

NPA



New Product Announcement

Member IMC Group
Ingersoll
Cutting Tools

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TURNING

ISO Class

TT7105: K05-K15

TT7115: K10-K25

Inserts

Negative:

CNMA/G/X, DNMA/G, SNMA/G, TNMA/G,
VNMG/X, WNMA/G/X

Positive:

CCMT, CPMT, DCMT, RCMT/X, SCMT, TCMT,
TPMR/T, VBMT

Chip Breakers

Negative:

FG, MGP, KT, RGP
Common Style
Flat Top
Wipers

Positive:

FG, PC, MT

Materials

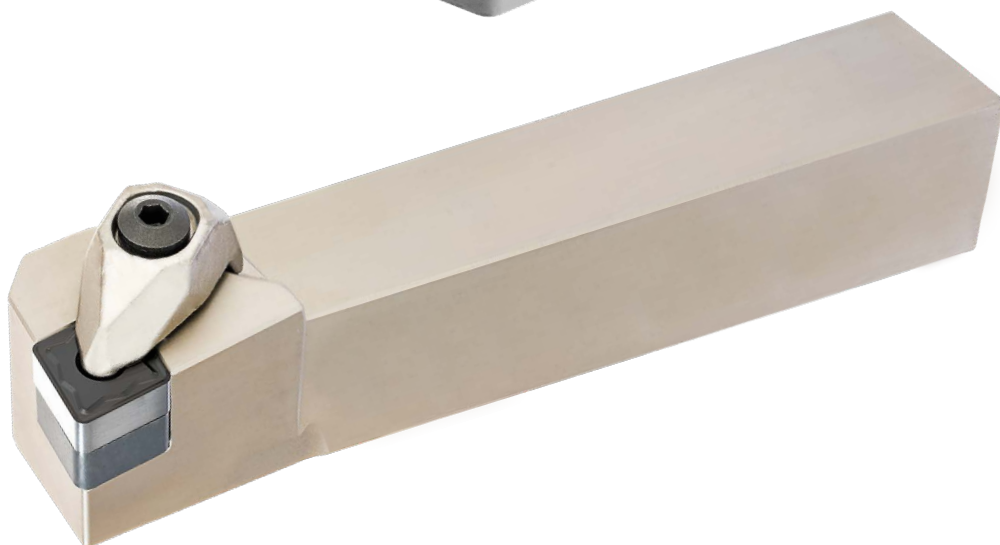
■ Cast Iron

TTTURN™

New TT7105 and TT7115 Grades for Cast Iron Machining



- » 10-20% increase of toughness and wear resistance
- » Improved coating adhesion
- » Existing TT7005/TT7015 inserts will be phased out as stock is depleted



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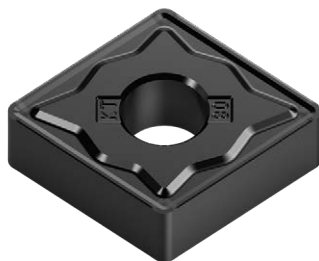
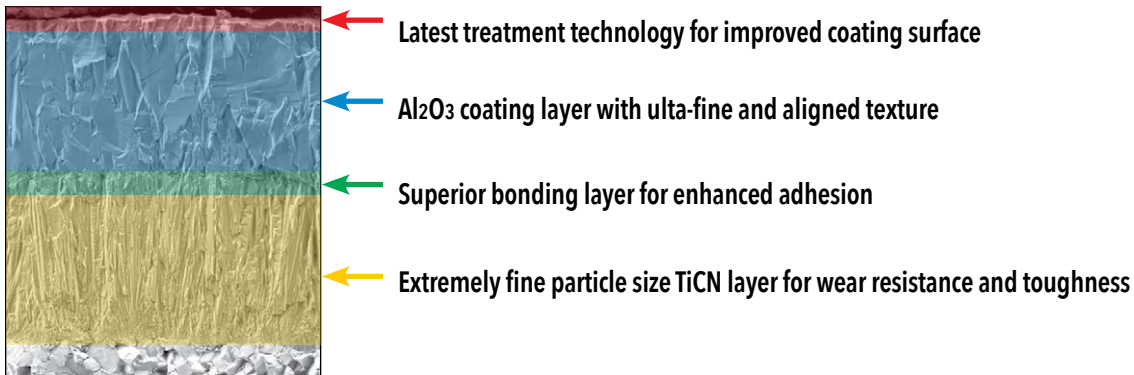
Features

The new TT7105 and TT7115 grades feature an ultra-fine and more aligned texture compared to the existing cast iron machining grades (TT7005, TT7015), significantly enhancing wear resistance and toughness. Additionally, adhesion has been improved, and toughness maximized by applying the latest after-treatment technology, resulting in excellent chipping resistance.

