

# NEW PRODUCT NEWS



TMV Chipbreaker

## TMV Chipbreaker

For External turning | Vibration / Oscillation & Conventional cutting Dual-Purpose Chipbreaker



TMV chipbreaker can be used for both purposes,  
Vibration/Oscillating & Conventional cutting.  
Wiper insert has been added to the lineup for broader use.

DOC range  $a_p=0.5\sim 2.0\text{mm}$

## TMV Chipbreaker

# For Vibration/Oscillation cutting

## Good chip control with Tough cutting edge

### Practical examples

		TMV Chipbreaker	Conventional
Machine	Cincom L20-LFV		
Work material	SUS316L		
Cutting speed	80 m/min		
Feed	0.05 mm/rev		
D.O.C. (a <sub>p</sub> )	1.0 mm		
Coolant	WET		
Vibration conditions	mode1 Q0.5 D0.5		
Edge image			
Machining distance 8km			
Actual machining chips			

### Recommended conditions

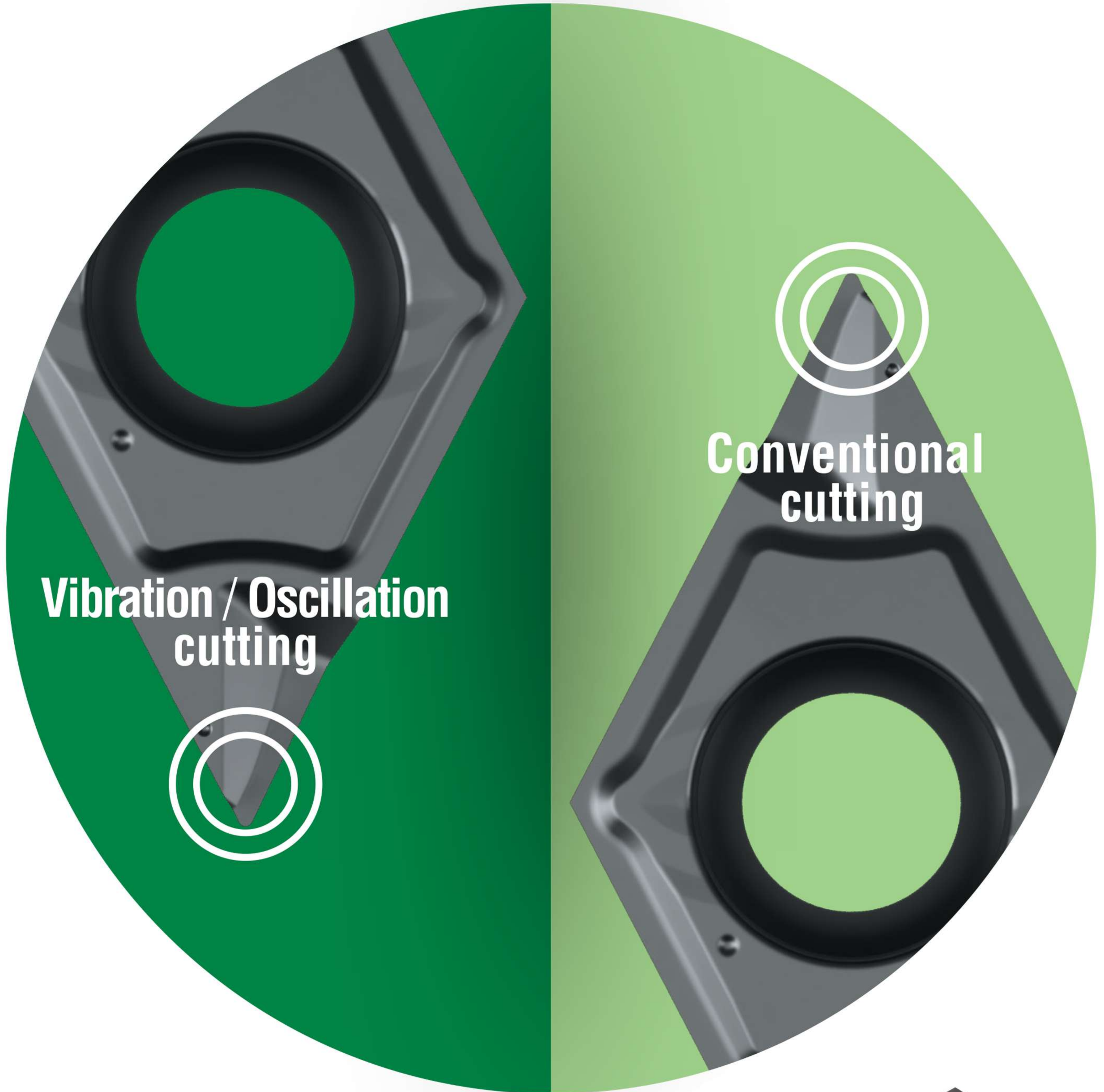
Grade	Workpiece material	Cutting conditions		
		Cutting speed (m/min)	Feed (mm/rev)	D.O.C (mm)
<b>NTK650</b>	Ni base alloy / Steel / Stainless steel ( Inco718 / S45C / SUS440C etc.)	40 - 120	0.02 - 0.06	0.5 - 2.0
<b>ST4</b>	Austenitic stainless steel ( SUS304 / SUS316L etc.)	40 - 100		
<b>DM4</b>	Carbon steel / Alloy steel / Free-cutting steel ( S45C / SCM435 / SUM22 etc.)	50 - 120		
<b>TM4</b>	Non-ferrous ( Aluminum / Titanium etc.)	60 - 150		

