Member IMC Group
Tungaloy

FEED the SPEED!

T9215 SERIES

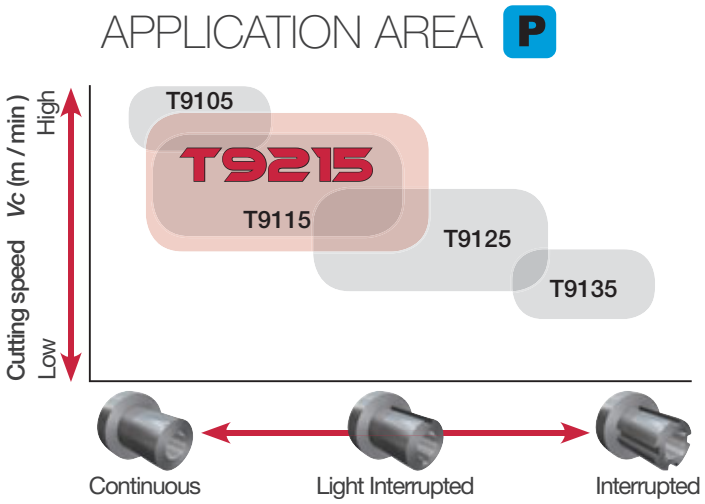
TUNGFORCE
TUNGALOY ACCELERATED MACHINING

NEW GENERATION IN CVD GRADES

GET STARTED!

NEW GENERATION OF CVD GRADE FOR STEEL TURNING WITH OUTSTANDING PRODUCTIVITY

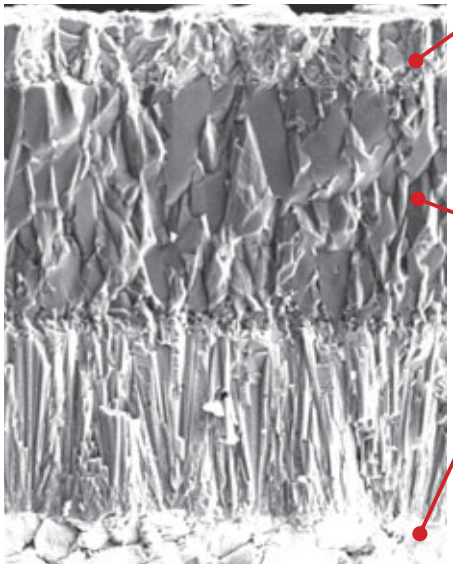
T9215 CVD grade – Improved wear and fracture resistance for turning ISO P15 materials



Application	Grade	Substrate			Coating layer	
		Specific gravity	Hardness (HRA)	T.R.S. (GPa)	Main Composition	Thickness (µm)
P	T9215	14.0	90.5	2.6	Ti compound + Al_2O_3	18

PREMIUMTEC
TUNGALOY

A new surface treatment technology is applied, making T9215 hard to break



Hard outer layer.
Newly developed hard coating layer, with high resistance to flank wear.

Thick Al_2O_3 layer with excellent resistance to high heat and crater wear, especially effective for high-speed machining.

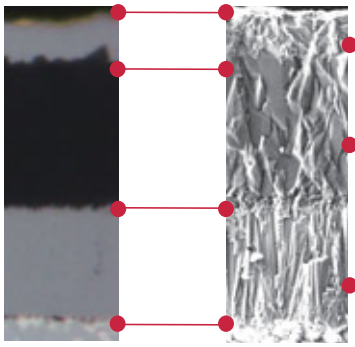
New cemented carbide substrate.
Exclusively designed for P15 grade drastically reduces defects in alloys, which greatly improves fracture resistance.

FEATURES

Excellent Crater Wear Resistance

Al_2O_3 coating with strengthened wear resistance

T9215

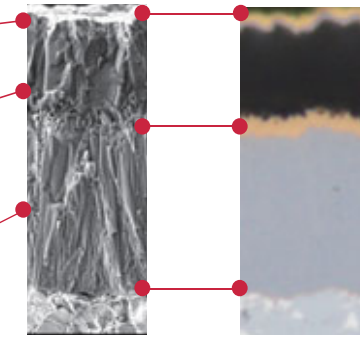


Ti-layer

Al_2O_3

Ti compound

Existing



Highly homogeneous structure of Al_2O_3

Surface image of Al_2O_3

Excellent Flank Wear Resistance

T9215 Provided Outstanding Flank Wear Resistance!

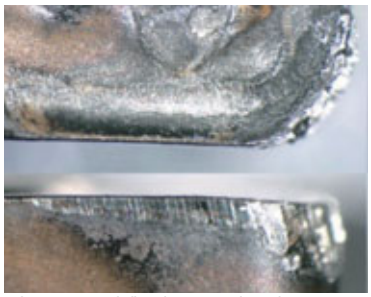
T9215

Long and stable tool life

Extended tool life
High speed and high feed
Stable machining

Reduced machine downtime
Cost reduction
High productivity

Existing



Increased flank wear leads to small chipping and welding

Fracture

PREMIUMTEC
TUNGALOY

Excellent fracture resistance due to the new and improved surface coating treatment

A unique technology developed to make tough coating treatment that prevents cracks in operation and provides stable machining.

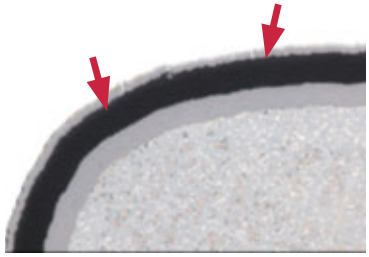
ADVANTAGE of the new technology

New improved surface treatment prolongs insert's tool life

T9215

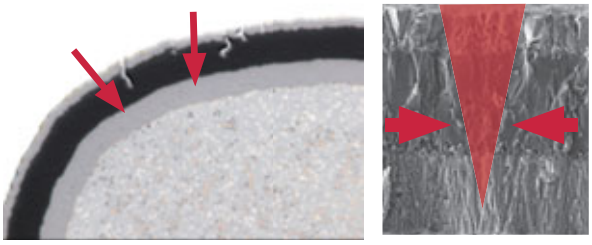
Suppress crack generation and progress

Insert cross section

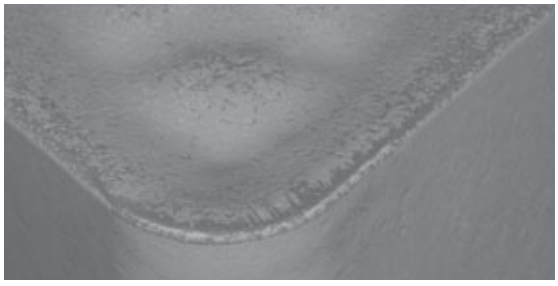


PREMIUMTEC
TUNGALOY

Suppress crack propagation



Still using



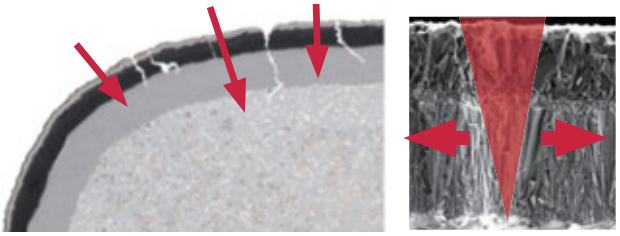
Results: stable machining!

