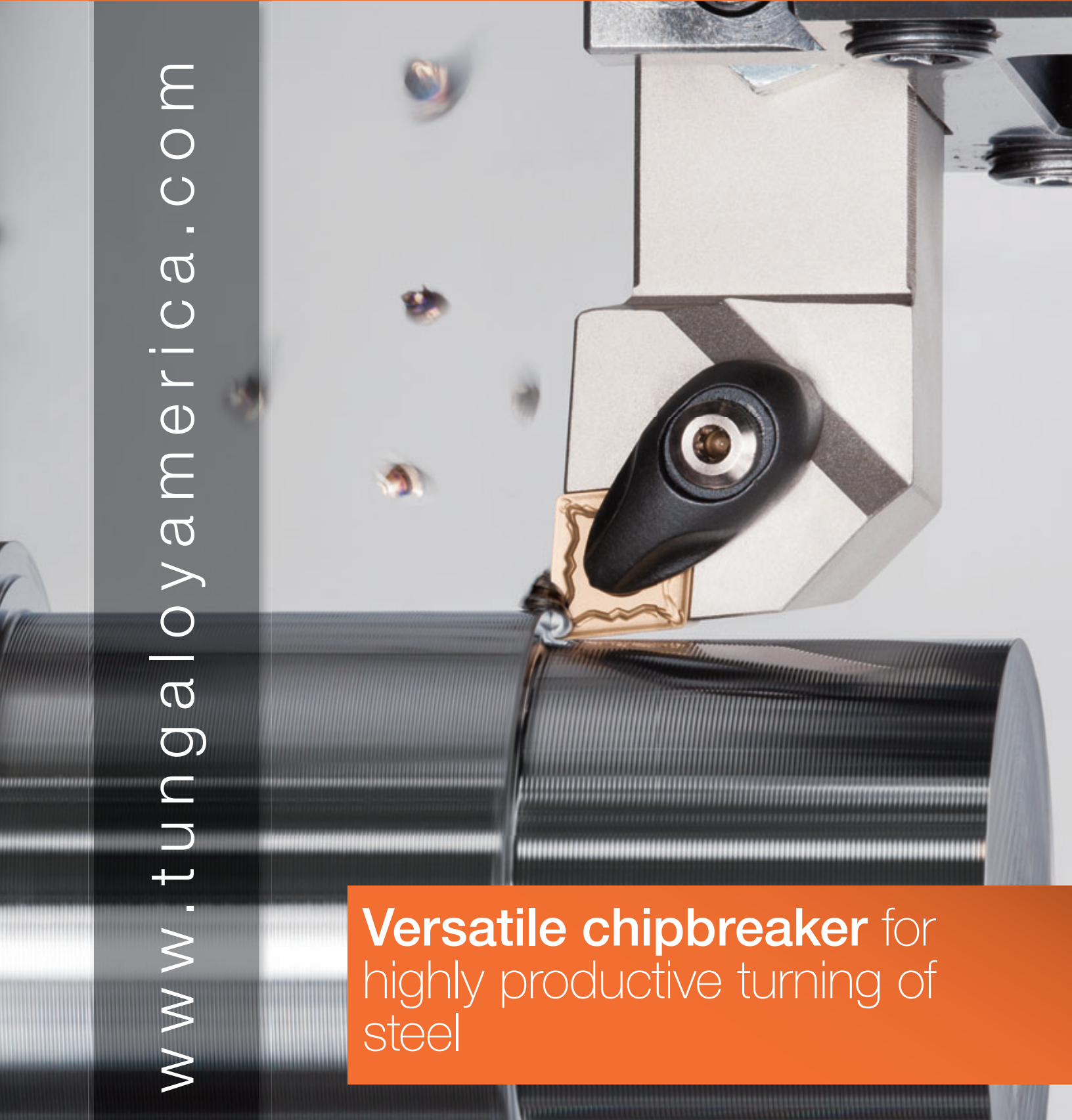
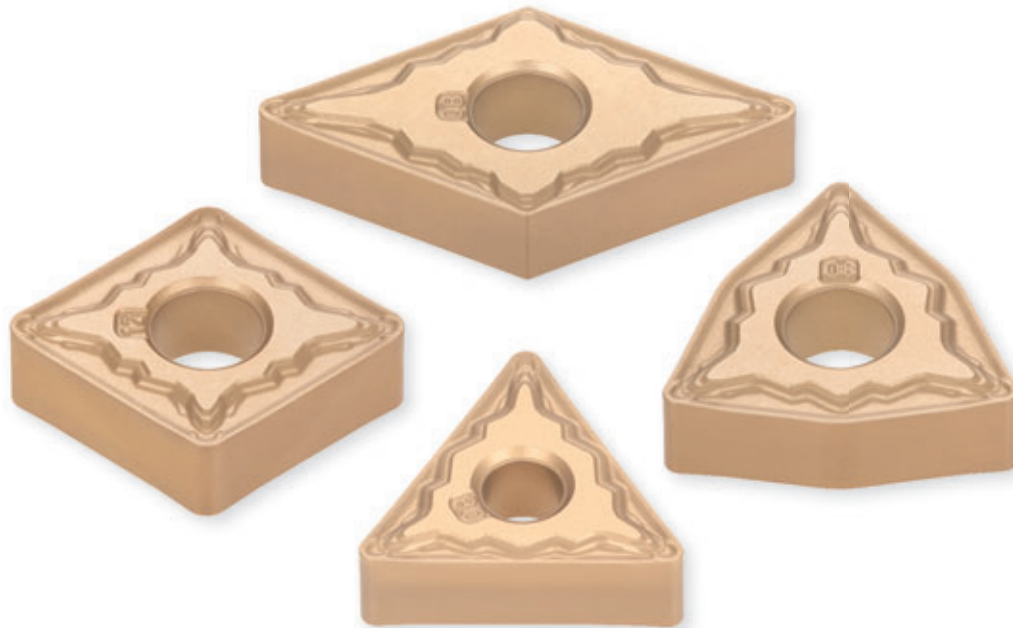


