to wide & positive chip flow
- Strong cutting edge controls edge notching and chipping.

Functional chip breaker provides low cutting force with excellent cutting edge.

Well-balanced micro alloy substrate is effective for plastic deformation resistance and toughness

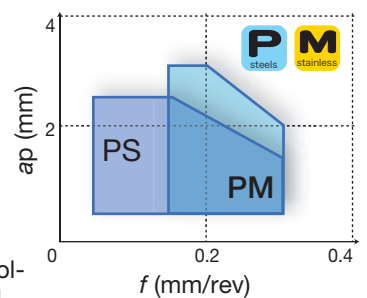
- Long tool life and cost effective combined with Stream Jet Bar

The head design provides both rigidity and good chip evacuation which avoid chip entanglement that can cause fracturing and chipping.

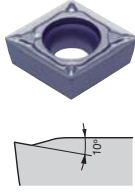
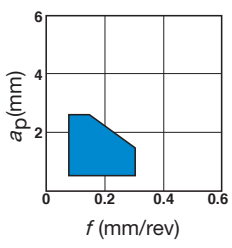
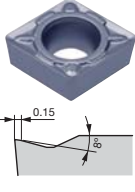
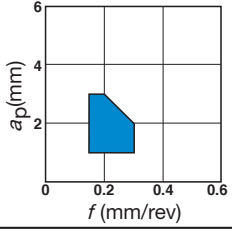


The oil hole positioned close to the cutting edge achieves excellent cooling capability and chip control, and ensures outstanding tool life.

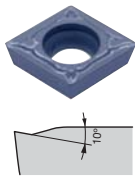
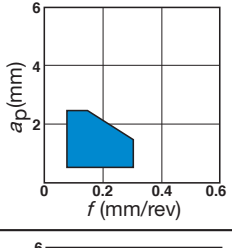
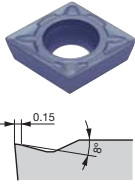
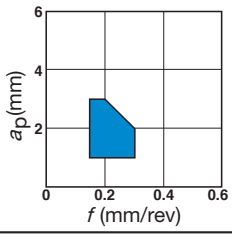
- Application for steels and stainless steels



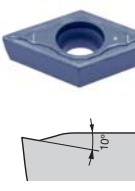
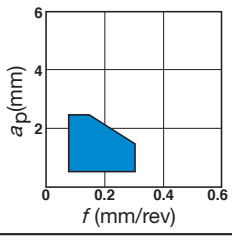
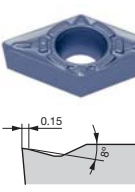
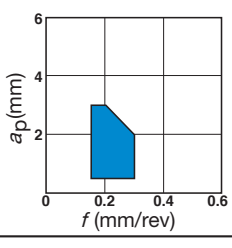
80° Rhombic, 7° Positive, with Hole

Application	Chipbreaker Appearance (Cross section)	$f - a_p$	Insert Cat. No. (Metric)	Dimensions (mm)				Grade
				I.C. dia.	Thickness	Hole dia.(Ø)	Corner radius	Coating AH725
Finishing to medium cutting			CCMT060202-PS	6.35	2.38	2.8	0.2	●
			CCMT060204-PS				0.4	●
			CCMT060208-PS				0.8	●
			CCMT09T302-PS	9.525	3.97	4.4	0.2	●
			CCMT09T304-PS				0.4	●
			CCMT09T308-PS				0.8	●
			* CCMT120404-PS	12.7	4.76	5.5	0.4	●
			CCMT120408-PS				0.8	●
CCMT120412-PS	1.2	●						
Medium cutting			CCMT060204-PM	6.35	2.38	2.8	0.4	●
			CCMT060208-PM				0.8	●
			CCMT09T304-PM				0.4	●
			* CCMT09T308-PM	9.525	3.97	4.4	0.8	●
			CCMT09T312-PM				1.2	●
			CCMT120408-PM				0.8	●
			CCMT120412-PM	12.7	4.76	5.5	1.2	●

