

## AB2010

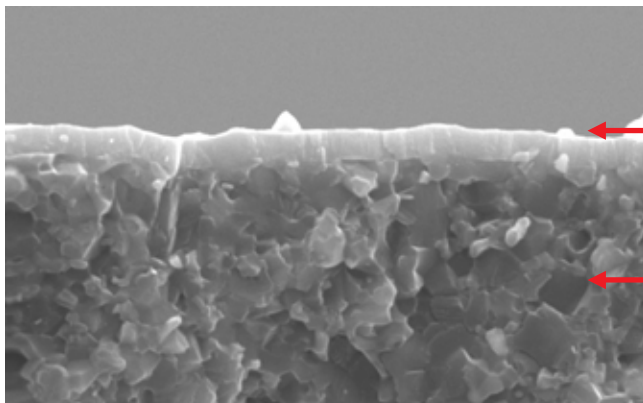
**TaeguTec introduces a new series of ceramic coated inserts for hard part turning**

PVD TiN coated ceramic AB2010 is a mixed new ceramic grade based on aluminum oxide with an addition of titanium carbide nitride. This new grade will offer a longer tool life on hard materials compared to alumina based TiCN ceramics. This yellow coating is easy to identify used corners after machining workpieces. The main application areas for this grade are the turning of hard materials(>HRC40)

This grade offers a cost effective alternative for machining with CBN operations on hardened parts.



<Micro-structure of AB2010>

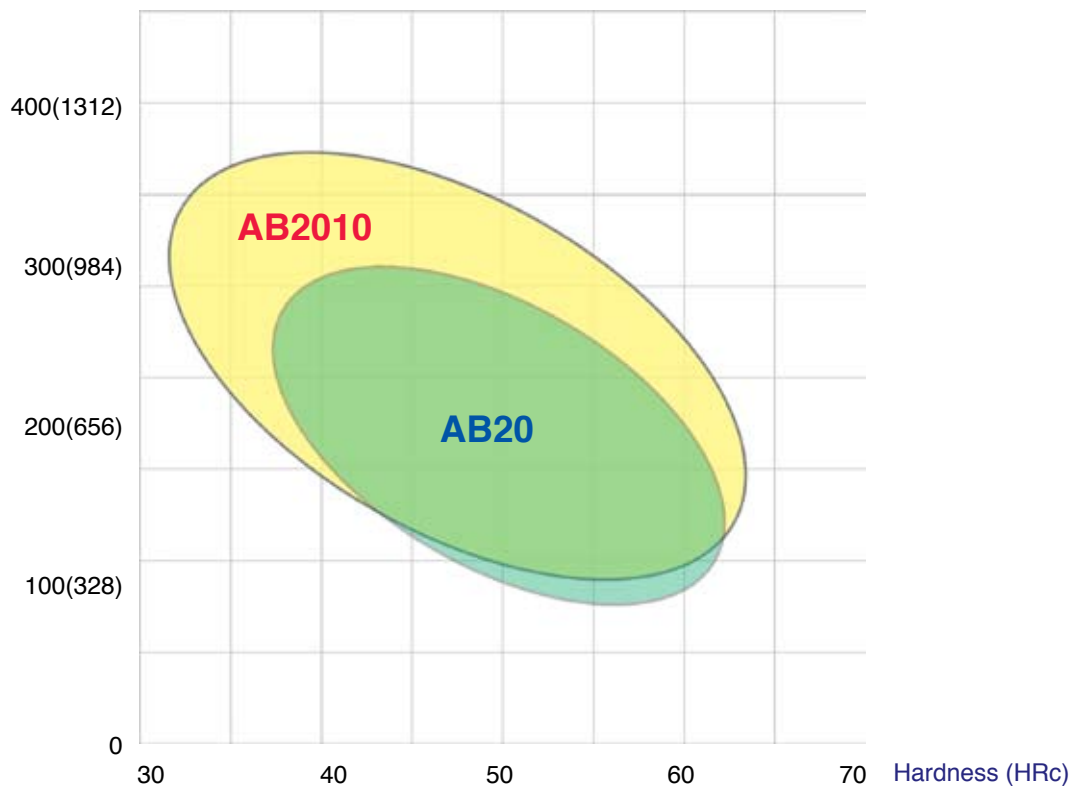


TiN

New substrate

## Application range of AB2010

Cutting speed (m/min)(sfm)



Recommended cutting speed (V) = 80m/min~350m/min(262sfm~1148sfm)

## Features

1. Excellent wear resistance and tool life compared to uncoated ceramic grade when operating at high cutting speeds.
2. Very easy to identify used corners with yellow color.
3. Cost can be comparable to CBN inserts on hard materials.
4. Very good combination with wear resistance and a good fracture resistance.
5. Applied for finishing operation in hardened steels and hardened cast irons.