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**Versatile chipbreaker** for highly productive turning of steel







Unique chipbreaker **reduces crater wear, providing high productivity and stable, long tool life**

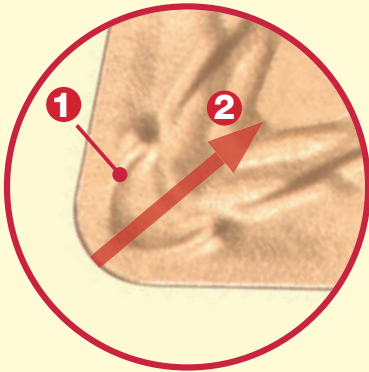




**New**



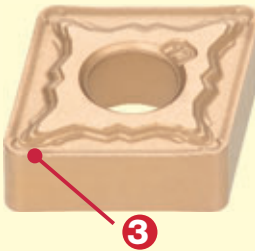
## Finishing to medium cutting



### ① “Lift-Ridge” shape prevents crater wear

- Reduces chip contact and heat generation
- Suitable for a wide range of cutting conditions
- Prevents crater wear in a large area of the rake face

### ② Specially designed protrusion and ideal chipbreaker width provide excellent chip control



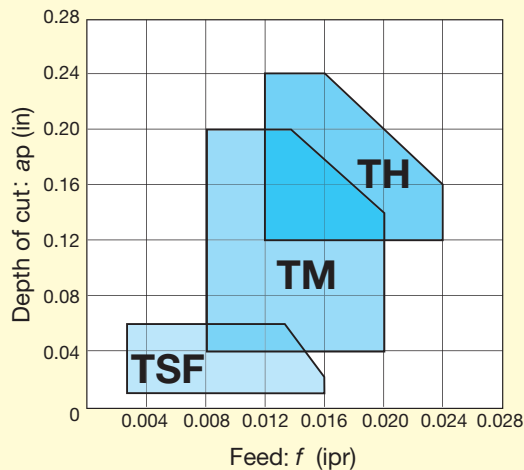
### ③ Inclination on cutting edge decreases cutting force

## ● Application area

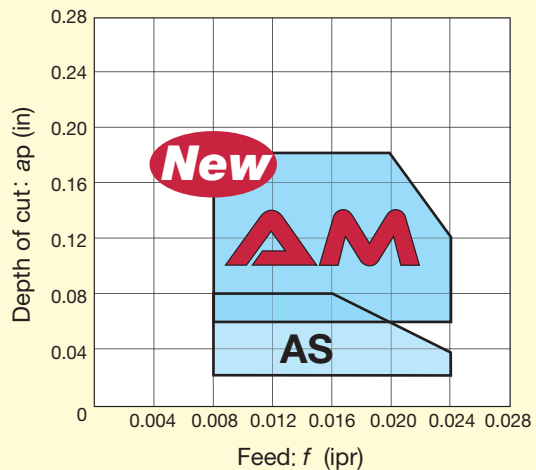
New chipbreaker series "AS & AM" for highly productive turning of steel