80° Rhombic, 11° Positive, with Hole

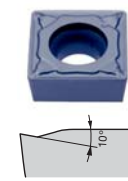
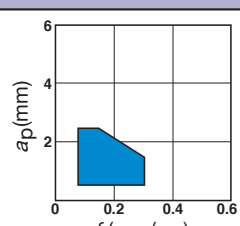
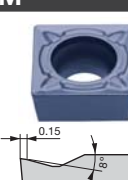
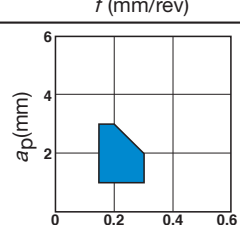
Application	Chipbreaker Appearance (Cross section)	$f - a_p$	Insert Cat. No. (Metric)	Dimensions (mm)				Grade
				I.C. dia.	Thickness	Hole dia.(Ø)	Corner radius	Coating AH725
Finishing to medium cutting			CPMT060202-PS	6.35	2.38	2.8	0.2	●
			CPMT060204-PS				0.4	●
			CPMT080202-PS				0.2	●
			CPMT080204-PS	7.94	2.38	3.4	0.4	●
			CPMT080208-PS				0.8	●
			* CPMT090304-PS				9.525	3.18
CPMT090308-PS	0.8	●						
Medium cutting			CPMT060204-PM	6.35	2.38	2.8	0.4	●
			CPMT060208-PM				0.8	●
			* CPMT090304-PM	9.525	3.18	4.4	0.4	●
			CPMT090308-PM				0.8	●

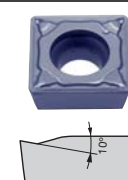
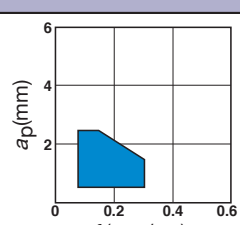
55° Rhombic, 7° Positive, with Hole


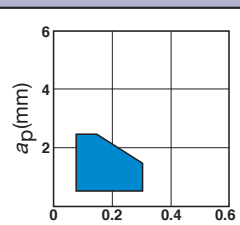

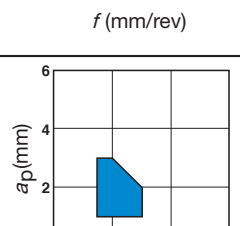
Application	Chipbreaker Appearance (Cross section)	$f - a_p$	Insert Cat. No. (Metric)	Dimensions (mm)				Grade
				I.C. dia.	Thickness	Hole dia.(Ø)	Corner radius	Coating AH725
Finishing to medium cutting			DCMT070202-PS	6.35	2.38	2.8	0.2	●
			DCMT070204-PS				0.4	●
			DCMT070208-PS				0.8	●
			DCMT11T302-PS	9.525	3.97	4.4	0.2	●
			* DCMT11T304-PS				0.4	●
			DCMT11T308-PS				0.8	●
DCMT11T312-PS				1.2	●			
Medium cutting			DCMT070204-PM	6.35	2.38	2.8	0.4	●
			DCMT070208-PM				0.8	●
			DCMT11T304-PM	9.525	3.97	4.4	0.4	●
			* DCMT11T308-PM				0.8	●
			DCMT11T312-PM				1.2	●

Note: Cross section of chipbreaker is of * marked Cat.No.

● : Stocked in Japan

90° Square, 7° Positive, with Hole								
Application	Chipbreaker Appearance (Cross section)	$f - a_p$	Insert Cat. No. (Metric)	Dimensions (mm)				Grade
				I.C. dia.	Thickness	Hole dia.(Ø)	Corner radius	Coating AH725
Finishing to medium cutting	PS 		* SCMT09T304-PS	9.525	3.97	4.4	0.4	●
			SCMT09T308-PS				0.8	●
			SCMT120404-PS	12.7	4.76	5.5	0.4	●
			SCMT120408-PS				0.8	●
Medium cutting	PM 		* SCMT09T304-PM	9.525	3.97	4.4	0.4	●
			SCMT09T308-PM				0.8	●
			SCMT120408-PM	12.7	4.76	5.5	0.8	●
			SCMT120412-PM				1.2	●

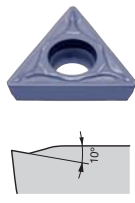
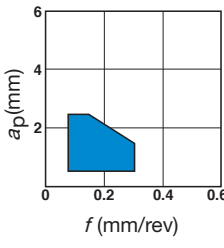
90° Square, 11° Positive, with Hole								
Application	Chipbreaker Appearance (Cross section)	$f - a_p$	Insert Cat. No. (Metric)	Dimensions (mm)				Grade
				I.C. dia.	Thickness	Hole dia.(Ø)	Corner radius	Coating AH725
Finishing to medium cutting	PS 		SPMT090304-PS	9.525	3.18	4.4	0.4	●
			SPMT090308-PS				0.8	●
			SPMT120404-PS	12.7	4.76	5.5	0.4	●
			* SPMT120408-PS				0.8	●

