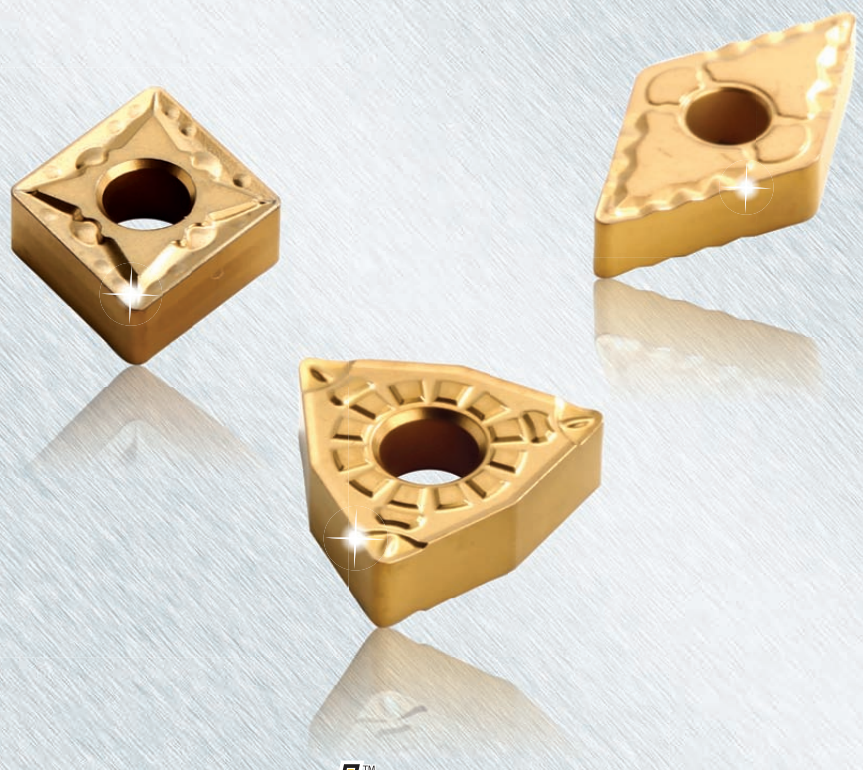
T-TURN™



Insert Grades

- TT8105 – Maximum wear resistance
- TT8115 – Light interruptions ok, very wear resistant
- TT8125 – General purpose, top seller
- TT8135 – Heavy interruptions and low cutting speeds

Product Families

- ISO Turn
- Gold Rhino
- Hex Turn
- Gold Duty
- T-Feed
- T-Force

NEW PRODUCT ANNOUNCEMENT •2015•

GOLD•LIFE+™

Improved Performance with New Coating Technology

Ingersoll is pleased to announce a true upgrade to the TT81xx series of CVD-coated ISO turning inserts for steel machining. This upgrade involves an aligned structure coating technology that exhibits superior wear resistance and machining stability.

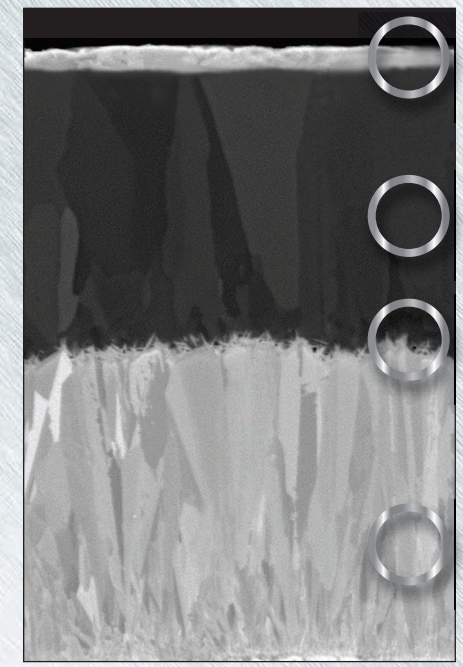
The new coating emphasizes productivity gains by allowing higher cutting speeds and/or longer tool life compared to the existing TT81xx series inserts. The four grades within this series also feature our post coat GoldRush surface treatment that reduces build up and prevents chipping even in interrupted cuts. These grades are particularly effective in alloy steel and high hardness material where the special coating efficiently mitigates the higher impact caused by increased temperatures and pressure.