Vs.

Existing

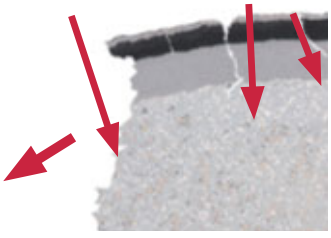
Crack occurs in coating files. Crack proceeds

Insert cross section



The crack gradually spreads

Fracture



Fracture

SELECTION GUIDE

Negative Inserts

- For finishing (*ap* = 0.3 - 1.5 mm / 0.012" - 0.06")

The 1st recommendation

High feed	T9215 FW
Crater wear	T9215 AS
Breakage	T9215 TS

- For finish to medium cutting (*ap* = 1.0 - 4.0 mm / 0.04" - 0.157")

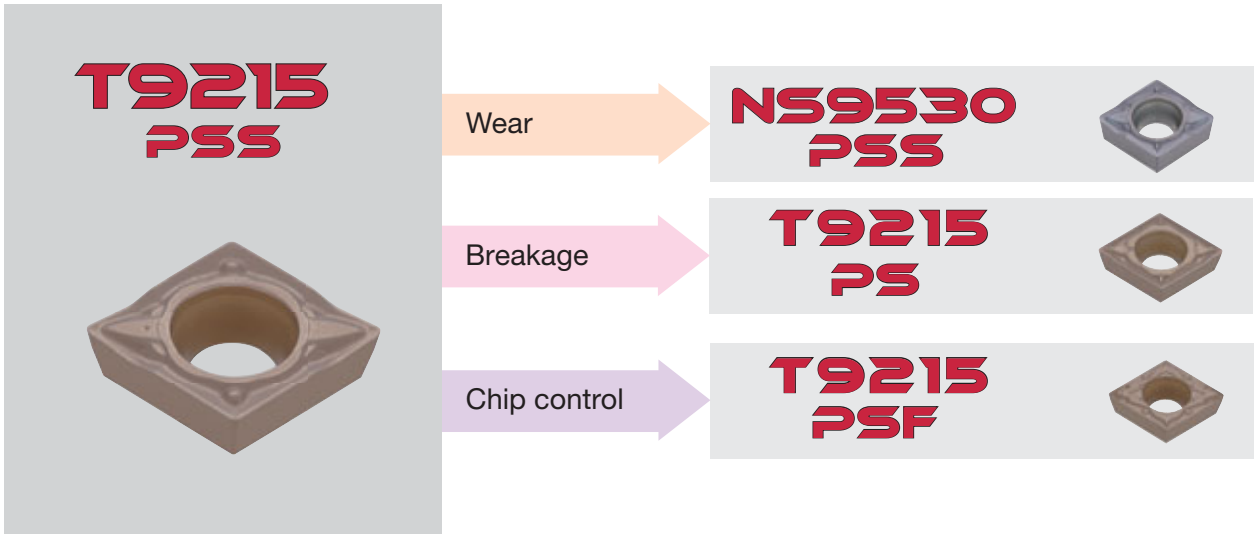
The 1st recommendation

High feed	T9215 SW
Crater wear	T9215 AM
Breakage	T9215 DM
Chip control	T9215 ZM

Positive Inserts

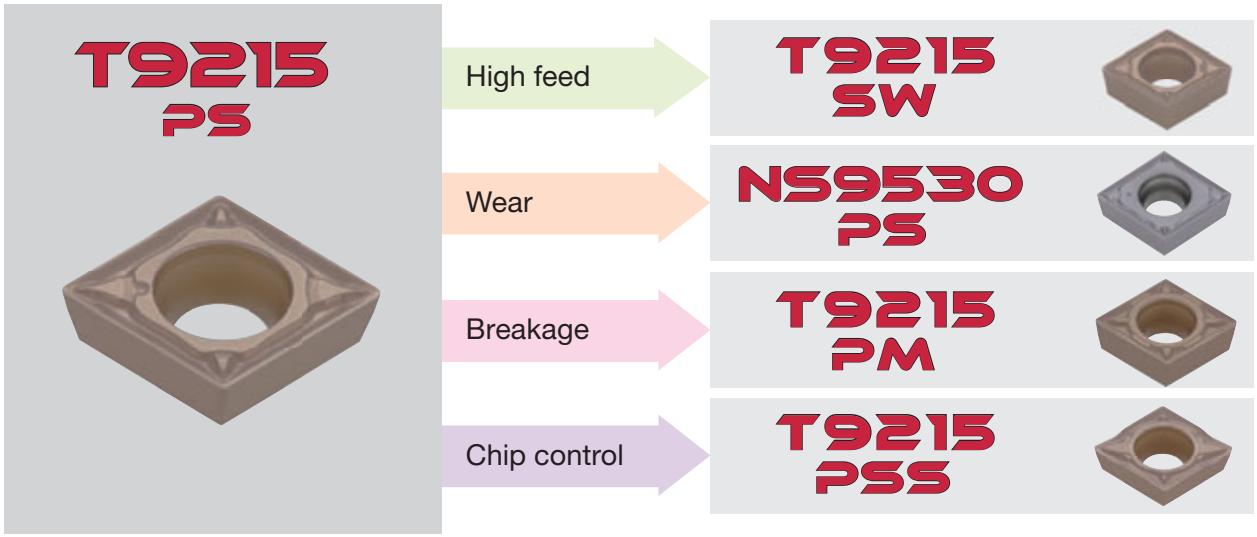
- For finishing (*ap* = 0.1 - 0.5 mm / 0.004" - 0.02")

The 1st recommendation



- For finishing to medium cutting (*ap* = 0.5 - 2.5 mm / 0.02" - 0.1")