60° Triangular, 7° positive, with Hole								
Application	Chipbreaker Appearance (Cross section)	$f - a_p$	Insert Cat. No. (Metric)	Dimensions (mm)				Grade
				I.C. dia.	Thickness	Hole dia.(Ø)	Corner radius	Coating AH725
Finishing to medium cutting	PS 		TCMT090204-PS	5.56	2.38	2.5	0.4	●
			TCMT090208-PS				0.8	●
			TCMT110202-PS	6.35	2.38	2.8	0.2	●
			* TCMT110204-PS				0.4	●
			TCMT110208-PS				0.8	●
			TCMT16T302-PS	9.525	3.97	4.4	0.2	●
			TCMT16T304-PS				0.4	●
TCMT16T308-PS	0.8	●						
Medium cutting	PM 		TCMT110202-PM	6.35	2.38	2.8	0.2	●
			TCMT110204-PM				0.4	●
			TCMT110208-PM				0.8	●
			* TCMT16T304-PM	9.525	3.97	4.4	0.4	●
			TCMT16T308-PM				0.8	●
			TCMT16T312-PM				1.2	●

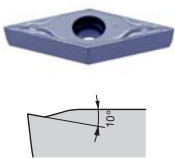
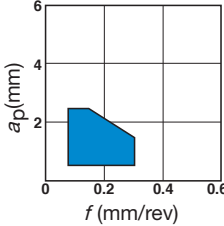
Note: Cross section of chipbreaker is of * marked Cat.No.

● : Stocked in Japan

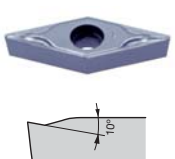
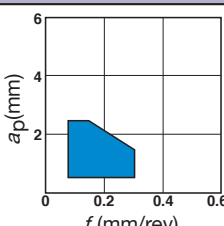
60° Triangular, 11° Positive, with Hole

Application	Chipbreaker Appearance (Cross section)	$f - a_p$	Insert Cat. No. (Metric)	Dimensions (mm)				Grade Coating AH725						
				I.C. dia.	Thickness	Hole dia.(Ø)	Corner radius							
Finishing to medium cutting	PS 		TPMT090202-PS TPMT090204-PS TPMT090208-PS	5.56	2.38	2.5	0.2	●						
			TPMT110202-PS * TPMT110204-PS TPMT110208-PS				6.35	2.38	2.8	0.4	●			
			TPMT110304-PS TPMT110308-PS TPMT130302-PS TPMT130304-PS TPMT130308-PS							6.35	3.18	3.4	0.2	●
			TPMT16T304-PS TPMT16T308-PS	9.525	3.97	4.4							0.4	●
			TPMT110204-PM TPMT110208-PM TPMT110304-PM TPMT110308-PM TPMT130304-PM TPMT130308-PM * TPMT16T304-PM TPMT16T308-PM TPMT16T312-PM				5.56	2.38	2.5				0.4	●
			TPMT16T304-PM TPMT16T308-PM							6.35	2.38	2.8	0.8	●
			TPMT110204-PM TPMT110208-PM TPMT110304-PM TPMT110308-PM TPMT130304-PM TPMT130308-PM	6.35	3.18	3.4							0.4	●
			TPMT16T304-PM TPMT16T308-PM										7.94	3.18
			TPMT110204-PM TPMT110208-PM TPMT110304-PM TPMT110308-PM TPMT130304-PM TPMT130308-PM							9.525	3.97	4.4		
			TPMT16T304-PM TPMT16T308-PM	9.525	3.97	4.4								
			TPMT110204-PM TPMT110208-PM TPMT110304-PM TPMT110308-PM TPMT130304-PM TPMT130308-PM										9.525	3.97
			TPMT16T304-PM TPMT16T308-PM							9.525	3.97	4.4		
TPMT110204-PM TPMT110208-PM TPMT110304-PM TPMT110308-PM TPMT130304-PM TPMT130308-PM	9.525	3.97	4.4	0.4	●									
TPMT16T304-PM TPMT16T308-PM				9.525	3.97	4.4							0.8	●
TPMT110204-PM TPMT110208-PM TPMT110304-PM TPMT110308-PM TPMT130304-PM TPMT130308-PM										9.525	3.97	4.4	1.2	●

35° Rhombic, 5° Positive, with Hole

Application	Chipbreaker Appearance (Cross section)	$f - a_p$	Insert Cat. No. (Metric)	Dimensions (mm)				Grade Coating AH725			
				I.C. dia.	Thickness	Hole dia.(Ø)	Corner radius				
Finishing to medium cutting	PS 		* VBMT110302-PS VBMT110304-PS VBMT110308-PS	6.35	3.18	2.8	0.2	●			
			VBMT160402-PS VBMT160404-PS VBMT160408-PS				9.525	4.76	4.4	0.4	●
			VBMT160402-PS VBMT160404-PS VBMT160408-PS							9.525	4.76
			VBMT160402-PS VBMT160404-PS VBMT160408-PS	9.525	4.76	4.4					
			VBMT160402-PS VBMT160404-PS VBMT160408-PS				9.525	4.76	4.4		
			VBMT160402-PS VBMT160404-PS VBMT160408-PS							9.525	4.76