All GoldLife+ inserts will be available when existing stock is depleted. In most cases this transition has already taken place. Look for the GoldLife+ sticker on the insert box to be assured you are running this new and exciting addition to our ISO turn line.

Member IMC Group
Ingersoll Cutting Tools

GOLDLIFE+™

COATING LAYER



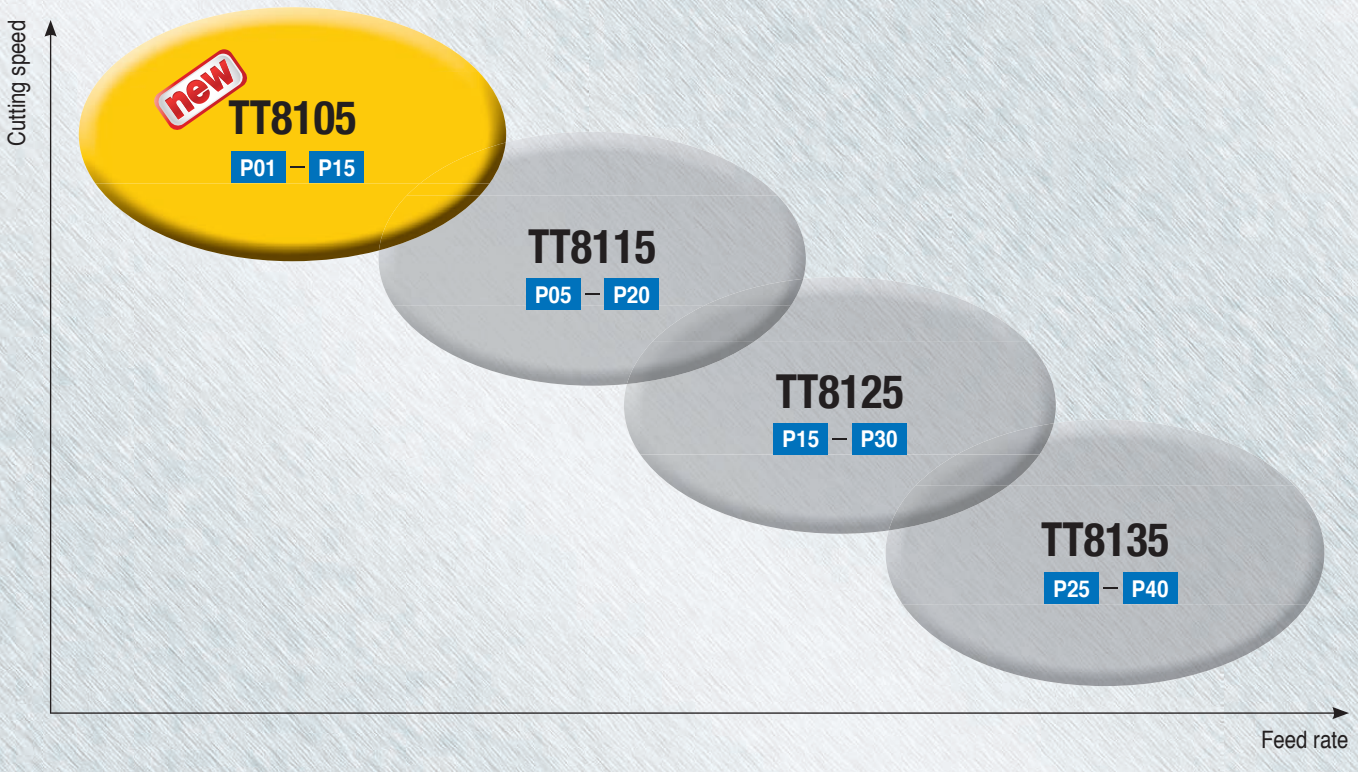
Special surface treatment for chipping resistance

