



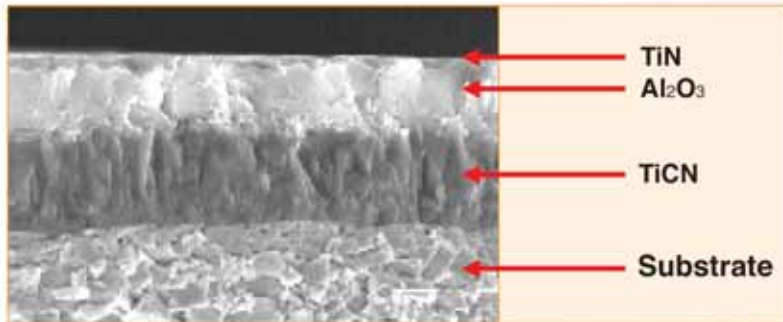
## GRADE 8125 **AlphaAL**

The next generation CVD coated grade for steels

Ingersoll had earlier introduced the new TT8115 grade for high speed machining on steel. This grade is rapidly building a formidable reputation in the world market.

According to market demands, a new generation CVD coated grade TT8125 has been developed for general machining on steels such as mild steel, carbon steel, alloy steel, bearing steel and tool steel and has proven to be a major success.

Developed from a tough substrate that has undergone a specialized sintering process, the cutting edge toughness is substantially enhanced for high machining performance. The new grade TT8125 also incorporates a new substrate based on an alpha alumina coating process. It provides minimized flank wear and crater wear in the machining of steels.



(Micro structure)

TT8125 has been developed with Ingersoll's new T-Turn+ technology that delivers exceptional performance in both interrupted and continuous cutting. Moreover, the cutting edges of this grade are protected when machining forged steel or parts with a scaled surface finish. The grade can minimize built up edge in the machining of low carbon content steels such as mild steel, low carbon steel & low carbon alloy steel. The TT8125 will also increase insert tool life by minimizing friction between chips and the upper surface of the insert during machining.

This new grade TT8125 has both improved wear resistance and toughness compared to existing TT3500. Therefore, Ingersoll has decided to phase out TT3500. Accordingly, Ingersoll will produce TT8125 as stock of TT3500 is depleted.



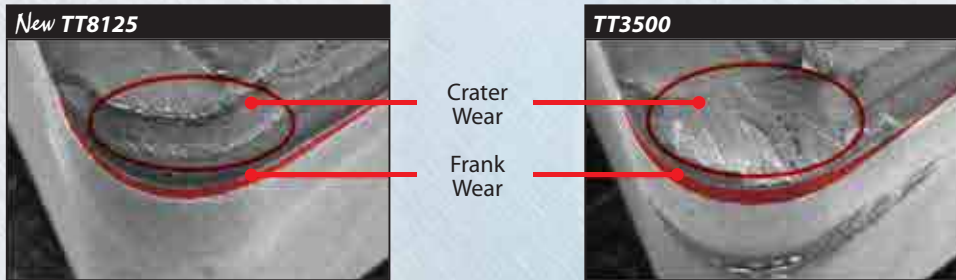
**Taegu**line

Ingersoll **TAEGU**line

## Comparison test result between TT8125 and TT3500

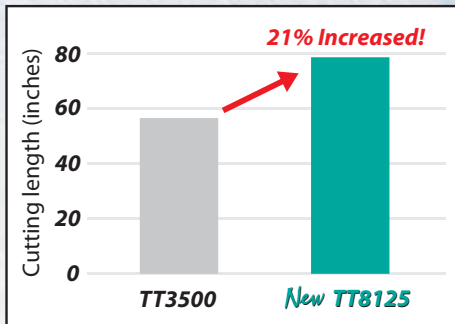
### 1. Wear Resistance

- Material: Medium carbon alloy steel
- Cutting conditions: V=780 sfm, f=.012 ipr, d=.080", Wet, External Turning
- Cutting time: 18minutes
- Wear pictures



### 2. Fracture Resistance

- Material: Medium carbon alloy steel
- Cutting conditions: V=340 sfm, f=.008-.025 ipr, d=.120", Dry, Face Interrupted Cut



## Test results of TT8125 compared to TT3500

### 1. Component : Pulley

Material	V	f	d	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)
0.1% Carbon Steel	1440-1640 sfm	.008-.012 ipr	.028"	Ext. Turning	Yes	CNMG 432 MC TT3500	430
						CNMG 432 MC TT8125	583 (UP 36%)

### 2. Component : Shaft

Material	V	f	d	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)
Alloy Steel	625 sfm	.020 ipr	.120"	Ext. Turning	Yes	WNMG 433 RT TT3500	25
						WNMG 433 RT TT8125	50 (UP 100%)

### 3. Component : Gear Count Shaft

Material	V	f	d	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)
Alloy Steel	985 sfm	.016-.020 ipr	.100"-.120"	OD Turning	Yes	CNMG 543 RT TT3500	55
						CNMG 543 RT TT8125	72 (UP 31%)

