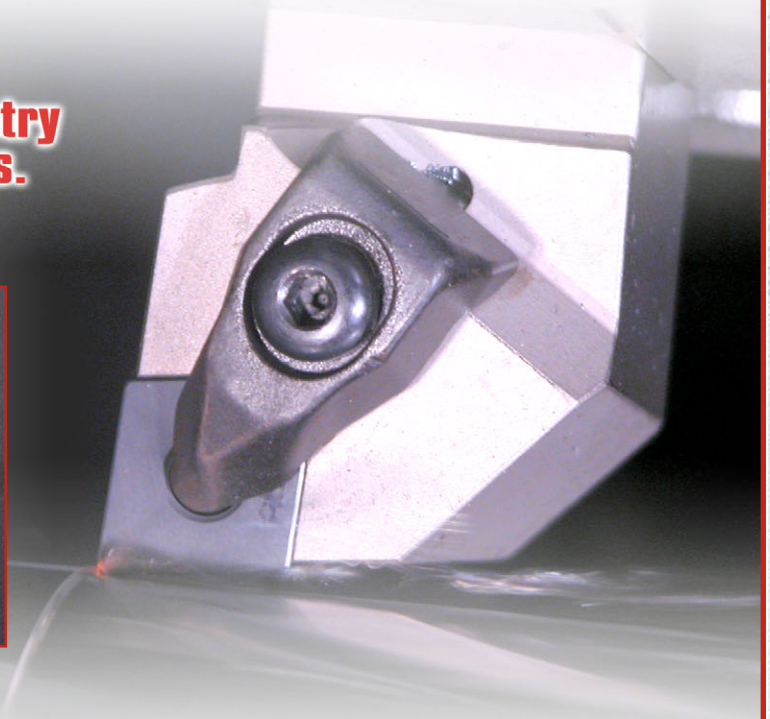
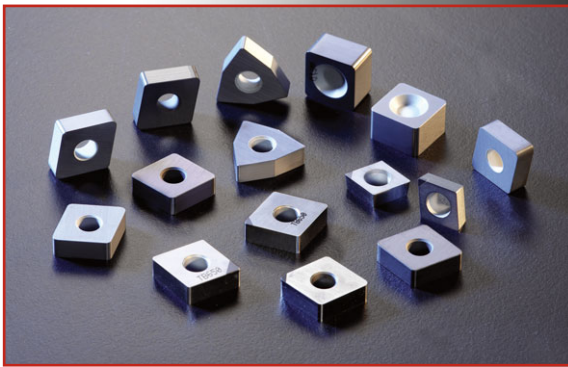


## Ingersoll **TAEГУ** line

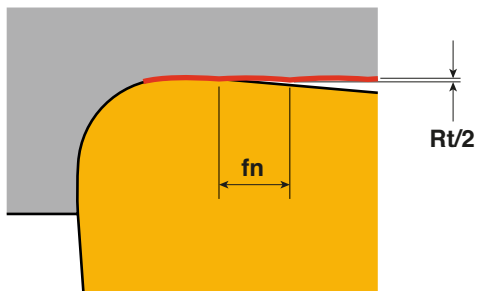
**introduces new wiper geometry for ceramic and CBN inserts.**



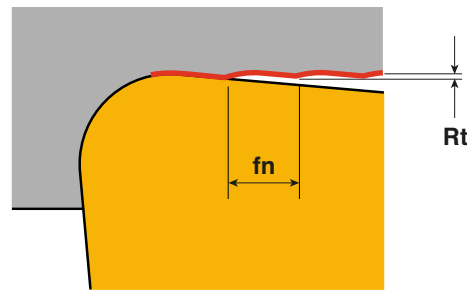
Ingersoll's new wiper geometry for Ceramic and CBN turning inserts will provide dramatically increased productivity combined with improved quality of surface finish.

The main application areas for these inserts is the turning of hard materials and high speed machining of cast irons.

### WZ WIPER GEOMETRY:



### STANDARD GEOMETRY:



## WIPER GEOMETRY PRINCIPLES:

Wiper geometry inserts can be applied at **DOUBLE** the feed rate of conventional inserts, yet provide the same quality of surface finish – **IMPROVED PRODUCTIVITY – NO REDUCTION IN QUALITY**

When applied at the same feed rate the surface finish quality will be **TWICE** as good as conventional inserts – **IMPROVED QUALITY – NO REDUCTION IN PRODUCTIVITY**

## FEATURES:

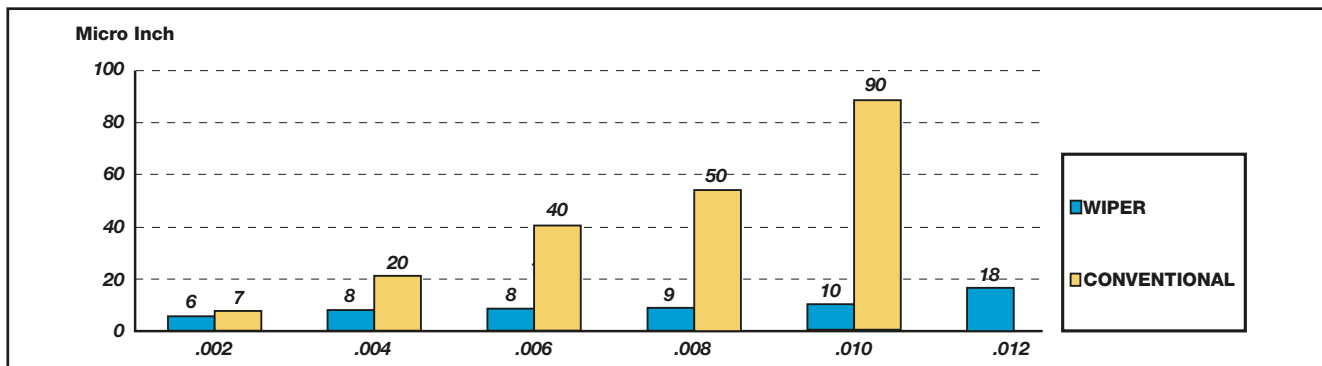
- Reduced insert deviation with improved surface finish and repeatability even when using standard tool-holders. This is achieved via the high accuracy of the unique wiper design that minimizes out of tolerance approach angles to a maximum of  $\pm 1.5^\circ$ .
- Improved cycle times and productivity in high feed machining of hardened steel and cast iron materials is possible due to the unique insert wiper design.
- Ceramic grades for both finishing and roughing applications on gray cast iron, hardened steels and ductile cast iron.
- CBN inserts can be applied at **DOUBLE** conventional feed rates with no loss in surface quality of machined part. This dramatic improvement in productivity means that CBN can often be applied as a cost effective alternative to grinding operations on hardened parts.