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P	Q	D
Vibration mode	Vibration Ratio	Frequency
mode1	0.5	0.5

A	D
Chip length coef.	Amplitude coef.
2.0 or more	2.0 or more

## TMV Chipbreaker

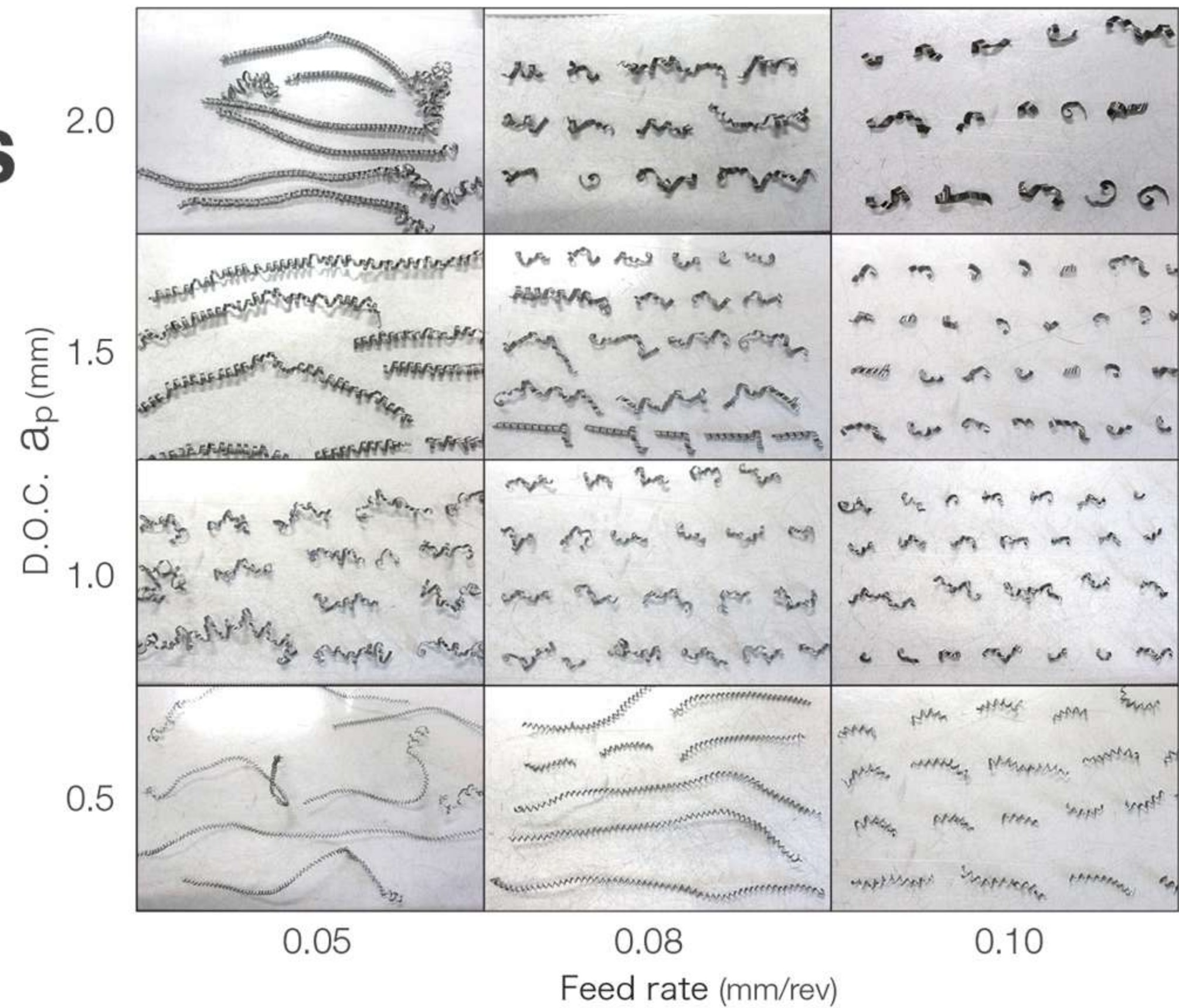
