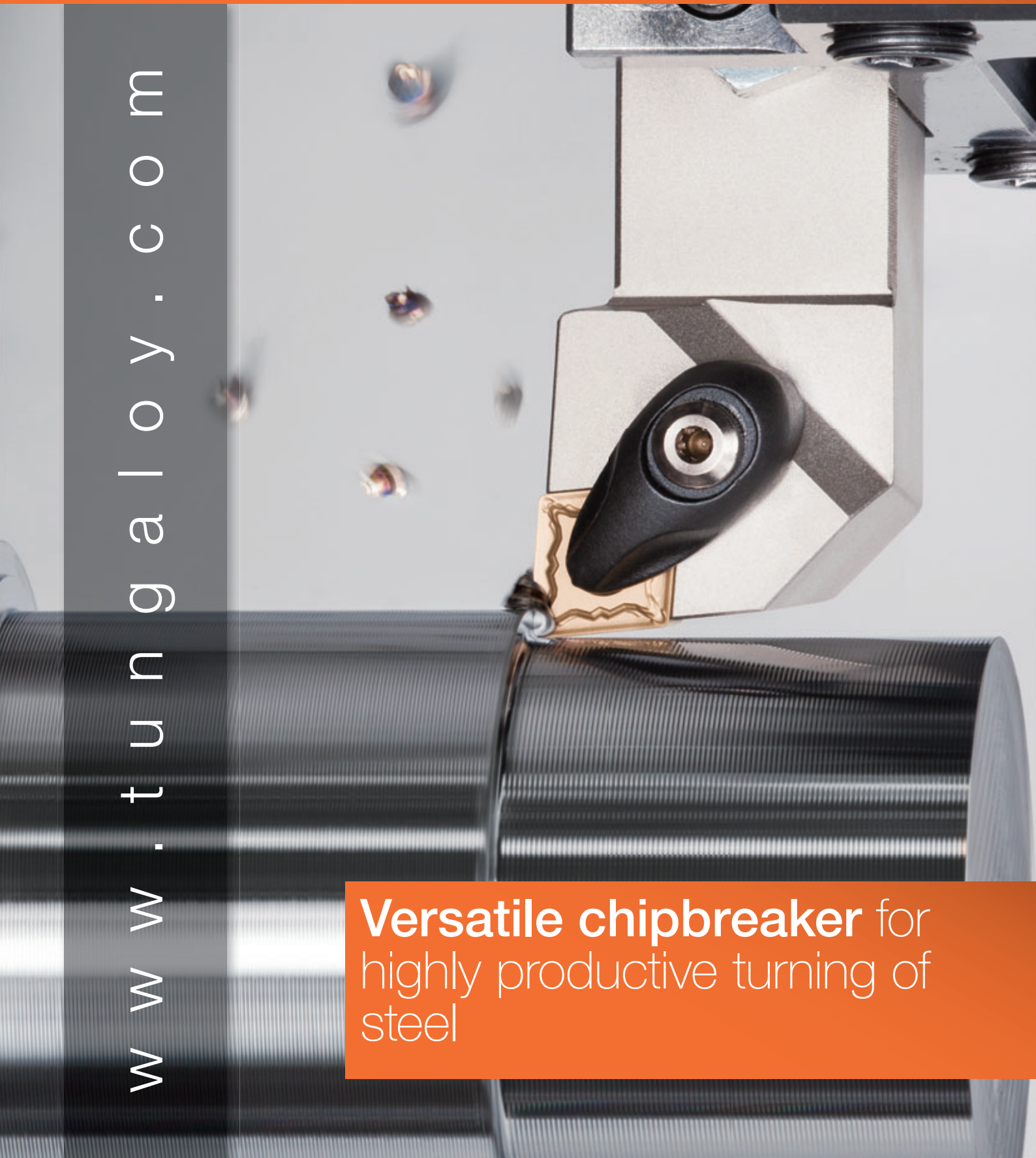
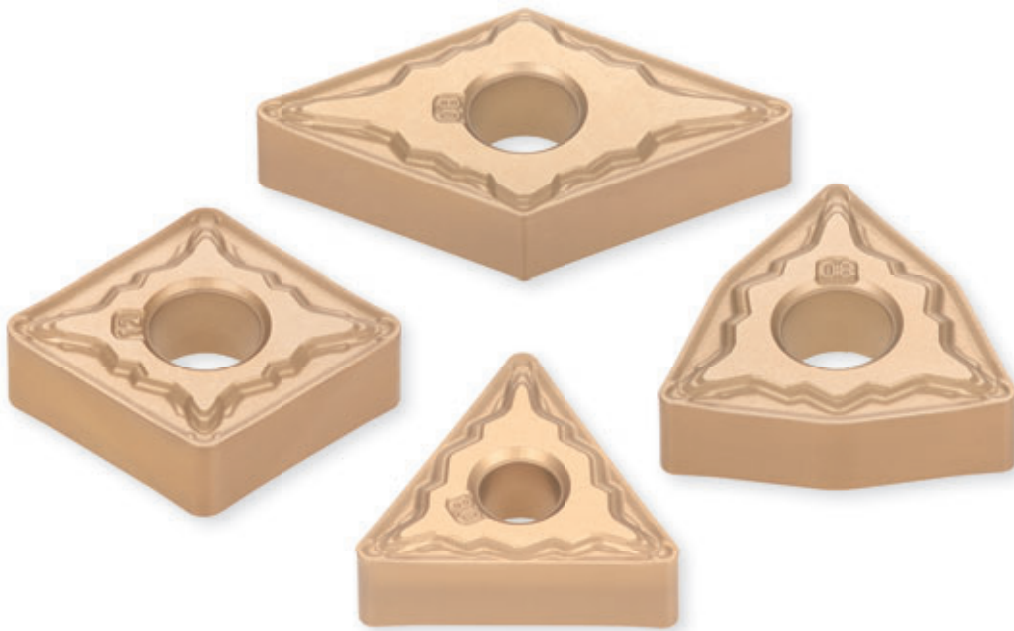