The TT7105 coating, characterized by high heat resistance, protects against thermal deformation and chemical reactions, providing a more effective solution even under high-speed cutting conditions. Furthermore, the new TT7115 grade offers excellent high-temperature wear and chipping resistance, ensuring ideal machining performance and high productivity, even under high-feed or interrupted cutting conditions.

NEW TT7105 and TT7115 Grade Features

- Grades for high-speed and high feed machining of cast iron
 - * TT7105: K05-K15 range specialized for high-speed and continuous machining
 - * TT7115: K10-K25 range specialized for high feed and interrupted machining
- Excellent high-temperature wear and oxidation resistance with alumina coating layer
- New coating and after-treatment technology for superior chipping resistance



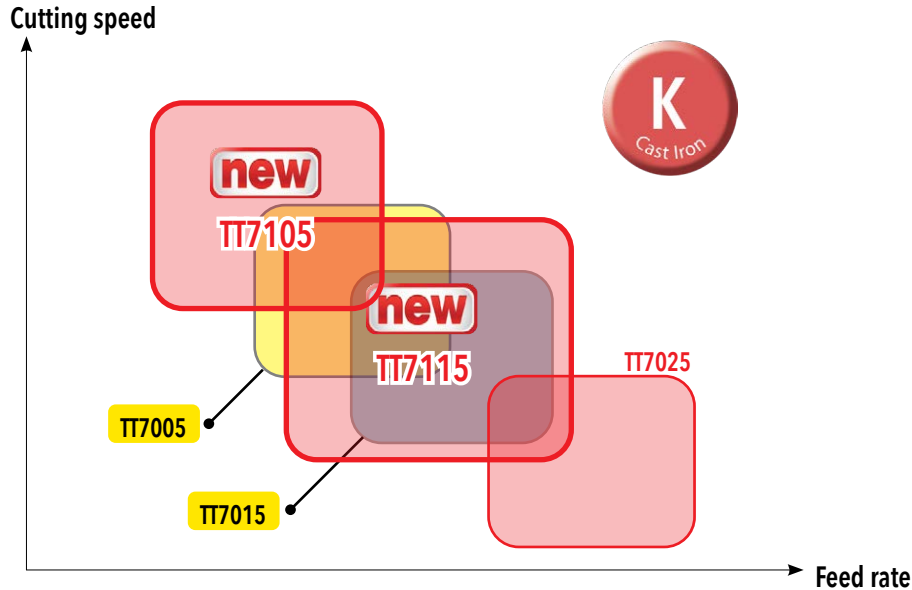
TT7005 / TT7015



TT7105 / TT7115

Application Range of Cast Iron Grades

New TT7105 and TT7115 grades significantly expand the cast iron machining range



Stocking Plan/Availability

Current **TT7005** and **TT7015** grades will be discontinued once the current stock runs out.

Scan/Click/Tap
for a complete grades
conversion chart »



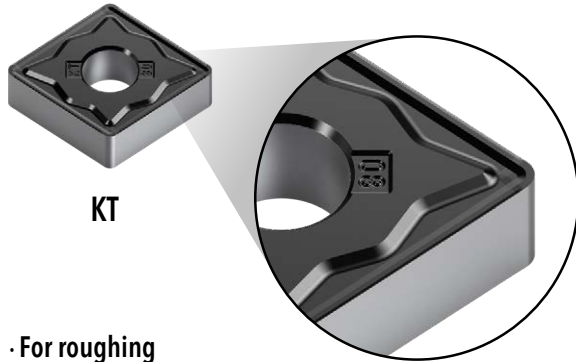
Recommended Cutting Speed

Excellent high temperature wear resistance enables increased recommended cutting speed