The 1st recommendation



STANDARD CUTTING CONDITIONS

For Negative Inserts

Metric

	Operation	Chipbreaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: Vc (m/min) Low carbon steels, alloy steels	Medium carbon steels, alloy steels	High carbon steels, alloy steels
P	Finishing	TSF	T9215	0.2 - 1.5	0.08 - 0.4	150 - 400	150 - 400	120 - 300
		AS	T9215	0.5 - 2.0	0.2 - 0.6	150 - 400	150 - 400	120 - 300
		TS	T9215	0.5 - 1.5	0.08 - 0.2	150 - 400	150 - 400	120 - 300
		FW	T9215	0.5 - 1.5	0.2 - 0.4	150 - 400	150 - 400	120 - 300
	Medium	TM	T9215	1 - 5	0.2 - 0.5	150 - 400	150 - 400	120 - 300
		AM	T9215	1 - 5	0.2 - 0.6	150 - 400	150 - 400	120 - 300
		DM	T9215	1 - 5	0.2 - 0.5	150 - 400	150 - 400	120 - 300
		SW	T9215	0.5 - 2	0.3 - 0.6	150 - 400	150 - 400	120 - 300
	Medium to heavy	TH	T9215	3 - 6	0.3 - 0.6	150 - 400	150 - 400	120 - 300
							Stainless steel	
M	Finishing	TSF	T9215	0.2 - 1.5	0.08 - 0.4		100 - 250	
	Medium	TM	T9215	1 - 5	0.2 - 0.5		100 - 250	
							Cast iron	
K	Finishing	TSF	T9215	0.2 - 1.5	0.08 - 0.4		140 - 500	
	Medium	TM	T9215	1 - 5	0.2 - 0.5		140 - 500	
		AR	T9215	1 - 5	0.2 - 0.5		140 - 500	

Inch

	Operation	Chipbreaker	Grade	Depth of cut *ap* (inch)	Feed *f* (inch/rev)	Cutting speed: Vc (m/min) Low carbon steels, alloy steels	Medium carbon steels, alloy steels	High carbon steels, alloy steels
P	Finishing	TSF	T9215	0.008 - 0.59	0.003 - 0.016	492 - 1312	492 - 1312	394 - 984
		AS	T9215	0.02 - 0.079	0.008 - 0.024	492 - 1312	492 - 1312	394 - 984
		TS	T9215	0.02 - 0.059	0.003 - 0.008	492 - 1312	492 - 1312	394 - 984
		FW	T9215	0.02 - 0.059	0.008 - 0.016	492 - 1312	492 - 1312	394 - 984
	Medium	TM	T9215	0.04 - 0.197	0.008 - 0.02	492 - 1312	492 - 1312	394 - 984
		AM	T9215	0.04 - 0.197	0.008 - 0.024	492 - 1312	492 - 1312	394 - 984
		DM	T9215	0.04 - 0.197	0.008 - 0.02	492 - 1312	492 - 1312	394 - 984
		SW	T9215	0.02 - 0.079	0.012 - 0.024	492 - 1312	492 - 1312	394 - 984
	Medium to heavy	TH	T9215	0.118 - 0.236	0.012 - 0.024	492 - 1312	492 - 1312	394 - 984
							Stainless steel	
M	Finishing	TSF	T9215	0.008 - 0.59	0.003 - 0.016		328 - 820	
	Medium	TM	T9215	0.04 - 0.197	0.008 - 0.02		328 - 820	
							Cast iron	
K	Finishing	TSF	T9215	0.008 - 0.59	0.003 - 0.016		459 - 1640	
	Medium	TM	T9215	0.04 - 0.197	0.008 - 0.02		459 - 1640	
		AR	T9215	0.04 - 0.197	0.008 - 0.02		459 - 1640	

For Positive Inserts

Metric

	Operation	Chipbreaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: Vc (m/min) Low carbon steels, alloy steels	Medium carbon steels, alloy steels	High carbon steels, alloy steels
P	Finishing	PSF	T9215	0.1 - 0.5	0.05 - 0.3	120 - 350	100 - 350	80 - 250
	Medium	PS	T9215	0.5 - 2.5	0.08 - 0.3	120 - 300	100 - 300	80 - 250
		SW	T9215	0.5 - 2	0.15 - 0.4	150 - 350	150 - 350	120 - 300
	Medium to heavy	PM	T9215	1 - 3	0.15 - 0.3	120 - 300	100 - 300	80 - 200
							Stainless steel	
M	Finishing	PSF	T9215	0.1 - 0.5	0.05 - 0.3		50 - 200	
	Medium	PS	T9215	0.5 - 2.5	0.08 - 0.3		50 - 200	
							Cast iron	
K	Finishing	PSF	T9215	0.1 - 0.5	0.05 - 0.3		100 - 350	
	Medium	PS	T9215	0.5 - 2.5	0.08 - 0.3		100 - 350	

Inch

	Operation	Chipbreaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: Vc (m/min) Low carbon steels, alloy steels	Medium carbon steels, alloy steels	High carbon steels, alloy steels
P	Finishing	PSF	T9215	0.004 - 0.02	0.002 - 0.012	394 - 1148	328 - 1148	262 - 820
	Medium	PS	T9215	0.02 - 0.1	0.003 - 0.012	394 - 984	328 - 984	262 - 820
		SW	T9215	0.02 - 0.079	0.006 - 0.016	492 - 1148	492 - 1148	394 - 984
	Medium to heavy	PM	T9215	0.04 - 0.118	0.006 - 0.012	394 - 984	328 - 984	262 - 820
							Stainless steel	
M	Finishing	PSF	T9215	0.004 - 0.02	0.002 - 0.012		163 - 820	
	Medium	PS	T9215	0.02 - 0.1	0.003 - 0.012		163 - 820	
							Cast iron	
K	Finishing	PSF	T9215	0.008 - 0.59	0.003 - 0.016		328 - 1148	
	Medium	PS	T9215	0.04 - 0.197	0.008 - 0.02		328 - 1148	

SUCCESS STORIES

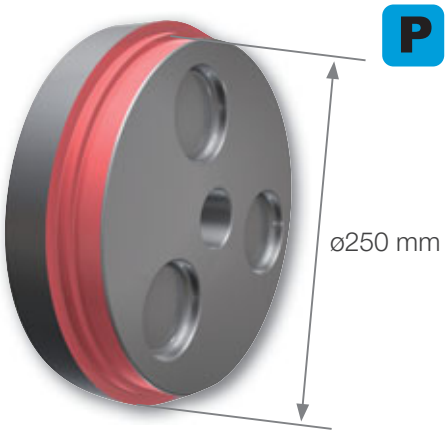
In machining automotive parts, the competitor's tool life was 20 pcs per edge due to poor wear resistance.

Industry: Automotive / Automotive Parts
Material: S55C (C55)
Toolholder: AWLNR2525M08-A
Insert: WNMG080408-AM
Grade: T9215

Cutting conditions:

Vc = 300 m/min (984 sfm)
f = 0.25 mm/rev (0.01 ipr)
ap = 1.5 mm (0.059")
coolant = Wet

Application: External and Face Turnings
Machine: NC Lathe



Result:
T9215 doubled the tool life to 37 pcs per edge, with less damage on the cutting edge.

New P15 grade, **T9215** exhibited excellent wear resistance, while providing stable machining and increased productivity.