**P**

### Basic chipbreakers

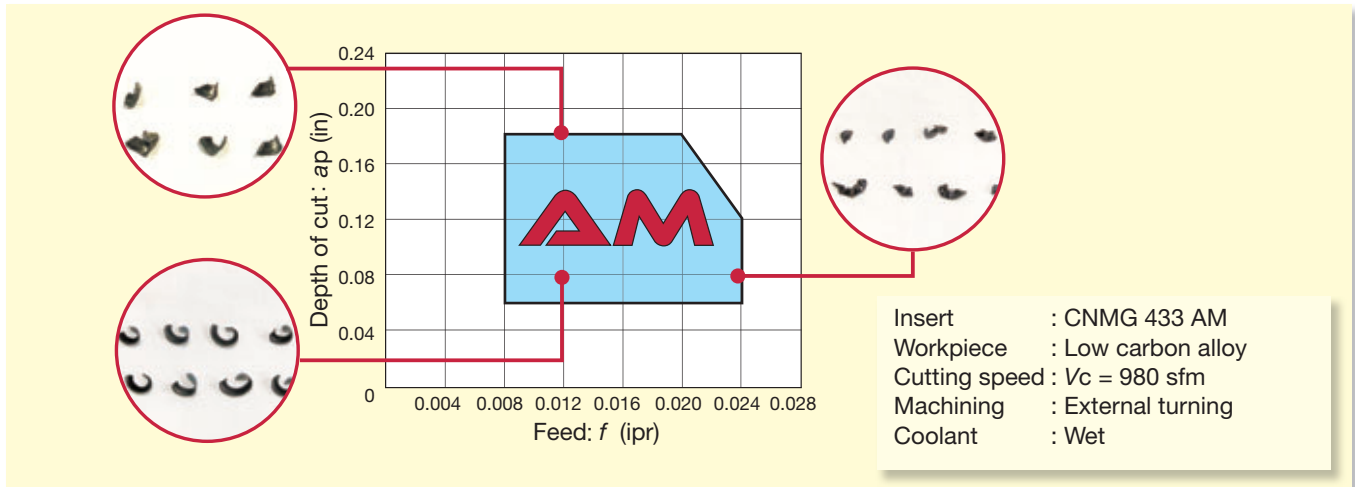


### Selection for high productivity



## ● Chip control

Stable chip control in a wide range of machining conditions!



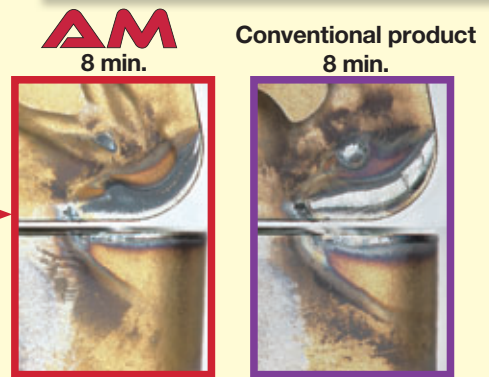
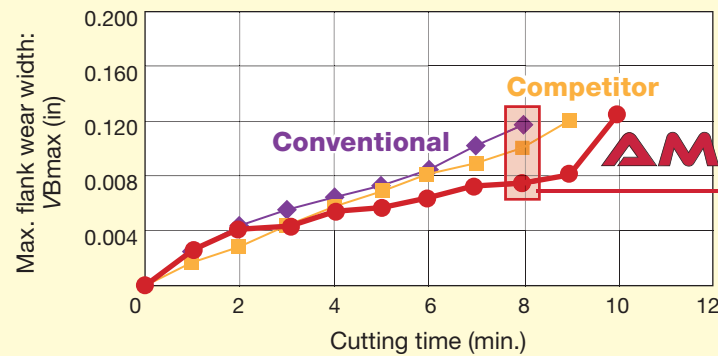
## ● Cutting performance

### ■ High-speed cutting

**P** High carbon steel (1045)

**Strong resistance to crater wear!**

Insert : CNMG 433 \*\* T9115  
 Cutting speed :  $V_c = 980$  sfm  
 Feed :  $f = 0.012$  ipr  
 Depth of cut :  $a_p = 0.08$ "  
 Machining : External turning  
 Coolant : Wet