Material	Condition	Cutting speed V (sfm)			
		Existing TT7005	Existing TT7015	New TT7105	New TT7115
Grey cast iron (GG)	Ferritic	985-1805	950-1475	1,310-2,295	855-1,705
	Pearlitic	985-1410	820-1180	1,310-1,905	720-1,410
Cast iron nodular (GGG)	Ferritic	525-1310	490-1150	855-1,805	395-1,380
	Pearlitic	460-1150	425-985	785-1,640	330-1,215
Malleable cast iron	Ferritic	655-1510	820-1280	985-2,000	720-1,510
	Pearlitic	590-1150	655-1050	920-1,640	560-1,280

Chip Breaker Range

Roughing



KT

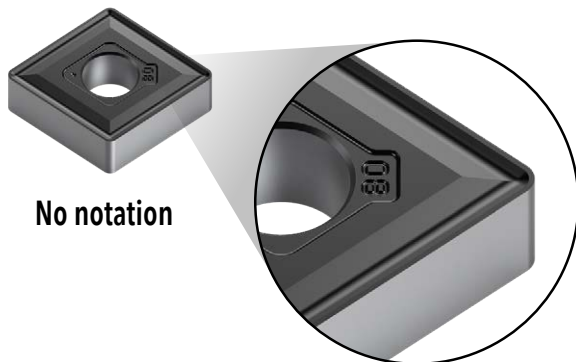
- For roughing
- Excellent cutting edge strength



RGP

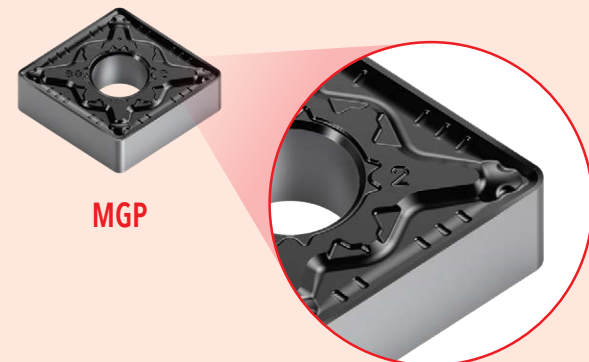
- For roughing
- Stable and consistent performance

Medium-Finishing



No notation

- For medium
- Low cutting forces
- Strong rake geometry



MGP

- For semi-finishing and finishing
- Suitable for continuous cutting and lightly interrupted cutting

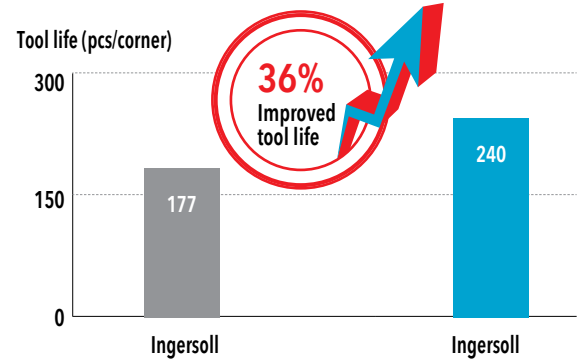
Cast Iron Machining Chip Breaker Comparison Chart

ISO	Application	Ingersoll	Sandvik	Kennametal	Seco	Walter	Mitsubishi	Sumitomo	Kyocera	Tungaloy	Korloy	Iscar
K	Finishing-medium	MGP	KF KM	FN	MF5 M4	NM, MK5	LK MA, MK	UZ	KQ No notation	CF CM	MP	M3P, GN
	Medium	No notation		No notation RN	M5	NM5, RK5	No notation GK		KG, C	No notation		No notation
	Roughing	KT RGP	KR	UN	MR7	MV7, RK7	GH, RK	GZ	KH ZS, GC	CH	B25, MK, VR RK, -MA	