35° Rhombic, 7° Positive, with Hole

Application	Chipbreaker Appearance (Cross section)	$f - a_p$	Insert Cat. No. (Metric)	Dimensions (mm)				Grade Coating AH725			
				I.C. dia.	Thickness	Hole dia.(Ø)	Corner radius				
Finishing to medium cutting	PS 		VCMT110302-PS * VCMT110304-PS VCMT110308-PS	6.35	3.18	2.8	0.2	●			
			VCMT160404-PS VCMT160408-PS				9.525	4.76	4.4	0.4	●
			VCMT160404-PS VCMT160408-PS							9.525	4.76
			VCMT160404-PS VCMT160408-PS	9.525	4.76	4.4					
			VCMT160404-PS VCMT160408-PS				9.525	4.76	4.4		
			VCMT160404-PS VCMT160408-PS							9.525	4.76

Note: Cross section of chipbreaker is of * marked Cat.No.

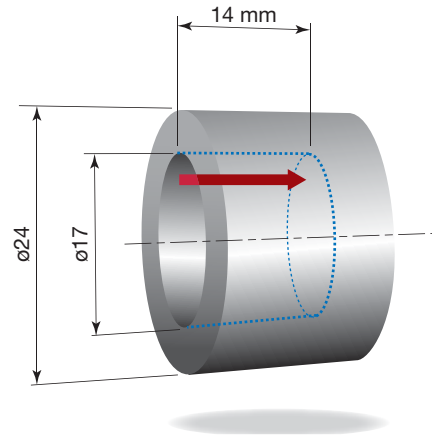
● : Stocked in Japan

Practical examples

20% longer tool life and excellent surface finish

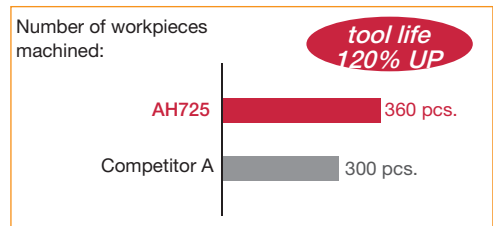
Insert : CCMT060208-PS
 Toolholder : A10K-SCLCR06-D120

Work material : SUS316
 Cutting speed : $V_c = 120$ m/min
 Feed : $f = 0.15$ mm/rev
 Depth of cut : $a_p = 0.4$ mm
 Tool life criteria : Surface roughness



Machine component

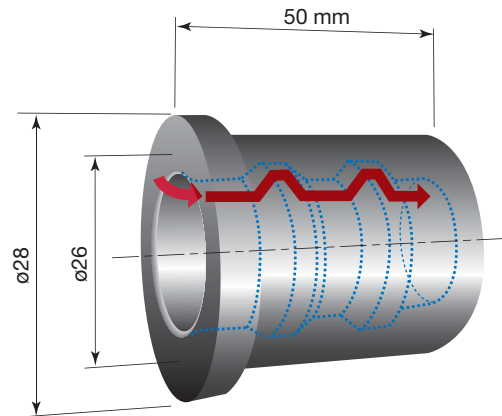
Results In operations with severe surface roughness, the tool life was increased by 20% compared with competitor's PVD grade



50% longer tool life with outstanding surface finish

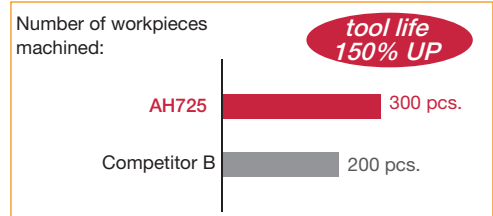
Insert : DCMT070204-PS
 Toolholder : A10K-SDUCR07-D130

Work material : SUJ2
 Cutting speed : $V_c = 100$ m/min
 Feed : $f = 0.1$ mm/rev
 Depth of cut : $a_p = 0.6$ mm
 Tool life criteria : Number of workpieces and surface finish



Machine component

Results When competitor's PVD grade was used, the workpiece surface appeared dull and cutting was unstable. The productivity of AH725 was vastly improved from 200 pcs to 300 pcs. In addition, its surface finish was superior to those obtained with competitor's tool.