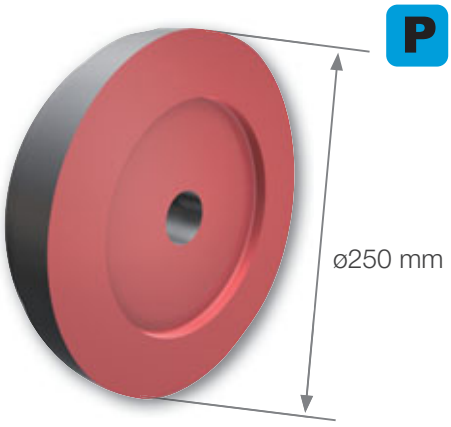
In internal face turning of automotive parts, the competitor's tool life was 40 pcs per edge due to poor wear resistance.

Industry: Automotive / Automotive Parts
Material: S55C (C55)
Toolholder: AWLNR2525M08-A
Insert: WNMG080408-AM
Grade: T9215

Cutting conditions:

Vc = 300 m/min (984 sfm)
f = 0.3 mm/rev (0.012 ipr)
ap = 1.0 mm (0.040")
coolant = Wet

Application: Internal and Face Turnings
Machine: NC Lathe



Result:
T9215 extended the tool life by 1.6 times to 65 pcs per edge, with less damage on the cutting edge.

New P15 grade, **T9215** exhibited excellent wear resistance, while providing stable machining and increased productivity.

T9215 – New Generation Grade for ***Accelerated Machining***

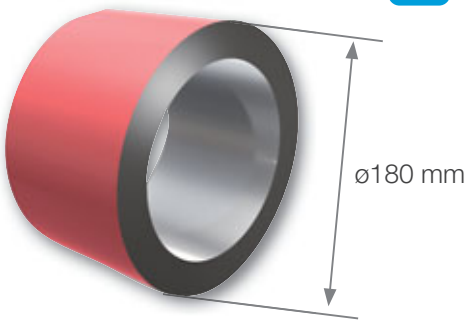
In machining carrier parts, the competitor's wiper insert life was only 30 pcs per edge, and an improvement was needed.

Industry: **Automotive** / Carrier Parts
Material: S55C (C45)
Toolholder: AWLNR2525M08-A
Insert: WNMG080408-SW
Grade: T9215

Cutting conditions:

Vc = 300 m/min (984 sfm)
f = 0.4 mm/rev (0.016 ipr)
ap = 1.0 mm (0.04")
coolant = Wet

Application: External Turning
Machine: NC Lathe



Result:
Highly wear resistant **T9215,** with the new **SW** wiper geometry, extended the tool life by 1.2 times to 35 pcs per edge, helping the customer increase productivity and achieve Accelerated Machining.

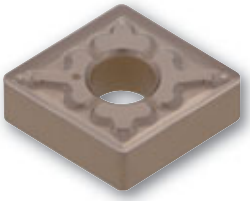
In external facing of shaft parts, the tool had to be replaced after machining every 4 pcs. The tool life improvement was the top priority.

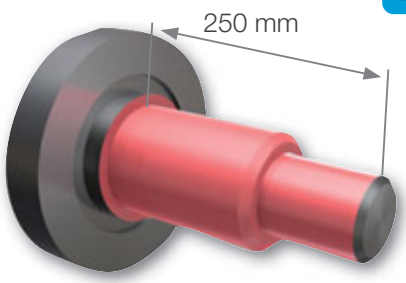
Industry: **Automotive** / Shaft Parts
Material: SCM440 (42CrMo4)
Toolholder: ACLNR2525M12-A
Insert: CNMG120408-TM
Grade: T9215

Cutting conditions:

Vc = 250 m/min (820 sfm)
f = 0.3 mm/rev (0.012 ipr)
ap = 3.5 mm (0.138")
coolant = Wet

Application: External & Face Turning
Machine: NC Lathe





Result:
T9215 extended tool life by 1.7 times to 7 pcs per edge, while eliminating premature insert failure, to achieve tool life stability.

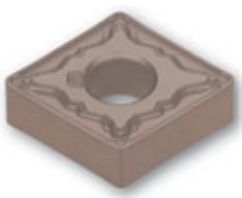
In internal turning of machine parts, the competitor's insert was exhibiting unstable tool life due to chipping and premature insert failure.

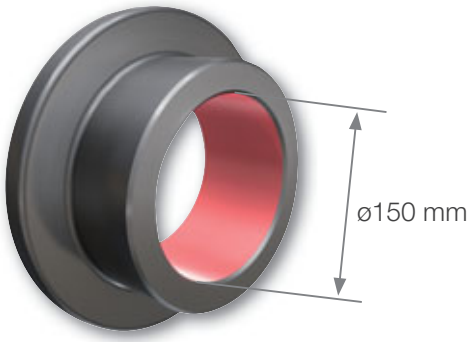
Industry: **General Engineering** / Machine Parts
Material: SNCM439 (4340)
Toolholder: ACLNR2525M12-A
Insert: CNMG120408-AM
Grade: T9215

Cutting conditions:

Vc = 170 m/min (558 sfm)
f = 0.4 mm/rev (0.016 ipr)
ap = 2.5 mm (0.1")
coolant = Wet

Application: Internal Turning
Machine: NC Lathe





Result:
T9215 machined 120 pcs per edge with stability and no significant tool damages like chipping or crater wear, while improving productivity.

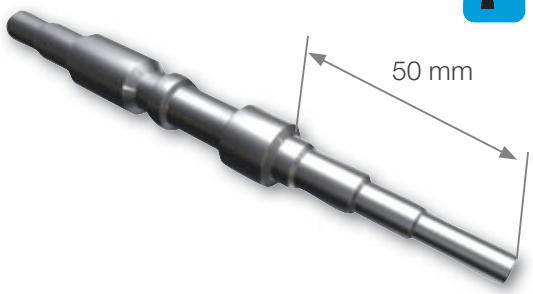
In external turning of pump shaft parts, the conventional insert machined 200 pcs per edge due to poor wear resistance.

Industry: Automotive / Pump Shaft Parts
Material: S45C (C45)
Toolholder: C4AWLNR27050-08N
Insert: WNMG080412-AS
Grade: T9215

Cutting conditions:

Vc = 300 m/min (984 sfm)
f = 0.3 mm/rev (0.12 ipr)
ap = 0.6 mm (0.024")
coolant = Wet

Application: External Turning
Machine: NC Lathe



Result:
The user tested our newest **T9215** with higher wear resistance. **T9215** provided stability in machining 400pcs while its tool life was estimated to be 200pcs. The damage on **T9215** was less than the conventional tool after machining 200pcs, which means the tool life would be further extended. As a result, **T9215** doubled tool life and drastically improved customer productivity.