## COMPARISON TEST RESULT OF SURFACE QUALITY BETWEEN WIPER AND CONVENTIONAL INSERTS:

**Insert:** CNMA 432LS TB650 and CNGA 432WZ-LS TB650

**Cutting Conditions:**  $V_c = 395$  SFM  
 Feed rate = .002-.012 IPR  
 Depth of cut = .02"  
 Dry cutting

**Material:** Carburized steel (HRC58-62)



## FIELD TEST RESULTS:

### Test 1.

Component: Brake Disc, Gray Cast Iron  
 Cutting Speed (Vc): 2625 SFM  
 Feed Rate (f): .010 IPR  
 Depth of Cut (ap): .010"  
 Operation: Finishing of facing, Dry

**Tool Life**

Existing Method: CNGA 432 WG CC6090 150 pcs/edge  
 Test Insert: CNGA 432 T6 WZ AS10 300 pcs/edge

### Test 2.

Component: Brake Disc, Gray Cast Iron  
 Cutting Speed (Vc): 2460 SFM  
 Feed Rate (f): .020 IPR  
 Depth of Cut (ap): .010"  
 Operation: Internal Roughing, Dry

**Tool Life**

Existing Method: CNGQ 453 WG CC6090 250 pcs/edge  
 Test Insert: CNGX 453 T6 WZ AS10 300 pcs/edge

### Test 3.

Component: Brake Rotor, Nodular Cast Iron  
 Cutting Speed (Vc): 2100 SFM  
 Feed Rate (f): .016 IPR  
 Depth of Cut (ap): .020"  
 Operation: Internal Turning, Dry

**Tool Life**

Existing Method: CNGA 452 FW KY3500 100 pcs/edge  
 Test Insert: CNGA 452 T6 WZ AS10 150 pcs/edge

### Test 4.

Component: Spider, Hardened Steel (HRC60)  
 Cutting Speed (Vc): 3305 SFM  
 Feed Rate (f): .008 IPR  
 Depth of Cut (ap): .010"  
 Operation: External Interrupted Cut, Dry

**Tool Life**

Existing Method: CNGA 432 W BNC200 40 pcs/edge  
 Test Insert: CNGA 432 WZ-LS TB650 47 pcs/edge

### Test 5.

Component: Brake Rotor, Nodular Cast Iron  
 Cutting Speed (Vc): 1510 SFM  
 Feed Rate (f): .016 IPR  
 Depth of Cut (ap): .010"  
 Operation: Finishing of facing, Dry

**Tool Life**

Existing Method: CNGA 432 FX105 55 pcs/edge  
 Test Insert: CNGA 432 T6 WZ AS10 161 pcs/edge



**STOCKED ITEMS:**

Designation
CNGA 432 T7-WZ AB20
CNGA 432 T7-WZ AB2010
CNGA 433 T7-WZ AB20
CNGA 432 T6-WZ AS10
CNGA 433 T7-WZ AS10
CNGA 433 T7-WZ AB2010
CNGA 431 WZ-LS KB50
CNGA 431 WZ-LS TB650
CNGA 431 WZ-LS2 TB650
CNGA 432 WZ-LS KB50
CNGA 432 WZ-LS KB90
CNGA 432 WZ-LS TB650
CNGA 432 WZ-LS2 TB650
CNGA 432 WZ-LN KB90
CNGA 432 WZ-LN TB650
CNGA 433 WZ-LS KB50
CNGA 433 WZ-LN KB90
CNGA 433 WZ-LN TB650
CNGA 433 WZ-LS KB90
CNGA 433 WZ-LS TB650
CNGA 433 WZ-LS2 TB650
WNGA 432 T7-WZ AB20
WNGA 433 T7-WZ AS10
WNGA 432 WZ-LS3 TB650
CNGX 453 T7-WZ AS10
CCGW 32.51 WZ-LS TB650
CCGW 32.52 WZ-LS TB650
CCGW 32.51 WZ-LS2 TB650
CCGW 32.51 WZ-LS KB50

**EDGE PREPARATION:**

KB50, TB650, KB90: Ingersoll Standard

T6: .004inch x 20°

T7: .008inch x 20°

**MAIN APPLICATION:**

Hardened Steels:

Ceramic: AB20/AB2010  
CBN: TB650

Cast Irons:

Ceramic: AS10  
CBN: KB90

**PLEASE NOTE!**

When using negative wiper inserts, Ingersoll's T-Type holders are recommended due to their stable and secure clamping force when compared to "P" or "M" type holders.

**PRICING:**

Please refer to GAL system or "Ask Margaret" for individual component prices.