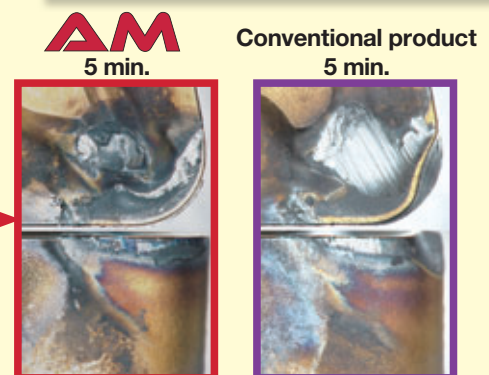
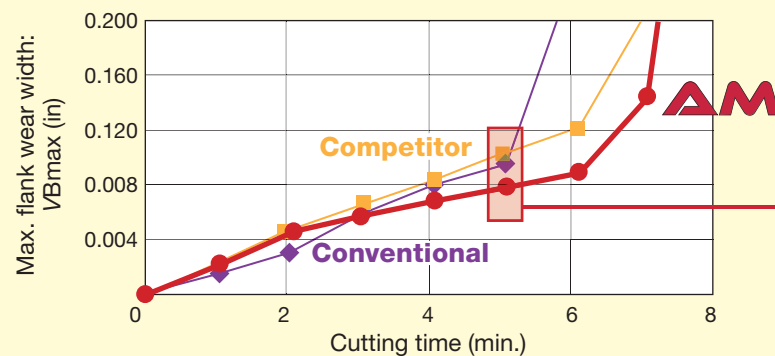


### ■ High-feed cutting

**P** High carbon steel (1045)

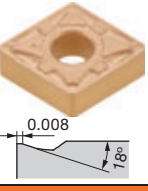
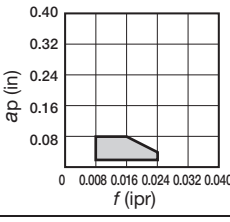
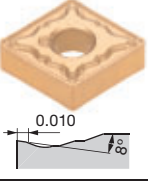
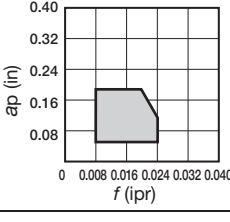
**Strong resistance to crater wear!**

Insert : CNMG 433 \*\* T9115  
 Cutting speed :  $V_c = 820$  sfm  
 Feed :  $f = 0.020$  ipr  
 Depth of cut :  $a_p = 0.08$ "  
 Machining : External turning  
 Coolant : Wet

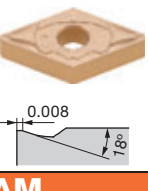
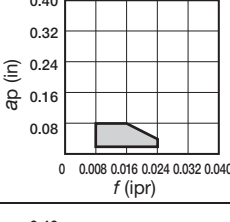
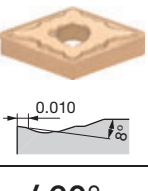
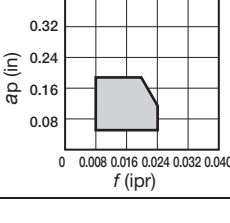


# ● Inserts Negative type

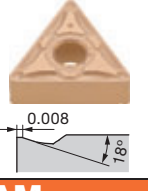
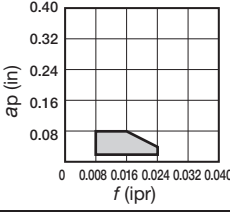
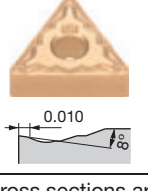
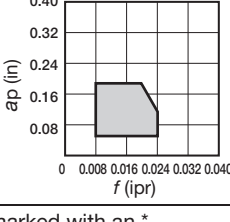
## Rhombic / 80°

Application	Chipbreaker		Cat. No	Grades		Dimensions (in)			
	Appearance (Cross section)	$f - ap$		Coated		I.C.dia $\varnothing d$	Thick- ness $s$	Hole dia $\varnothing d_1$	Corner radius $r_E$
				T9115	T9125				
Finishing	<b>AS</b> 		<b>CNMG 431 AS</b>	●	●	0.500	0.187	0.203	0.016
			*CNMG 432 AS	●	●	0.500	0.187	0.203	0.031
			<b>CNMG 433 AS</b>	●	●	0.500	0.187	0.203	0.047
Finishing to medium cutting	<b>AM</b> 		*CNMG 432 AM	●	●	0.500	0.187	0.203	0.031
			<b>CNMG 433 AM</b>	●	●	0.500	0.187	0.203	0.047
			<b>CNMG 434 AM</b>	●	●	0.500	0.187	0.203	0.062