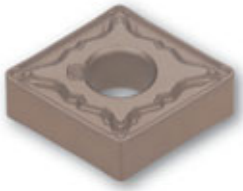
In external roughing of topshaft parts, excessive tool wear and fractures shortened the competitor's insert life to 50 pcs per edge.

Industry: Automotive / Top Shaft Parts
Material: SCM material
Toolholder: ACLNR2525M12-A
Insert: CNMG120408-AM
Grade: T9215

Cutting conditions:

Vc = 250 m/min (820 sfm)
f = 0.25 - 0.35 mm/rev (0.010 - 0.016 ipr)
ap = 2.0 mm (0.079")
coolant = Wet

Application: External Turning (Roughing)
Machine: NC Lathe



Result:
The user tested our newest **T9215**. While the tool life was estimated to be 50 pcs, **T9215** provided stability in machining 100pcs. After machining 50pcs, the competitor's insert showed serious damage on the cutting edge, but the damage on **T9215** was small. **T9215** doubled tool life and provided stable machining, drastically improving customer productivity.

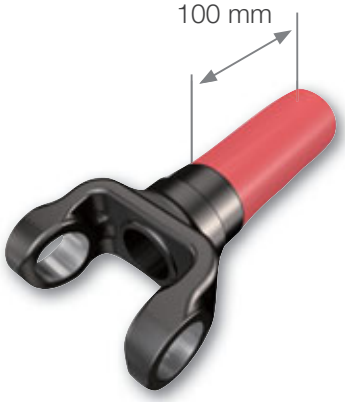
In external finishing of sliding shaft parts, the competitor used a P25 grade insert to machine 300 pcs per edge to prevent premature insert failure. Due to the poor wear resistance, the insert quickly reached its life.

Industry: Automotive / Sliding Shaft Parts
Material: S30C (C30)
Toolholder: ATGNR2525M16-A
Insert: TNMG160408-AM
Grade: T9215

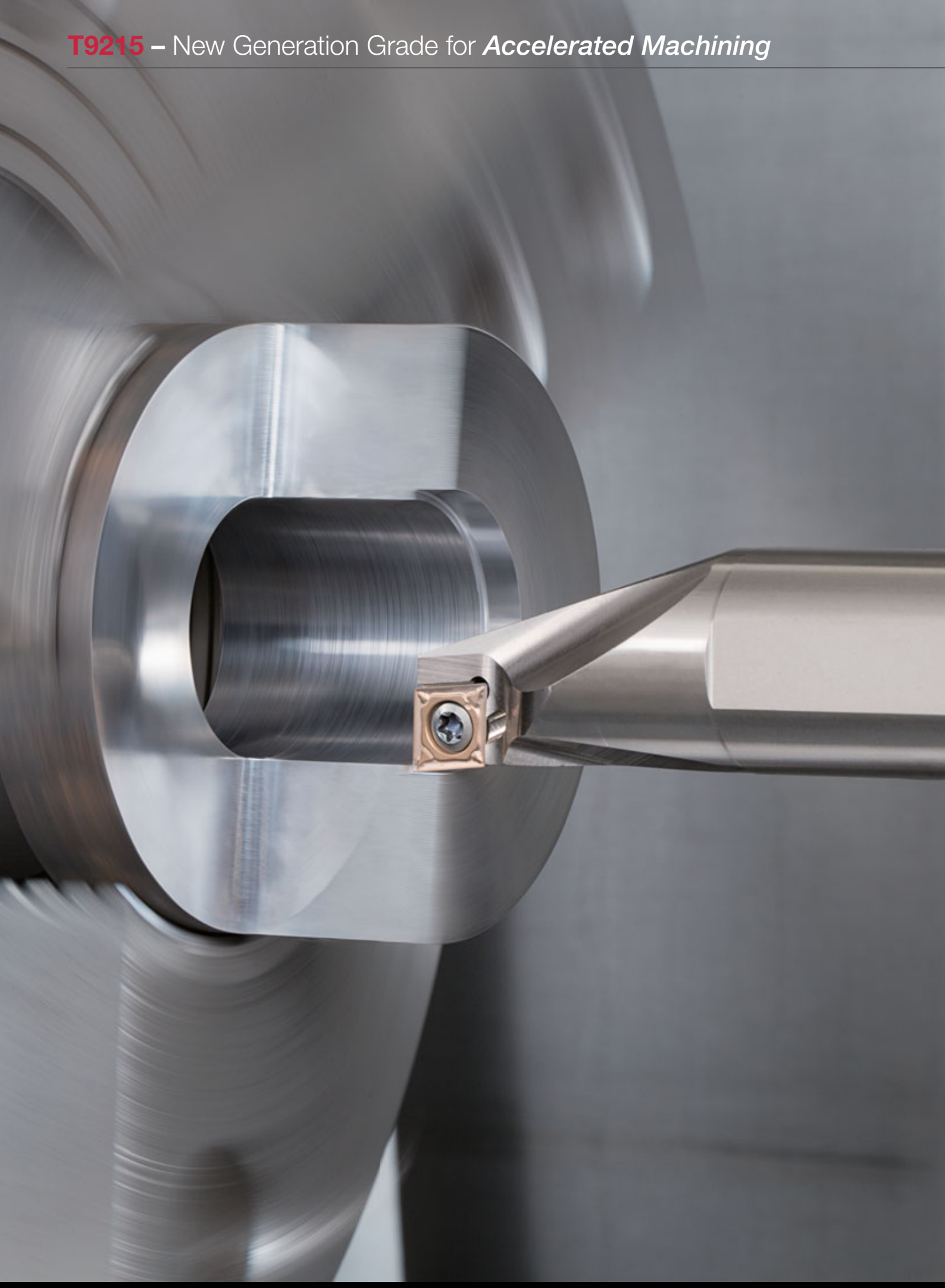
Cutting conditions:

Vc = 200 m/min (656 sfm)
f = 0.25 - 0.3 mm/rev (0.01 - 0.012 ipr)
ap = 2.5 mm (0.1")
coolant = Wet

Application: External Turning (Finishing)
Machine: NC Lathe



Result:
Thanks to its optimal combination of wear and fracture resistance, **T9215** achieved the same level of tool life as the competitor's P25 grade with much less damage on the cutting edge, while delivering stable machining and improved productivity.



In external turning of shaft parts, the competitor's insert could machine only 1 pc per edge. Extended tool life with optimum cutting conditions was required to increase productivity.