w w w . t u n g a l o y . c o m

Versatile chipbreaker for highly productive turning of steel







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

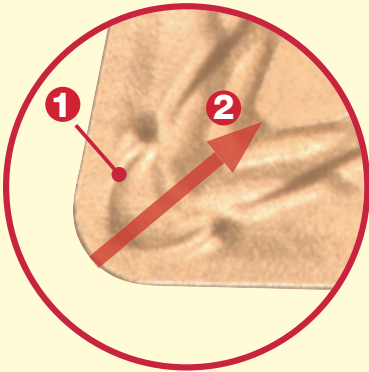




New



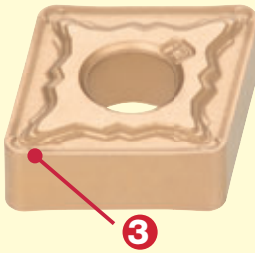
Finishing to medium cutting



1 "Lift-Ridge" shape prevents crater wear

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

2 Specially designed protrusion and ideal chipbreaker width deliver good chip control



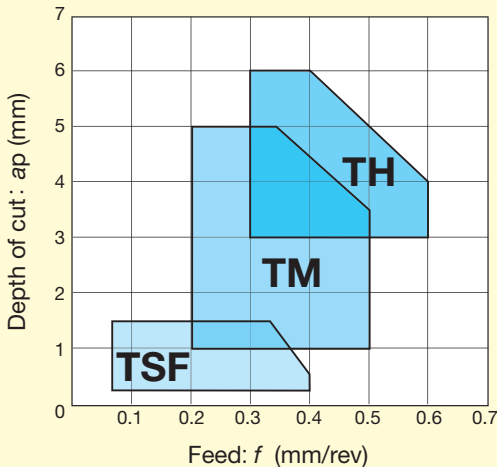
3 Inclination on cutting edge decreases cutting force

● Application area

New chipbreaker series "AS & AM" for priority on productivity

P

Basic chipbreakers (First recommendation)