Oxide layer for thermal shock resistance and stability

Stable bonding layer

Compact carbide layer for high strength and hardness

APPLICATION RANGE



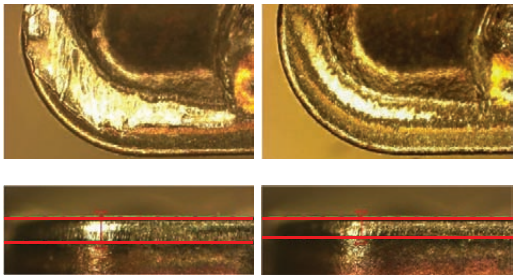
Member IMC Group Ingersoll Cutting Tools
845 South Lyford Road, Rockford, IL 61108
Tel: 815.387.6600, Fax: 815.387.6968

TEST FOR CONTINUOUS CUTTING & INTERRUPTED CUTTING

Continuous cutting

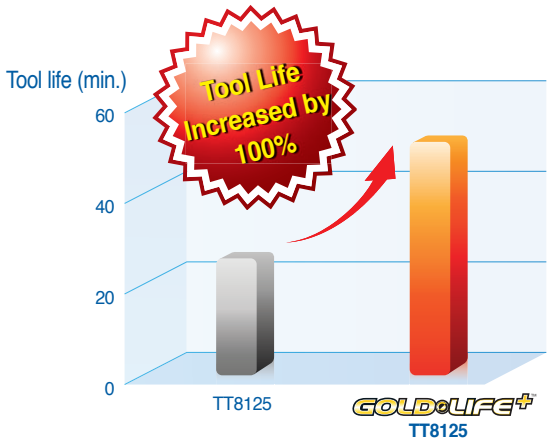
Insert: CNMG 432 PC
Workpiece material: 1045 steel
Feed: .012 ipr
Speed: 1000 sfm
Ap: .080"

After 22 minutes under the same conditions, continuous cutting



TT8125
(Tool life : 23 min.)

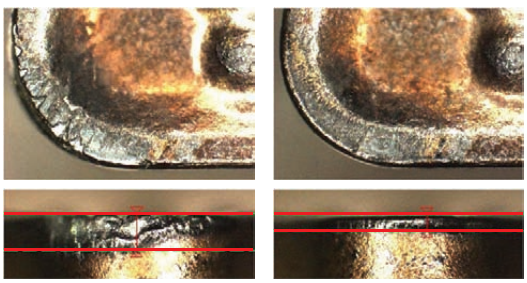
GOLDLIFE+ TT8125
(Tool life : 48 min.)



Interrupted cutting

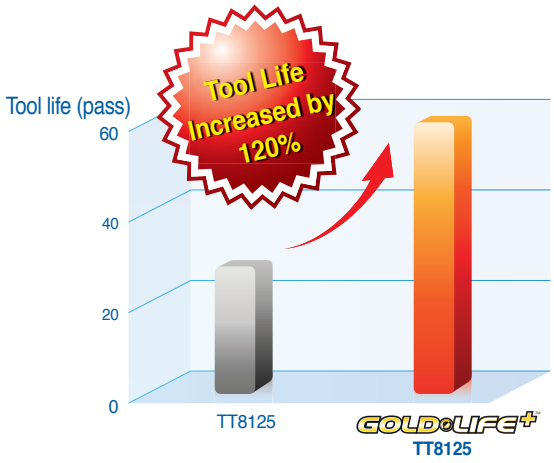
Insert: CNMG 432 PC
Workpiece material: 4140 Alloy steel
Feed: .006 ipr
Speed: 820 sfm
Ap: .040"

After 25 passes under the same conditions, interrupted cutting



TT8125
(Tool life : 25 passes)

GOLDLIFE+ TT8125
(Tool life : 55 passes)