Industry: Automotive / Shaft Parts
Material: SCM440 (42CrMo4)
Toolholder: ACJNR2525M12-A
Insert: CNMG120412-TM
Grade: T9215

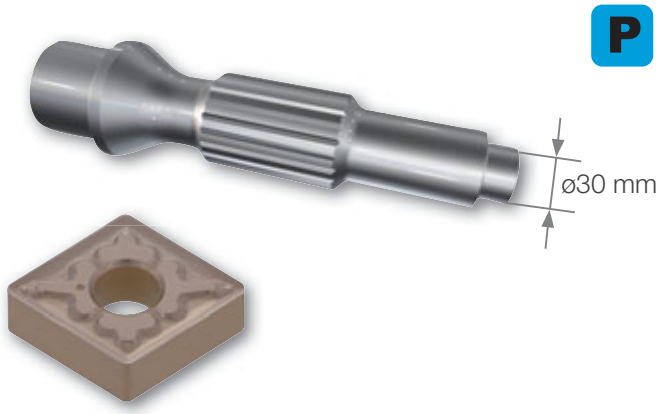
Cutting conditions:

Vc = 140 m/min (459 sfm)
f = 0.38 mm/rev (0.015 ipr)
ap = 4.0 mm (0.158") x 6 pass
coolant = Wet

Competitor

2.0 x 12 pass

Application: External Turning
Machine: NC Lathe



Result:
Tungaloy reviewed the machining condition and tool selection for optimization. The result: increased productivity due to a reduced number of passes to half, and shortened cycle time and machine down time. Tool life increased 5 times.

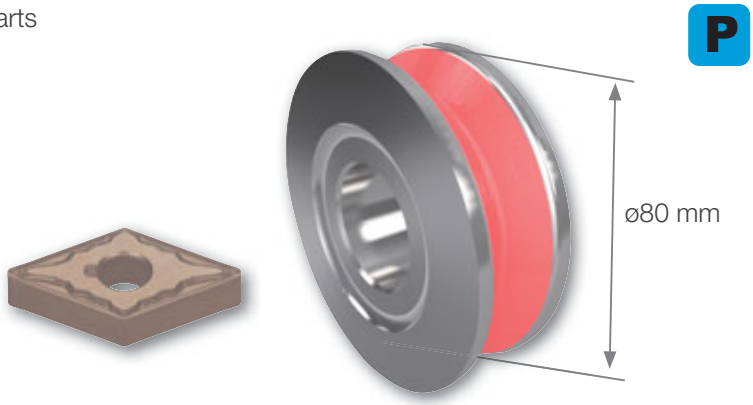
In external profiling of bearing parts, the competitor's insert machined 500 pcs per edge, with frequent sudden insert fractures. The low productivity needed improvement.

Industry: General Engineering / Bearing Parts
Material: SUJ2
Toolholder: PDJNR2525
Insert: DNMG150408-AM
Grade: T9215

Cutting conditions:

Vc = 250 m/min (820 sfm)
f = 0.25 - 0.35 mm/rev (0.01 0.016 ipr)
ap = 0.25 mm (0.01")
coolant = Wet

Application: External & Profile Turning
Machine: NC Lathe



Result:
In testing our latest **T9215** with higher wear resistance, the grade machined 500pcs without sudden fracture, providing stable machining and minimal damage. **T9215** prevented sudden fracture and drastically increased customer productivity.

In external machining of pipe parts, the competitor's insert was producing only 80 pcs per edge. Increased productivity was required.

Industry: General Engineering / Pipe Parts
Material: SM490 (DIN:ST52-3)
Toolholder: PDJNR2525M15
Insert: DNMG150608-TM
Grade: T9215

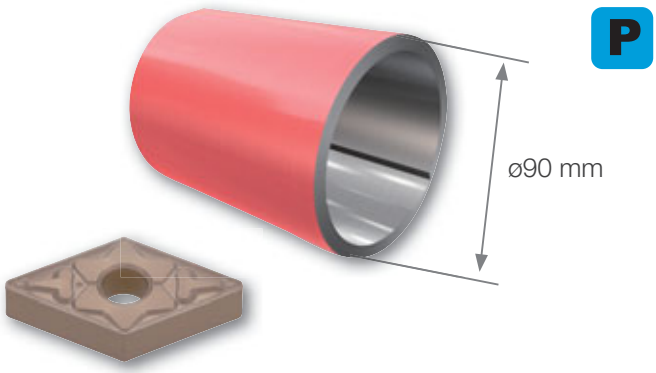
Cutting conditions:

Vc = 200 m/min (656 sfm)
f = 0.35 mm/rev (0.014 ipr)
ap = 3 mm (0.118")
coolant = Wet

Competitor

180 mm/min
0.27 mm/rev

Application: Internal Turning
Machine: NC Lathe



Result:
Tungaloy optimized the cutting speed and feed rate to improve productivity. The result: **T9215** machined 100 pcs per edge with significant improvement of machining stability. Machining time was reduced by 30%, while increasing productivity.

T9215 – New Generation Grade for ***Accelerated Machining***

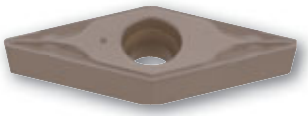
In interrupted internal machining of clutch parts, the competitor was able to machine only 400 pcs due to sudden fracture caused by insufficient wear resistance.

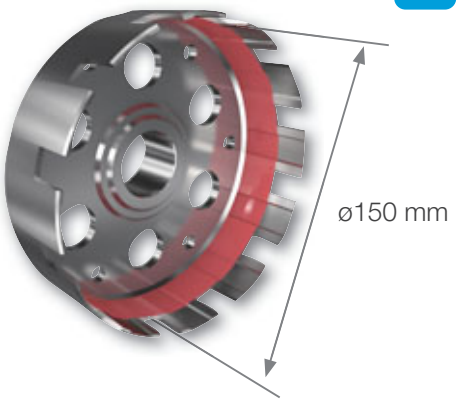
Industry: **Automotive** / Clutch Parts
Material: S45C (C45)
Toolholder: A32S-SVZBL16-D320
Insert: VBMT160408-PS
Grade: T9215

Cutting conditions:

Vc = 130 m/min (426 sfm)
f = 0.2 mm/rev (0.008 ipr)
ap = 0.5 mm (0.02")
coolant = Wet

Application: Internal Turning
Machine: NC Lathe





Result:
T9215 machined 600 pcs per edge with no sudden insert fractures thanks to its optimal combination of wear and fracture resistance, thus improving the customer's productivity.

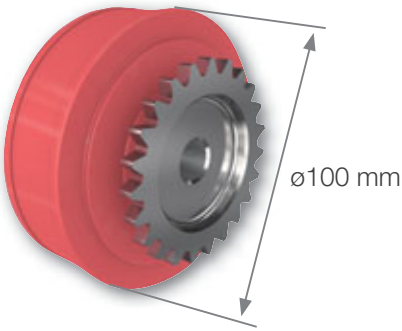
In external turning and facing of machine parts, the tool life of the conventional insert was 400 pcs per edge due to burr formation on the workpiece caused by developed wear on the cutting edge.