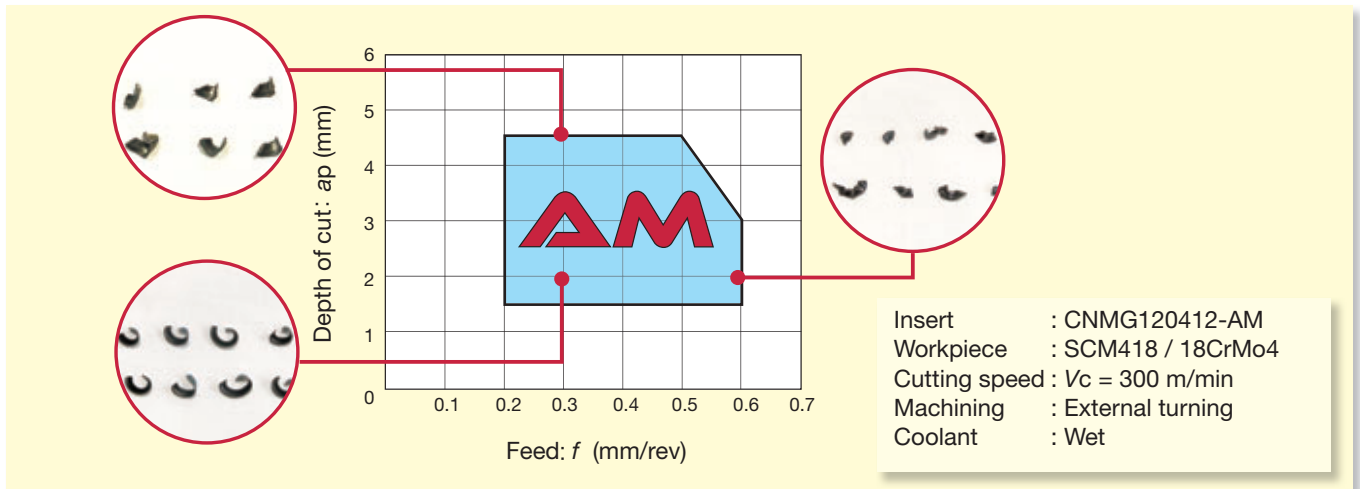


Selection for priority on productivity (Second recommendation)



● Chip control

Stable chip control in a wide range of machining conditions!



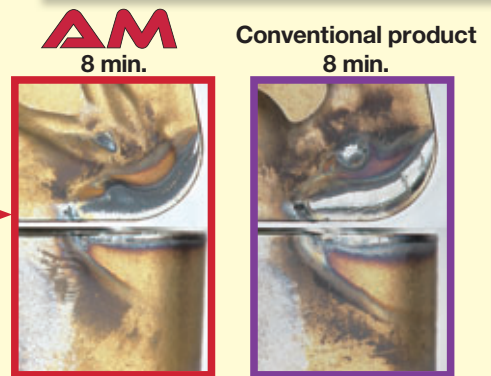
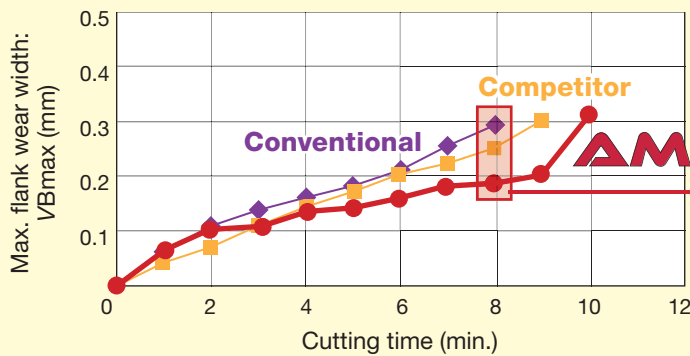
● Cutting performance

■ High-speed cutting

P High carbon steel (S45C / C45)

Strong resistance to crater wear!