## Rhombic / 55°

Application	Chipbreaker		Cat. No	Grades		Dimensions (in)			
	Appearance (Cross section)	$f - ap$		Coated		I.C.dia $\varnothing d$	Thick- ness $s$	Hole dia $\varnothing d_1$	Corner radius $r_E$
				T9115	T9125				
Finishing	<b>AS</b> 		<b>DNMG 431 AS</b>	●	●	0.500	0.187	0.203	0.016
			*DNMG 432 AS	●	●	0.500	0.187	0.203	0.031
			<b>DNMG 433 AS</b>	●	●	0.500	0.187	0.203	0.047
			<b>DNMG 441 AS</b>	●	●	0.500	0.250	0.203	0.016
			<b>DNMG 442 AS</b>	●	●	0.500	0.250	0.203	0.031
			<b>DNMG 443 AS</b>	●	●	0.500	0.250	0.203	0.047
Finishing to medium cutting	<b>AM</b> 		*DNMG 432 AM	●	●	0.500	0.187	0.203	0.031
			<b>DNMG 433 AM</b>	●	●	0.500	0.187	0.203	0.047
			<b>DNMG 434 AM</b>	●	●	0.500	0.187	0.203	0.062
			<b>DNMG 442 AM</b>	●	●	0.500	0.250	0.203	0.031
			<b>DNMG 443 AM</b>	●	●	0.500	0.250	0.203	0.047
			<b>DNMG 444 AM</b>	●	●	0.500	0.250	0.203	0.062

## Triangular / 60°

Application	Chipbreaker		Cat. No	Grades		Dimensions (in)			
	Appearance (Cross section)	$f - ap$		Coated		I.C.dia $\varnothing d$	Thick- ness $s$	Hole dia $\varnothing d_1$	Corner radius $r_E$
				T9115	T9125				
Finishing	<b>AS</b> 		<b>TNMG 331 AS</b>	●	●	0.375	0.187	0.150	0.016
			*TNMG 332 AS	●	●	0.375	0.187	0.150	0.031
			<b>TNMG 333 AS</b>	●	●	0.375	0.187	0.150	0.047
Finishing to medium cutting	<b>AM</b> 		*TNMG 332 AM	●	●	0.375	0.187	0.150	0.031
			<b>TNMG 333 AM</b>	●	●	0.375	0.187	0.150	0.047

# Trigon / 80°

Application	Chipbreaker		Cat. No	Grades		Dimensions (in)			
	Appearance (Cross section)	f - ap		Coated		I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
				T9115	T9125				
Finishing	<b>AS</b>		<b>WNMG 431 AS</b>			0.500	0.187	0.203	0.016
			<b>*WNMG 432 AS</b>	●	●	0.500	0.187	0.203	0.031
			<b>WNMG 433 AS</b>	●	●	0.500	0.187	0.203	0.047
Finishing to medium cutting	<b>AM</b>		<b>*WNMG 432 AM</b>	●	●	0.500	0.187	0.203	0.031
			<b>WNMG 433 AM</b>	●	●	0.500	0.187	0.203	0.047
			<b>WNMG 434 AM</b>	●	●	0.500	0.187	0.203	0.062

\*Chipbreaker cross sections are marked with an \*.

● : Stocked items

## Practical examples

Workpiece type		Pipe yoke	Hydraulic part
Toolholder		ACLNR164-A	ACLNR164-A
Insert		CNMG 432 AM	CNMG 432 AM
Grade		T9115	T9125
Workpiece material		1025	1025
Cutting conditions	Cutting speed: Vc (sfm)	590	1010
	Feed: f (ipr)	0.014	0.018
	Depth of cut: ap (in)	0.08	0.04 x 9 passes
	Machining	External turning (Continuous cutting)	External turning (Continuous cutting)
	Coolant	Wet	Wet
Results		<p><b>Tool life: 1.2 times longer</b></p> <p>While the competitor was unable to provide good chip control, AM chipbreaker delivered stable chip control even after machining 500 pcs. This was 1.2 times that of the competitor resulting in excellent surface quality.</p>	<p><b>Tool life: 1.6 times longer</b></p> <p>Compared to the competitor, AM chipbreaker extended tool life by 1.6 times even in high-speed machining due to its strong resistance to crater wear.</p>

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