Case Studies

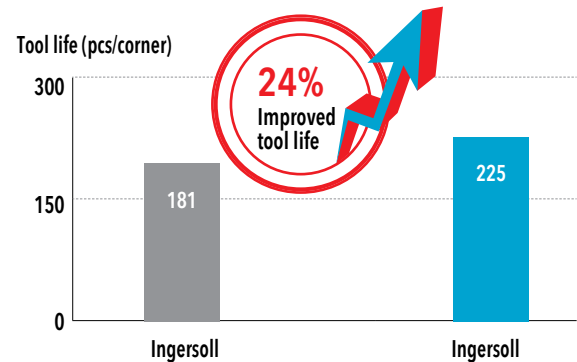
Case Study 1

	Competitor	Ingersoll
Material	Nodular cast iron, GGG50 (HB170-200)	
Application	Face turning	
Insert	CNMG 432 MT	CNMG 432 MGP
Grade	TT7015	TT7115
Cutting speed	V (sfm)	820
Feed	f (ipr)	0.012
Depth of cut	Ap (inch)	0.080
Coolant	Wet	
Tool life (pcs/corner)	177	240



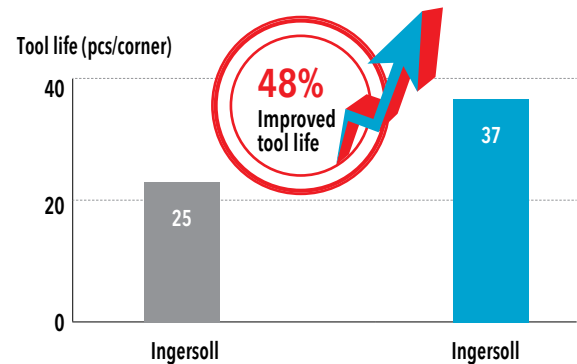
Case Study 2

	Competitor	Ingersoll
Material	Nodular cast iron, GGG50 (HB170-200)	
Application	Face turning	
Insert	CNMG 432 RT	CNMG 432 RGP
Grade	TT7015	TT7115
Cutting speed	V (sfm)	820
Feed	f (ipr)	0.012
Depth of cut	Ap (inch)	0.080
Coolant	Wet	
Tool life (pcs/corner)	181	225



Case Study 3

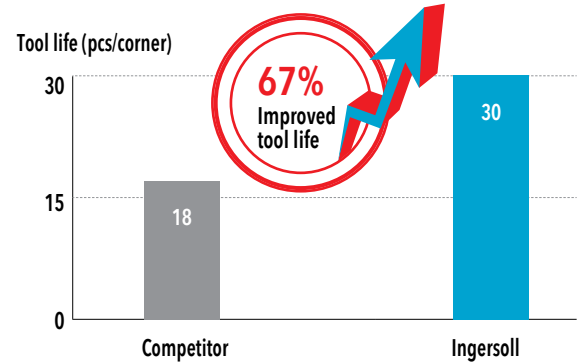
	Competitor	Ingersoll
Material	Gray cast iron, GG25	
Application	Face turning	
Insert	TNMG 2.533	TNMG 2.533
Grade	TT7015	TT7115
Cutting speed	V (sfm)	886
Feed	f (ipr)	0.010
Depth of cut	Ap (inch)	0.020
Coolant	Wet	
Tool life (pcs/corner)	25	37



Case Studies

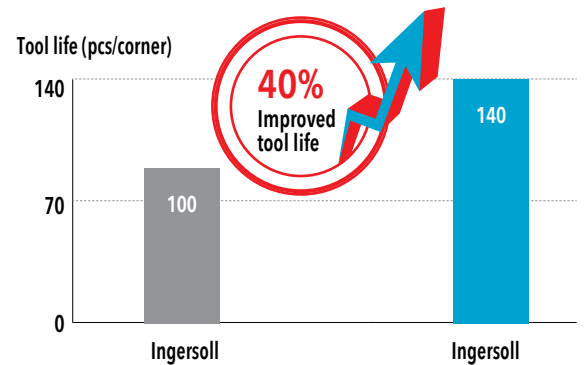
Case Study 4

		Competitor	Ingersoll
Material		Gray cast iron, GG25	
Application		Internal turning	
Insert		CNMA 433	CNMG 433 KT
Grade		For cast iron	TT7115
Cutting speed	V (sfm)	984	
Feed	f (ipr)	0.008	
Depth of cut	Ap (inch)	0.080	
Coolant		Wet	
Tool life (pcs/corner)		18	30