### 4. Component : Gear Clutch

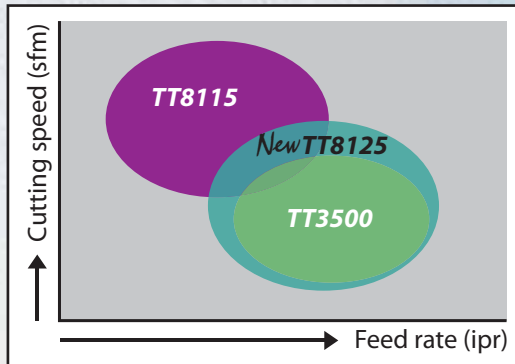
Material	V	f	d	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)
Low Carbon Steel	885 sfm	.009 ipr	.040"	OD Turning	Yes	DNMG 442 MC TT3500	150
						DNMG 442 MC TT8125	220 (UP 47%)

**TT8125 Features**

- General turning application of steels in both interrupted and continuous cuts.
- Optimized insert tool life for mass production.
- Very stable for a wide application range
- Very good combination of wear resistance and toughness
- Longer tool life compared to competition

**TT8125 Prices: Refer to Ask Margaret System**

**Application Range**



**Recommended Cutting Conditions:**

- Mild Steel, Low Carbon Steel and Low Carbon Alloy Steel  
: V = 650 - 1640 sfm
- Carbon Steel and Alloy Steel  
: V = 330 - 1150 sfm

**AVAILABILITY AND SUPPLY**

- During 2009 all items in TT3500 will be prepared for stock in TT8125.
- TT8125 grade inserts will be supplied only after respective item in TT3500 grade will be depleted.

**Case Stories**

**1. Material : Medium Carbon Steel**

Component	V (sfm)	f (ipr)	d (inches)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)
Diff Drive	950	.012-.016	.080"	ID Turning	Yes	Competitor	75
						CNMG 432 MT TT8125	103 (UP 37%)
Flat Gear	820	.008	.080"	OD Turning	Yes	Competitor	130
						CNMG 432 PC TT8125	150 (UP 15%)
Turning Shaft	980	.012-.016	.080"	Face-Interrupted Cut	Yes	Competitor	14
						SNMG 432 MT TT8125	21 (UP 50%)
Cylinder Rod	700	.009	.040"-.060"	OD Turning	Yes	Competitor	1.5
						CNMG 432 PC TT8125	1.75 (UP 17%)
Companion Harge	1130	.012	.120"	OD Turning	Yes	Competitor	60
						CNMG 432 MT TT8125	65 (UP 8%)

**Case Stories (cont.)**

**2. Material : Low Carbon Alloy Steel**

Component	V (sfm)	f (ipr)	d (inches)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)
Pinion Gear	1100	.007	.028"	OD Turning	Yes	Competitor	300
						WNMG 432 PC TT8125	470 (UP 57%)
Pinion Drive	820	.012	.050"	Face & Ext. Turning	Yes	Competitor	44
						DNMG 442 PC TT8125	57 (UP 30%)
Pinion Drive	820	.012	.040"-.080"	OD Turning	Yes	Competitor	28
						DNMG 442 PC TT8125	50 (UP 79%)
Gear	1260	.016	.040"	ID Turning	Yes	Competitor	75
						CNMG 432 MT TT8125	132 (UP 76%)
Gear	950	.016	.012"-.020"	ID Turning	Yes	Competitor	75
						CNMG 432 MT TT8125	91 (UP 21%)
Steel Wheel	1700	.013	.060"	OD Turning	Yes	Competitor	100
						WNMG 433 PC TT8125	150 (UP 50%)

**3. Material : Medium Carbon Alloy Steel**

Component	V (sfm)	f (ipr)	d (inches)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)
Terex Spider Gear	665	.016	.200"	Turning	Yes	Competitor	8
						CNMG 433 PC TT8125	14 (UP 75%)
Shaft	850	.010	.060"-.080"	OD Turning	Yes	Competitor	60
						CNMG 432 MT TT8125	70 (UP 17%)
Press Mold Base	500	.010	.100"	OD Turning	Yes	Competitor	10
						TNMG 332 PC TT8125	12 (UP 20%)
Bushing	650	.010	.100"	OD Turning	Yes	Competitor	170
						TNMG 332 PC TT8125	370 (UP 118%)
Bottom Piece	750	.012	.080"-.120"	Turning	Yes	Competitor	10
						CNMG 432 MC TT8125	13 (UP 30%)
Pin	525	.012	.120"	Turning	Yes	Competitor	30
						WNMG 432 PC TT8125	80 (UP 167%)

**4. Material : High Alloy Steel**

Component	V (sfm)	f (ipr)	d (inches)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)
Adapter	900-950	.010	.030"	Turning	Yes	Competitor	480
						DNMG 442 PC TT8125	625 (UP 30%)

**5. Material : Chrome Steel**

Component	V (sfm)	f (ipr)	d (inches)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)
Knuckle	840	.009	.070"	Turning	Yes	Competitor	35
						CNMG 432 MT TT8125	38 (UP 9%)