Industry: **General Engineering** / Machine Parts
Material: SCM415 (15CrMo4)
Toolholder: AWLNR2525M08-A
Insert: WNMG080408-TM
Grade: T9215

Cutting conditions:

Vc = 240 m/min (787 sfm)
f = 0.1 - 0.25 mm/rev (0.004 - 0.01 ipr)
ap = 1.0 mm (0.04")
coolant = Wet

Application: External & Face Turning
Machine: NC Lathe



Result:
T9215 machined 800 pcs per edge with no burr formation on the workpiece. The damage development on the cutting edge of the **T9215** insert was, by comparison, significantly less than the competitor's insert. The result: doubled tool life and increased productivity.

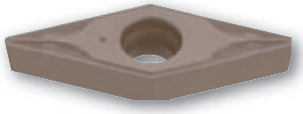
In face turning of synchronizer parts, the competitor's insert reached its tool life after machining 1,800 pcs due to surface finish deterioration.

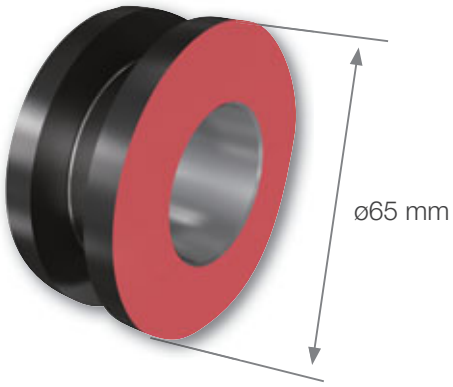
Industry: **Automotive** / Synchronizer Parts
Material: SCM420 (20CrMo4)
Toolholder: Special
Insert: VCMT160404-PS
Grade: T9215

Cutting conditions:

Vc = 180 m/min (590 sfm)
f = 0.15 mm/rev (0.006 ipr)
ap = 1.0 mm (0.04")
coolant = Wet

Application: Face Turning
Machine: NC Lathe





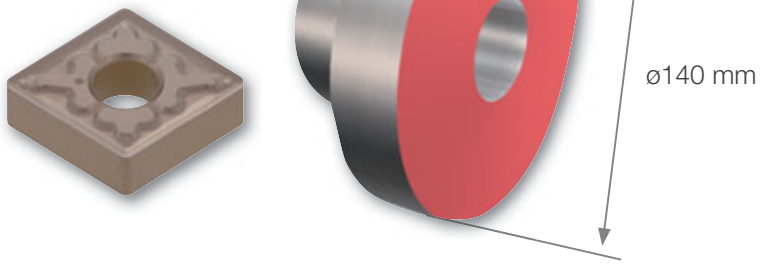
Result:
T9215 machined 2,600 pcs and was still delivering a good surface finish quality, extending tool life by 1.5 times and increasing productivity.

In face turning of connector parts, the customer was suffering very short tool life with the competitor's inserts due to chipping and fractures.

Industry: Automotive / Connector Parts
Material: SNCM439 (4340)
Toolholder: PCLNR2525M12
Insert: CNMG120408-TM
Grade: T9215

Cutting conditions:
Vc = 270 m/min (886 sfm)
f = 0.25 mm/rev (0.01 ipr)
ap = 2.0 mm (0.079")
coolant = Wet

Application: Face Turning
Machine: NC Lathe



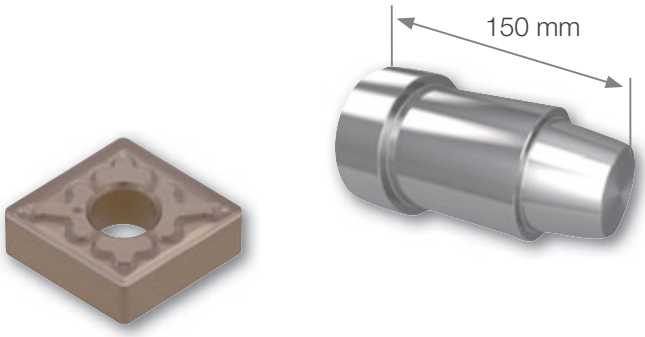
Result:
T9215 has been tested to significantly improve machining productivity and stability by increasing the insert life to 50 pcs per edge (1.7 times the competitor's) with no chipping or sudden insert ruptures.

The customer's request: a tool life improvement for an O.D. turning operation in their BT shank production process.

Industry: General Engineering / BT Shank Parts
Material: SNCM430
Toolholder: ACLNR2525M12-A
Insert: CNMG120408-TM
Grade: T9215

Cutting conditions:
Vc = 240 m/min (787 sfm)
f = 0.3 mm/rev (0.012 ipr)
ap = 3.0 mm (0.118")
coolant = Wet

Application: External Turning
Machine: NC Lathe



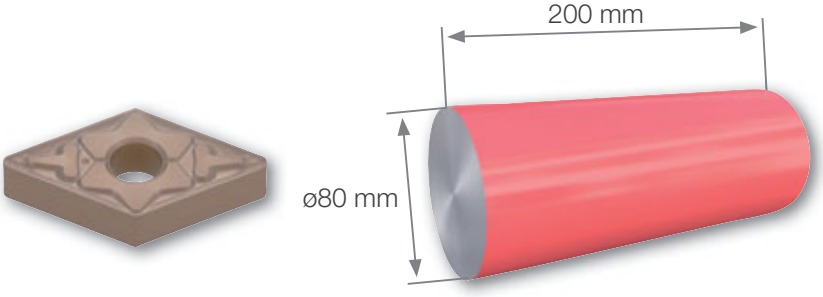
Result:
T9215 has satisfied the customer's request by more than doubling the insert life to 300 pcs per edge from the competitor's 140 pcs per edge. **T9215** improved stability in machining with no chipping or fractures on the cutting edge, while boosting productivity.

In external machining of machine parts, the competitor's insert life was 5 pcs per edge due to its poor wear resistance to hardened workpiece surface.

Industry: General Engineering / Machine Parts
Material: SCM440 (42CrMo4)
Toolholder: PDLNR2525M15
Insert: DNMG150608-TM
Grade: T9215

Cutting conditions:
Vc = 120 m/min (393 sfm)
f = 0.35 mm/rev (0.016 ipr)
ap = 1.5 mm (0.059")
coolant = Wet

Application: External & Face Turning
Machine: NC Lathe



Result:
T9215 doubled the tool life to 10 pcs per edge. And, the **TM** chipbreaker, first choice for hard workpiece surfaces, provided better chip control. The result: increased productivity.

T9215 – New Generation Grade for ***Accelerated Machining***

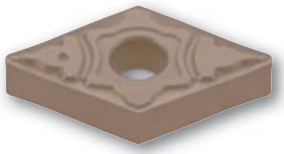
In internal machining of Hub parts, the competitor's insert life was 200 pcs per edge due to poor wear resistance. A tool life improvement was critical for pre- and post-processes.