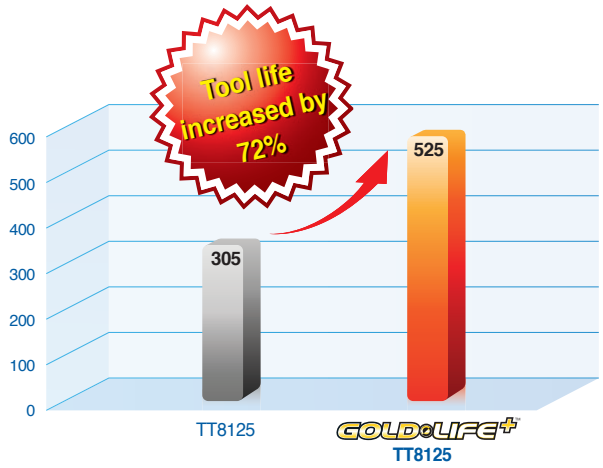


EXAMPLE: IMPROVED TOOL LIFE AND PRODUCTIVITY

Component name: Gear Ring (Bearing Steel / 52100)
Internal Turning, Wet

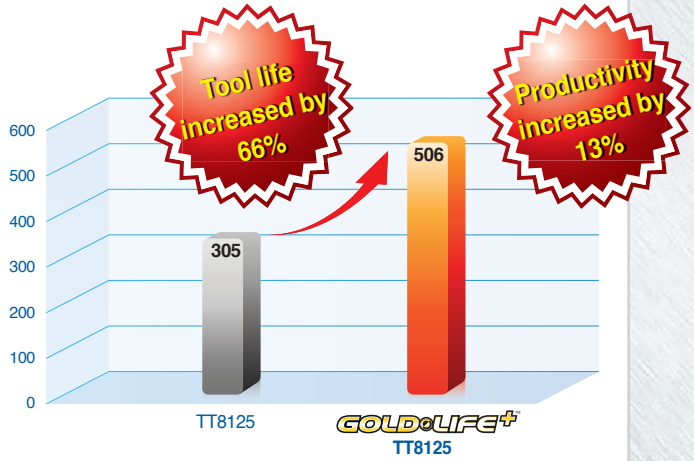
Same cutting condition

Grade	CNMG 432 PC TT8125	CNMG 432 PC TT8125
Speed (sfm)	400	
Feed Rate (ipr)	.014	
Depth of Cut (in)	.028	
Tool life (pcs/corner)	305	525



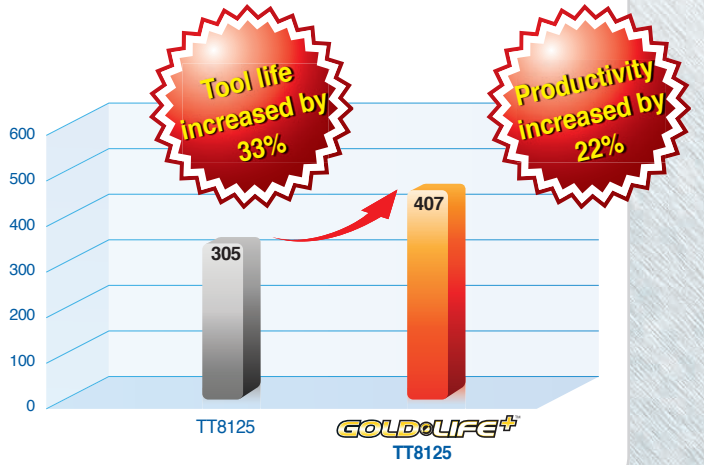
+14% Feed Rate

Grade	CNMG 432 PC TT8125	CNMG 432 PC TT8125
Speed (sfm)	400	
Feed Rate (ipr)	.014	**.016**
Depth of Cut (in)	.028	
Tool life (pcs/corner)	305	506



+33% Cutting Speed

Grade	CNMG 432 PC TT8125	CNMG 432 PC TT8125
Speed (sfm)	400	**525**
Feed Rate (ipr)	.014	
Depth of Cut (in)	.028	
Tool life (pcs/corner)	305	407



Longer tool life under the same conditions as well as higher conditions.

GOLDLIFE+™

TEST RESULTS

Material : 0.20% Carbon Steel

Component	Cutting speed V (sfm)	Feedrate f (ipr)	Depth of cut d (in)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)	Remark
Connector Nipple	800	.010	.080-.120	Ext / Facing	Yes	CNMG 332 FT TT8125	700	
						CNMG 332 FT TT8125 GL+	850 21%↑	

Material : 0.38% Carbon Steel

Component	Cutting speed V (sfm)	Feedrate f (ipr)	Depth of cut d (in)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)	Remark
Flange	1400	.008	.040	Ext / Facing	Yes	CNMG 432 MC TT8115	90	
						CNMG 432 MC TT8115 GL+	154 71%↑	
	1600					CNMG 432 MC TT8115 GL+	112 24%↑	Increased cutting speed