Tungaloy Corporation (Head office)

Solid Square, 580 Horikawa-cho, Saiwai-ku
Kawasaki City, 212-8503 Japan
Phone: +81-44-548-9514 Fax: +81-44-548-9551
<http://www.tungaloy.co.jp/>

Tungaloy America, Inc.

1226A Michael Drive, Wood Dale, IL.60191, U.S.A.
Phone: +1-630-227-3700 Fax: +1-630-227-0690
<http://www.tungaloyamerica.com/>

Tungaloy Canada

432 Elgin St. Unit 3, Brantford, Ontario N3S 7P7, Canada
Phone: +1-519-758-5779 Fax: +1-519-758-5791
<http://www.tungaloyamerica.com/>

Tungaloy de Mexico S.A.

C Los Arellano 113, Parque Industrial Siglo XXI
Aguascalientes, AGS, Mexico 20290
Phone: +52-449-929-5410 Fax: +52-449-929-5411
<http://www.tungaloyamerica.com/>

Tungaloy do Brasil Comercio de Feramentas de Corte Ltda.

Rua dos Sabias N.104
13280-000 Vinhedo, São Paulo, Brazil
Phone: +55-19-38262757 Fax: +55-19-38262757
<http://www.tungaloy.co.jp/>

Tungaloy Germany GmbH

Elisabeth-Selbert-Strasse 3
D-40764 Langenfeld, Germany
Phone: +49-2173-90420-0 Fax: +49-2173-90420-19
<http://www.tungaloy-eu.com/>

Tungaloy France S.a.r.l.

6 Avenue des Andes
F-91952 Courtaboeuf Cedex, France
Phone: +33-1-6486-4300 Fax: +33-1-6907-7817
<http://www.tungaloy-eu.com/>

Tungaloy Italia S.p.A.

Via E. Andolfato 10
I-20126 Milano, Italy
Phone: +39-02-252012-1 Fax: +39-02-252012-65
<http://www.tungaloy-eu.com/>

Tungaloy Czech s.r.o

Tuřanka 115
CZ-627 00 Brno, Czech Republic
Phone: +420-532 123 391 Fax: +420-532 123 392
<http://www.tungaloy.cz/>

Tungaloy Ibérica S.L.

Puigterrà de Baix 5-9 1er
E-08241 Manresa (BCN), Spain
Phone: +34 93 1131360 Fax: +34 93 1131361
<http://www.tungaloy.co.jp/>

Tungaloy Scandinavia AB

S:t Lars Väg 42A
SE-22270 Lund, Sweden
Phone: +46-462119200 Fax: +46-462119207
<http://www.tungaloy.co.jp/>

LLC Tungaloy Rus

Grazhdanskiy Prospectus, 29a
Belgorod, 308019, Russia
Phone: +7 4722 33 97 23 Fax: +7 4722 33 97 23
<http://www.tungaloy.co.jp/ru/>

Tungaloy Cutting Tool (Shanghai) Co.,Ltd.

Rm No 401 No.88 Zhabei, Jiangchang No.3 Rd
Shanghai 200436, China
Phone: +86-21-3632-1880 Fax: +86-21-3621-1918
<http://www.tungaloy.co.jp/tcts>

Tungaloy Cutting Tool (Thailand) Co.,Ltd.

11th Floor, Sorachai Bldg. 23/7, Soi Sukhumvit 63
Klongtonnue, Wattana, Bangkok 10110, Thailand
Phone: +66-2-714-3130 Fax: +66-2-714-3134
<http://www.tungaloy.co.th/>

Tungaloy Singapore (Pte.), Ltd.

50 Kallang Avenue #06-03 Noel Corporate Building
Singapore 339505
Phone: +65-6391-1833 Fax: +65-6299-4557
<http://www.tungaloy.co.jp/tspl>

India Branch

201, 2Fl. Krishna Apra Business square, Plot No. D4-5-6
Netaji Subhash Place, Pitampura, New Delhi 111034, Delhi, India
Phone: +91-11-4707-1111 Fax: +91-11-4707-1100
<http://www.tungaloy.co.jp/tspl>

Tungaloy Korea Co., Ltd

#1312, Byucksan Digital Valley 5-cha
60-73 Gasan-dong, Geumcheon-gu
153-788 Seoul, Korea
Phone: +82-2-6393-8930 Fax: +82-2-6393-8952
<http://www.tungaloy.co.jp/kr/>

Tungaloy Malaysia Sdn Bhd

50 K-2, Kelana Mall, Jalan SS6/14, Kelana Jaya, 47301
Petaling Jaya, Selangor Darul Ehsan, Malaysia
Phone: +603-7805-3222 Fax: +603-7804-8563
<http://www.tungaloy.co.jp/>

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