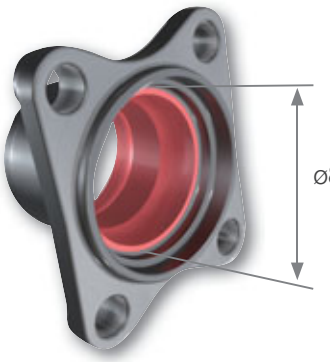
Industry: Automotive / Hub Parts
Material: S55C (C55)
Toolholder: PDLNR2525M15
Insert: DNMG150412-TS
Grade: T9215

Cutting conditions:

Vc = 180 m/min (590 sfm)
f = 0.35 mm/rev (0.016 ipr)
ap = 1.4 mm (0.055")
coolant = Wet

Application: Internal Turning
Machine: NC Lathe





Result:
T9215 increased the tool life to 380 pcs, nearly doubled the competitor's. With less damage on the tooling, productivity has been drastically improved.

In external turning of spring pin parts, the competitor's insert could machine 200 pcs per edge. An improvement in the cycle time efficiency was, however, still necessary for pre- and post-processes.

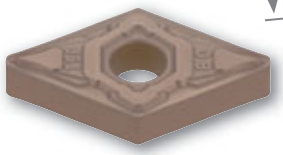
Industry: Automotive / Spring Pin Parts
Material: SCM440 (42CrMo4)
Toolholder: DDJNR2525M1504
Insert: DNMG150404-TSF
Grade: T9215

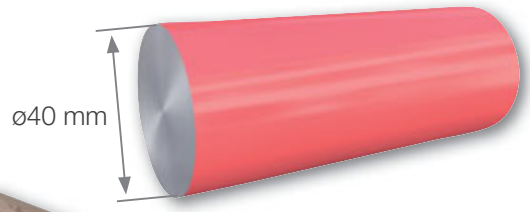
Cutting conditions:

Vc = 300 m/min (984 sfm)
f = 0.2 mm/rev (0.008 ipr)
ap = 1.0 mm (0.04")
coolant = Wet

Competitor
150 mm/min

Application: External Turning
Machine: NC Lathe





Result:
T9215 doubled the cutting speed to 300 m/min, while dramatically cutting the cycle time to half. The result: significant increase in productivity. ***Accelerated Machining*** achieved.

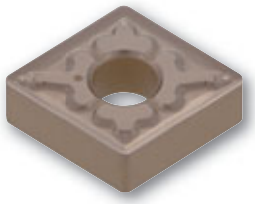
In machining stainless steel, the competitor was able to machine only 100 pcs due to increased flank wear, which was one of the reasons to decrease customer productivity.

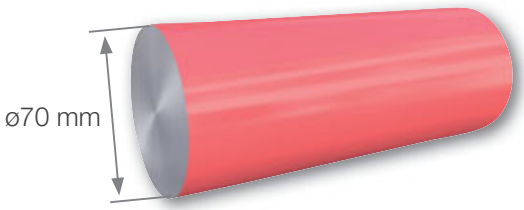
Industry: General Engineering / Machine Parts
Material: SUS304 (X5CrNi18-9)
Toolholder: PCLNR2020K12
Insert: CNMG120408-TM
Grade: T9215

Cutting conditions:

Vc = 205 m/min (666 sfm)
f = 0.3 mm/rev (0.012 ipr)
ap = 2.0 mm (0.079")
coolant = Wet (30 Bar)

Application: External
Machine: NC Lathe





Result:
Our newest **T9215's** tool life was 1.5 times longer than the competitor. Flank wear was drastically reduced, even in stainless machining.

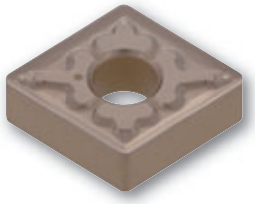
In machining super duplex stainless steel, the competitor was able to machine only 50pcs due to increased notch wear, which was one of the reasons for decreased customer productivity. Sudden breakage also occurred, and stable machining and improvement in productivity were urgently required.

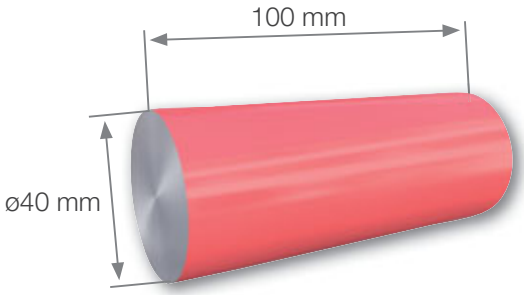
Industry: General Engineering / Machine Parts
Material: S32750 (1.4410)
Toolholder: PCLNR2020K12-CHP
Insert: CNMG120408-TM
Grade: T9215

Cutting conditions:

Vc = 100 m/min (328 sfm)
f = 0.35 mm/rev (0.016 ipr)
ap = 1.5 mm (0.059")
coolant = Wet (30 Bar)

Application: External & Face Turning
Machine: NC Lathe





Result:
Our newest **T9215's** machined 100 pcs, which was doubled compared to the competitor. Sudden breakage was drastically reduced, which delivered a remarkable increase in customer productivity.

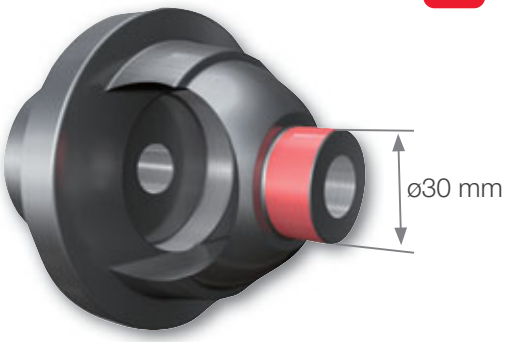
The customer's request was the improvement in tool life for external turning in cast iron machining.

Industry: Automotive / Differential Case
Material: FCD600 (600-3)
Toolholder: C4AWLNR27050-08N
Insert: WNMG080412-TM
Grade: T9215

Cutting conditions:

Vc = 180 m/min (591 sfm)
f = 0.3 mm/rev (0.012 ipr)
ap = 1.0 mm (0.039")
coolant = Wet (30 Bar)

Application: External
Machine: NC Lathe



Result:
We recommended our latest **T9215** with outstanding wear resistance and chipping resistance. T9215 achieved 110 pcs, which is more than 2 times compared to the 50 pcs achieved by the competitor. T9215 can also be used in cast iron machining.

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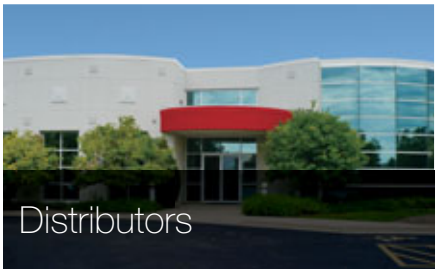

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