Material : 0.45% Carbon Steel

Component	Cutting speed V (sfm)	Feedrate f (ipr)	Depth of cut d (in)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)	Remark
Inner Race	1180	.010 ~ .012	.040	Int	Yes	CNMG 433 PC TT8115	97	
						CNMG 433 PC TT8115 GL+	119 23%↑	
	820	.010	.040	Int / Facing		CNMG 432 PC TT8115	170	
						CNMG 432 PC TT8115 GL+	190 12%↑	
Flange	1040	.010	.080	Ext / Facing		CNMG 432 MC TT8115	60	
		.012	.080	Ext / Facing		CNMG 432 MC TT8115 GL+	80 33%↑	Increased feedrate
Machine component	1080	.010	.120	Ext / Facing		Competitor A	20	
		.012	.120	Ext / Facing		CNMG 432 PC TT8115 GL+	22 10%↑	Increased feedrate
Shaft	810	.010	.032	Ext		Competitor A	500	
						CNMG 332 FT TT8125 GL+	650 30%↑	
Support	750	.018	.160	Ext		Competitor A	0.5	
						CNMG 433 RT TT8115 GL+	1 50%↑	

Material : 0.53% Carbon Steel

Component	Cutting speed V (sfm)	Feedrate f (ipr)	Depth of cut d (in)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)	Remark
Over Drive Clutch	915	.006	.032	Facing	Yes	CNMG 332 FT TT8125	150	
						CNMG 332 FT TT8125 GL+	225 50%↑	
Under Drive Clutch	915	.006	.020	Facing		CNMG 332 FT TT8125	120	
						CNMG 332 FT TT8125 GL+	150 25%↑	

GOLDLIFE+™

TEST RESULTS

Material : Bearing Steel

Component	Cutting speed V (sfm)	Feedrate f (ipr)	Depth of cut d (in)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)	Remark
Bearing	525	.006	.040	Ext	Yes	WNMG 432 PC TT8115	25	
	525	**.017**	.040	Ext		WNMG 432 PC TT8115 GL+	25 Same	Increased feedrate
Gear Ring	400	.016	.028	Int		CNMG 432 PC TT8125	506	
						CNMG 432 PC TT8125 GL+	628 24%↑	

Material : Cr Alloy Steel

Component	Cutting speed V (sfm)	Feedrate f (ipr)	Depth of cut d (in)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)	Remark
Ball Joint	690	.010-.016	.032	Ext	Yes	DNMG 432 PC TT8125	340	
						DNMG 432 PC TT8125 GL+	385 13%↑	
Ball Joint	600	.012-.014	.032-.043	Ext		DNMG 432 MT TT8125	150	
						DNMG 432 MT TT8125 GL+	200 33%↑	

Material : Cr-Mo Alloy Steel

Component	Cutting speed V (sfm)	Feedrate f (ipr)	Depth of cut d (in)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)	Remark
Spindle Hub	915	.010-.012	.047	Ext / Facing	Yes	CNMG 332 FT TT8125	250	
						CNMG 332 FT TT8125 GL+	300 20%↑	
Shaft Gear	820	.006	.080 ~ .100	Ext		CNMG 432 PC TT8125	200	
						CNMG 432 PC TT8125 GL+	250 25%↑	
Flange Prop Shaftrns	750	.010	.012	Int		CNMG 432 MC TT8115	150	
						CNMG 432 MC TT8115 GL+	205 37%↑	

Material : Alloy Steel

Component	Cutting speed V (sfm)	Feedrate f (ipr)	Depth of cut d (in)	Operation	Coolant	Insert Designation	Tool Life (pcs/corner)	Remark
Gage Chart	1540-1870	.010	.040	Int	Yes	CNMG 433 PC TT8115	271	
						CNMG 433 PC TT8115 GL+	359 32%↑	
Link	425	.011	.100	Int		CNMG 432 MT TT8125	333	
						CNMG 432 MT TT8125 GL+	500 50%↑	
Roller Shaft	550	.016	.100	Ext		WNMG 433 RT TT8125	44	
						WNMG 433 RT TT8125 GL+	56 27%↑	