Insert	: CNMG120412-** T9115
Cutting speed	: $V_c = 300$ m/min
Feed	: $f = 0.3$ mm/rev
Depth of cut	: $a_p = 2.0$ mm
Machining	: External turning
Coolant	: Wet

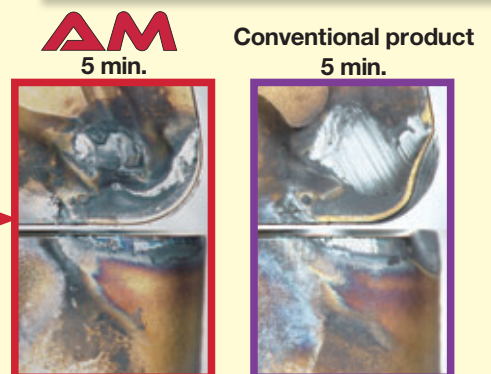
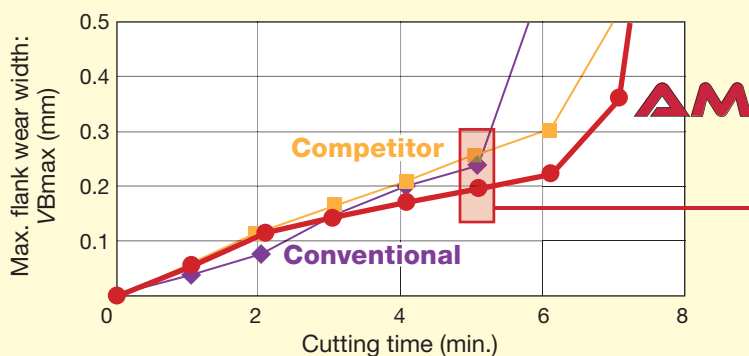


■ High-feed cutting

P High carbon steel (S45C / C45)

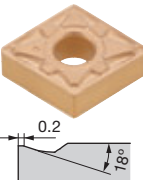
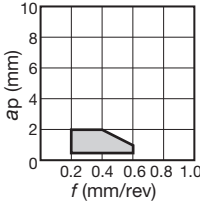
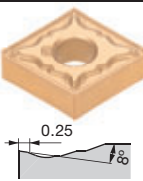
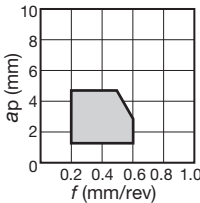
Strong resistance to crater wear!

Insert	: CNMG120412-** T9115
Cutting speed	: $V_c = 250$ m/min
Feed	: $f = 0.5$ mm/rev
Depth of cut	: $a_p = 2.0$ mm
Machining	: External turning
Coolant	: Wet

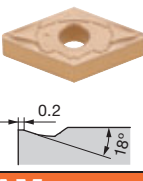
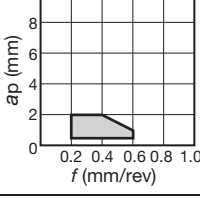
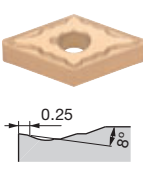
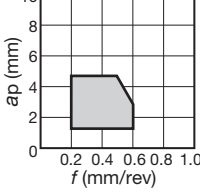


Inserts Negative type

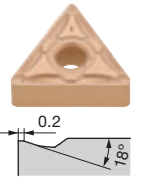
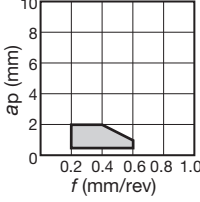
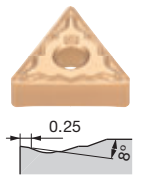
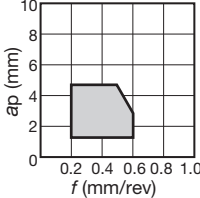
Rhombic / 80°

Application	Chipbreaker		f - ap	Cat. No	Grades		Dimensions (mm)			
	Appearance (Cross section)	f (mm/rev)			Coated		I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
					T9115	T9125				
Finishing	AS 		CNMG120404-AS	●	●	12.7	4.76	5.16	0.4	
			*CNMG120408-AS	●	●	12.7	4.76	5.16	0.8	
			CNMG120412-AS	●	●	12.7	4.76	5.16	1.2	
Finishing to medium cutting	AM 		*CNMG120408-AM	●	●	12.7	4.76	5.16	0.8	
			CNMG120412-AM	●	●	12.7	4.76	5.16	1.2	
			CNMG120416-AM	●	●	12.7	4.76	5.16	1.6	