## Field test results

### Test 1.

Component:	Crank shaft, Hardened cast iron(HRC50)	
Cutting speed (Vc):	200m/min (656sfm)	
Feed rate (f):	0.04mm/rev (.0016ipr)	
Depth of cut (ap):	0.5mm (.0197inch)	
Operation:	Finishing, dry	
Tool life		
Existing method:	VNGA 160408(332) KY4400	81pcs/edge
Test insert:	VNGA 160408(332) AB2010	86pcs/edge

### Test 2.

Component:	Punch, High speed steel(HRC 62-64)	
Cutting speed (Vc):	170m/min (558sfm)	
Feed rate (f):	0.08mm/rev (.0031ipr)	
Depth of cut (ap):	0.5mm (.0197inch)	
Operation:	Finishing of facing, dry	
Tool life		
Existing method:	TNGA 160408(332) KY4400	5pcs/edge
Test insert:	TNGA 160408(332) AB2010	7pcs/edge

### Test 3.

Component:	Bearing cap, Forged steel(HRC 30-40)	
Cutting speed (Vc):	259m/min (850sfm)	
Feed rate (f):	0.06mm/rev (.0024ipr)	
Depth of cut (ap):	0.2mm (.008inch)	
Operation:	Internal finishing, dry	
Tool life		
Existing method:	TNGN 110308(TNG 222) CBN100	65pcs/edge
Test insert:	TNGA 160408(332) AB2010	118pcs/edge

### Test 4.

Component:	Piston, Hardened steel(HRC 55-58)	
Cutting speed (Vc):	180m/min (590sfm)	
Feed rate (f):	0.15mm/rev (.0059ipr)	
Depth of cut (ap):	0.2mm (.0079inch)	
Operation:	Finishing, dry	
Tool life		
Existing method:	CNGA 120408(432) CTS3110	120pcs/edge
Test insert:	CNGA 120408(432) AB2010	400pcs/edge

**Test 5.**

Component:	Inner ring, Hardened bearing steel(HRC 60)	
Cutting speed (Vc):	180m/min (590sfm)	
Feed rate (f):	0.15mm/rev (.0059ipr)	
Depth of cut (ap):	0.3mm (.0118inch)	
Operation:	Finishing, dry	
Tool life		
Existing method:	<b>CNGA 120412(433) LX11</b>	700pcs/edge
Test insert:	<b>CNGA 120412(433) AB2010</b>	750pcs/edge

**Test 6.**

Component:	Sleeve, Hardened steel(HRC 55-60)	
Cutting speed (Vc):	108m/min (354sfm)	
Feed rate (f):	0.1mm/rev (.0039ipr)	
Depth of cut (ap):	0.4mm (.0157inch)	
Operation:	Finishing, dry	
Tool life		
Existing method:	<b>CNGA 120408(432) KY4400</b>	180pcs/edge
Test insert:	<b>CNGA 120408(432) AB2010</b>	200pcs/edge

**Test 7.**

Component:	Roller, Hardened steel(HRC 35-40)	
Cutting speed (Vc):	135 - 195m/min (443 - 640sfm)	
Feed rate (f):	0.2mm/rev (.0079ipr)	
Depth of cut (ap):	0.1 - 0.7mm (.0039 - .276inch)	
Operation:	Finishing of interrupted cut , dry	
Tool life		
Existing method:	<b>CNGA 120412(433) A66N</b>	1.5pcs/edge
Test insert:	<b>CNGA 120408(432) AB2010</b>	3cs/edge

**Test 8.**

Workpiece:	Sliding Sleeve	
Cutting Speed(Vc):	160m/min (525sfm)	
Feed rate(f):	0.05mm/rev (.0019ipr)	
Depth of cut(ap):	0.15mm (.0059inch)	
Operation:	Finishing	
Tool life		
Existing Method:	<b>VNGA 160408 A66N</b>	175EA/edge
Test insert:	<b>VNGA 160408 AB2010</b>	250EA/edge

## Available stock items

Item Description		Item Description	
ISO	ANSI	ISO	ANSI
CNGA 120404	CNGA 431	SNGN 120408	SNG 432
CNGA 120408	CNGA 432	SNGN 120412	SNG 433
CNGA 120408 S7	CNGA 432 S7	SNGN 120416	SNG 434
CNGA 120408 T7-WZ	CNGA 432 T7-WZ	SNGN 120708	SNG 432
CNGA 120412	CNGA 433	SNGN 120712	SNG 453
CNGA 120412 T7-WZ	CNGA 433	SNGN 120712 S7	SNG 453 S7
CNGN 120408	CNG 432	TNGA 160404	TNGA 431
CNGN 120708	CNG 453	TNGA 160408	TNGA 432
DNGA 150408	DNGA 432	TNGA 160412	TNGA 433
DNGA 150604	DNGA 441	TNGA 220408	TNGA 432
DNGA 150608	DNGA 442	TNGN 160408	TNG 332
DNGA 150612	DNGA 443	TPGN 110304	TPG 221
ENGN 130708	ENG 452	TPGN 110308	TPG 222
RNGN 120400	RNG 43	TPGN 160304	TPG 331
RNGN 120700	RNG 45	TPGN 160308	TPG 332
SNGA 120404	SNGA 431	VNGA 160404	VNGA 331
SNGA 120408	SNGA 432	VNGA 160408	VNGA 332
SNGA 120412	SNGA 433	WNGA 080408	WNGA 432
SNGN 120404	SNG 431	WNGA 080412	WNGA 433

**Edge preparation:** No designation: 0.2mm(.0079inch)X25°  
 T7: 0.2mm(.0079inch)X20°  
 S7: 0.2mm(.0079inch)X20°+honing  
 WZ: Wiper geometry

Special edge preparation can be supplied by request.

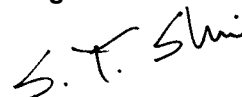
**Prices:** Please refer to gal system.

Sincerely,  
**TaeguTec**



**Seong Sik, Han**  
 Non-Rotating Product Manager

Sincerely,  
**TaeguTec**



**Su Yong, Shin**  
 Turning Product Manager