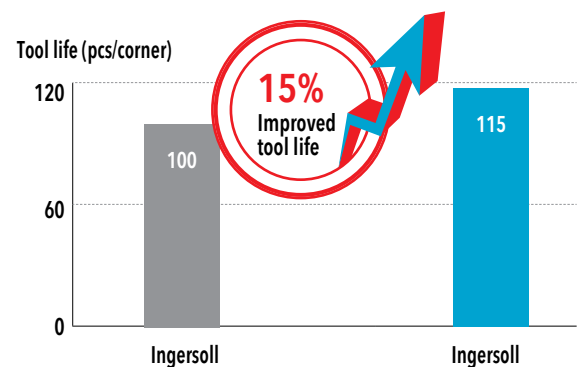
Case Study 5

		Competitor	Ingersoll
Material		Gray cast iron, GG30	
Application		Face turning (continuous)	
Insert		CNMA 432	CNMA 432
Grade		TT7015	TT7115
Cutting speed	V (sfm)	1312	
Feed	f (ipr)	0.012	
Depth of cut	Ap (inch)	0.080	
Coolant		Wet	
Tool life (pcs/corner)		100	140



Case Study 6

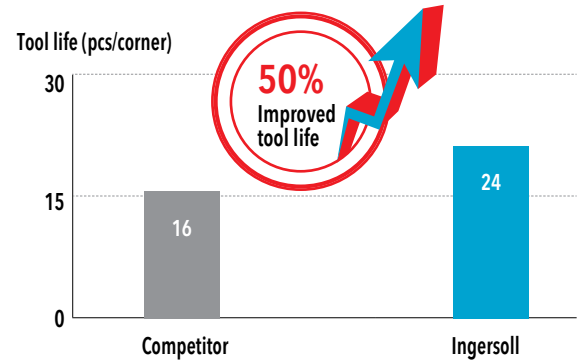
		Competitor	Ingersoll
Material		Gray cast iron, GG30	
Application		Face turning (interrupted)	
Insert		CNMA 432	CNMA 432
Grade		TT7015	TT7115
Cutting speed	V (sfm)	1312	
Feed	f (ipr)	0.012	
Depth of cut	Ap (inch)	0.080	
Coolant		Wet	
Tool life (pcs/corner)		100	115



Case Studies

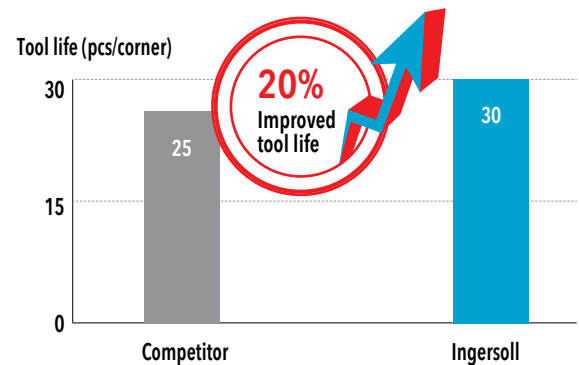
Case Study 7

		Competitor	Ingersoll
Material		Nodular cast iron, GGG60	
Application		External turning	
Insert		CNMA 433	CNMA 433
Grade		For cast iron	TT7115
Cutting speed	V (sfm)	722	
Feed	f (ipr)	0.016	
Depth of cut	Ap (inch)	0.040	
Coolant		Dry	
Tool life (pcs/corner)		16	24



Case Study 8

		Competitor	Ingersoll
Material		Nodular cast iron, GGG50	
Application		Face turning	
Insert		WNMG 433	WNMG 433
Grade		For cast iron	TT7115
Cutting speed	V (sfm)	984	
Feed	f (ipr)	0.010	
Depth of cut	Ap (inch)	0.020	
Coolant		Wet	
Tool life (pcs/corner)		25	30



Recommended Cutting Conditions

Materials				HB Hardness	Cutting speed V (sfm)	
ISO	Material Group #VDI 3323	Type	Condition		Coating	
					TT7105	TT7115
K	15-16	Gray Cast Iron	Ferritic	160	1,310-2,295	855-1,705
			Pearlitic	250	1,310-1,905	720-1,410
	17-18	Nodular Cast Iron	Ferritic	180	855-1,805	395-1,380
			Pearlitic	260	785-1,640	330-1,215
	19-20	Malleable Cast Iron	Ferritic	130	985-2,000	720-1,510
			Pearlitic	230	920-1,640	560-1,280

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.



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