Rhombic / 55°

Application	Chipbreaker		f - ap	Cat. No	Grades		Dimensions (mm)			
	Appearance (Cross section)	f (mm/rev)			Coated		I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
					T9115	T9125				
Finishing	AS 		DNMG150404-AS	●	●	12.7	4.76	5.16	0.4	
			*DNMG150408-AS	●	●	12.7	4.76	5.16	0.8	
			DNMG150412-AS	●	●	12.7	4.76	5.16	1.2	
			DNMG150604-AS	●	●	12.7	6.35	5.16	0.4	
			DNMG150608-AS	●	●	12.7	6.35	5.16	0.8	
			DNMG150612-AS	●	●	12.7	6.35	5.16	1.2	
Finishing to medium cutting	AM 		*DNMG150408-AM	●	●	12.7	4.76	5.16	0.8	
			DNMG150412-AM	●	●	12.7	4.76	5.16	1.2	
			DNMG150416-AM	●	●	12.7	4.76	5.16	1.6	
			DNMG150608-AM	●	●	12.7	6.35	5.16	0.8	
			DNMG150612-AM	●	●	12.7	6.35	5.16	1.2	
			DNMG150616-AM	●	●	12.7	6.35	5.16	1.6	

Triangular / 60°

Application	Chipbreaker		f - ap	Cat. No	Grades		Dimensions (mm)			
	Appearance (Cross section)	f (mm/rev)			Coated		I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
					T9115	T9125				
Finishing	AS 		TNMG160404-AS	●	●	9.525	4.76	3.81	0.4	
			*TNMG160408-AS	●	●	9.525	4.76	3.81	0.8	
			TNMG160412-AS	●	●	9.525	4.76	3.81	1.2	
Finishing to medium cutting	AM 		*TNMG160408-AM	●	●	9.525	4.76	3.81	0.8	
			TNMG160412-AM	●	●	9.525	4.76	3.81	1.2	

*Chipbreaker cross sections are the ones of Cat. No. with *.

● : Stocked items

Trigon / 80°

Application	Chipbreaker		Cat. No	Grades		Dimensions (mm)			
	Appearance (Cross section)	$f - ap$		Coated		I.C.dia $\varnothing d$	Thick- ness s	Hole dia $\varnothing d_1$	Corner radius r_ϵ
				T9115	T9125				
Finishing	AS 		WNUMG080404-AS			12.7	4.76	5.16	0.4
			*WNUMG080408-AS	●	●	12.7	4.76	5.16	0.8
			WNUMG080412-AS	●	●	12.7	4.76	5.16	1.2
Finishing to medium cutting	AM 		*WNUMG080408-AM	●	●	12.7	4.76	5.16	0.8
			WNUMG080412-AM	●	●	12.7	4.76	5.16	1.2
			WNUMG080416-AM	●	●	12.7	4.76	5.16	1.6

*Chipbreaker cross sections are the ones of Cat. No. with *.

● : Stocked items

Practical examples

Workpiece type		Pipe yoke	Hydraulic part
Toolholder		ACLNR2525M12-A	ACLNR2525M12-A
Insert		CNMG120408-AM	CNMG120408-AM
Grade		T9115	T9125
Workpiece material		S25C / C25 	S25C / C25
Cutting conditions	Cutting speed: V_c (m/min)	180	308
	Feed: f (mm/rev)	0.35	0.45
	Depth of cut: ap (mm)	2.0	1.0 mm x 9 passes
	Machining	External turning (Continuous cutting)	External turning (Continuous cutting)
	Coolant	Wet	Wet
Results		<p>While the competitor was unable to provide good chip control, AM chipbreaker delivered stable chip control even after machining 500 pcs, which was 1.2 times that of the competitor, resulting in excellent surface quality.</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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