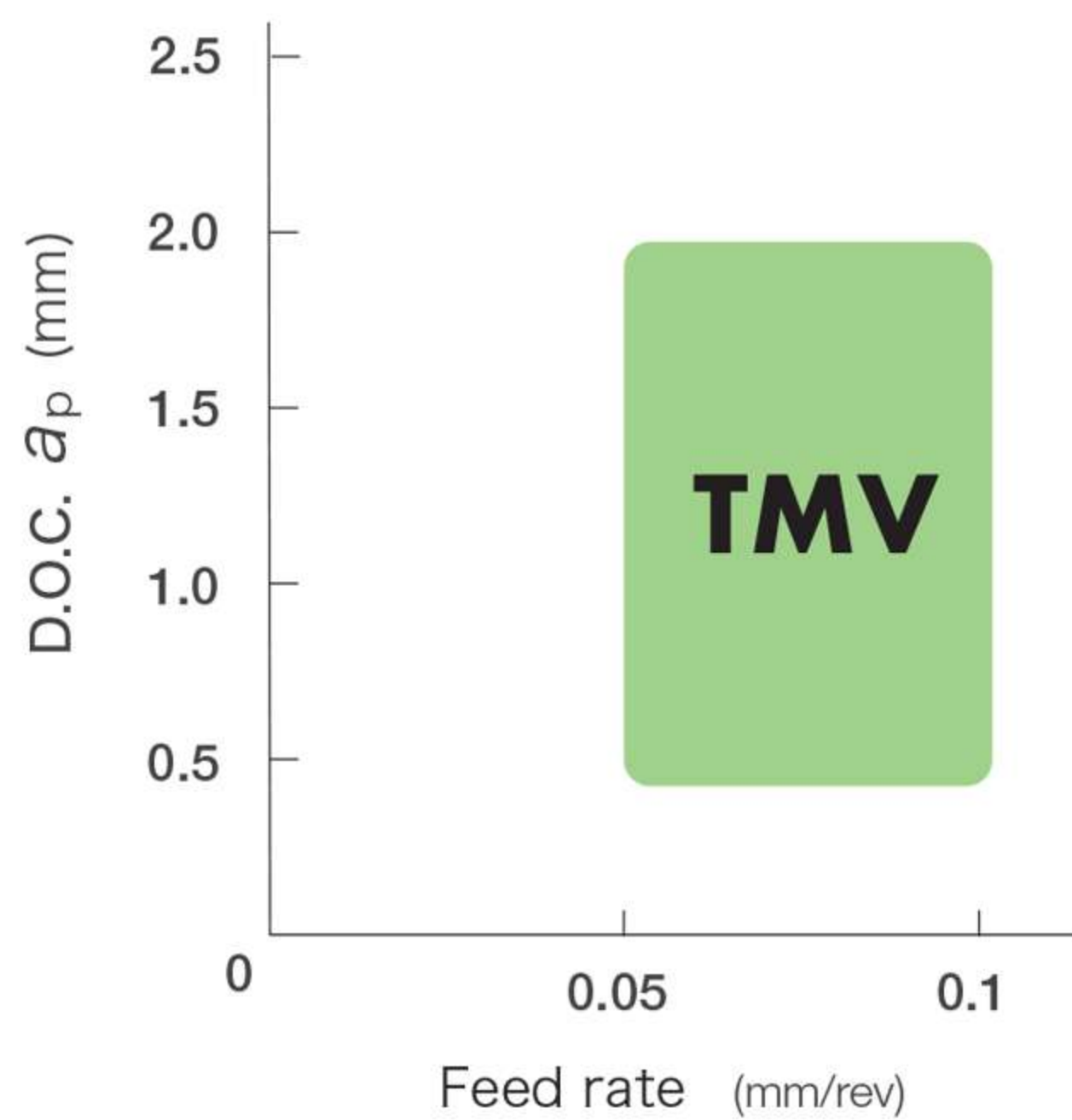


## TMV Chipbreaker

For External turning | Vibration / Oscillation & Conventional cutting Dual-Purpose Chipbreaker

# For Conventional cutting

Stable chip control under a wide range of conditions

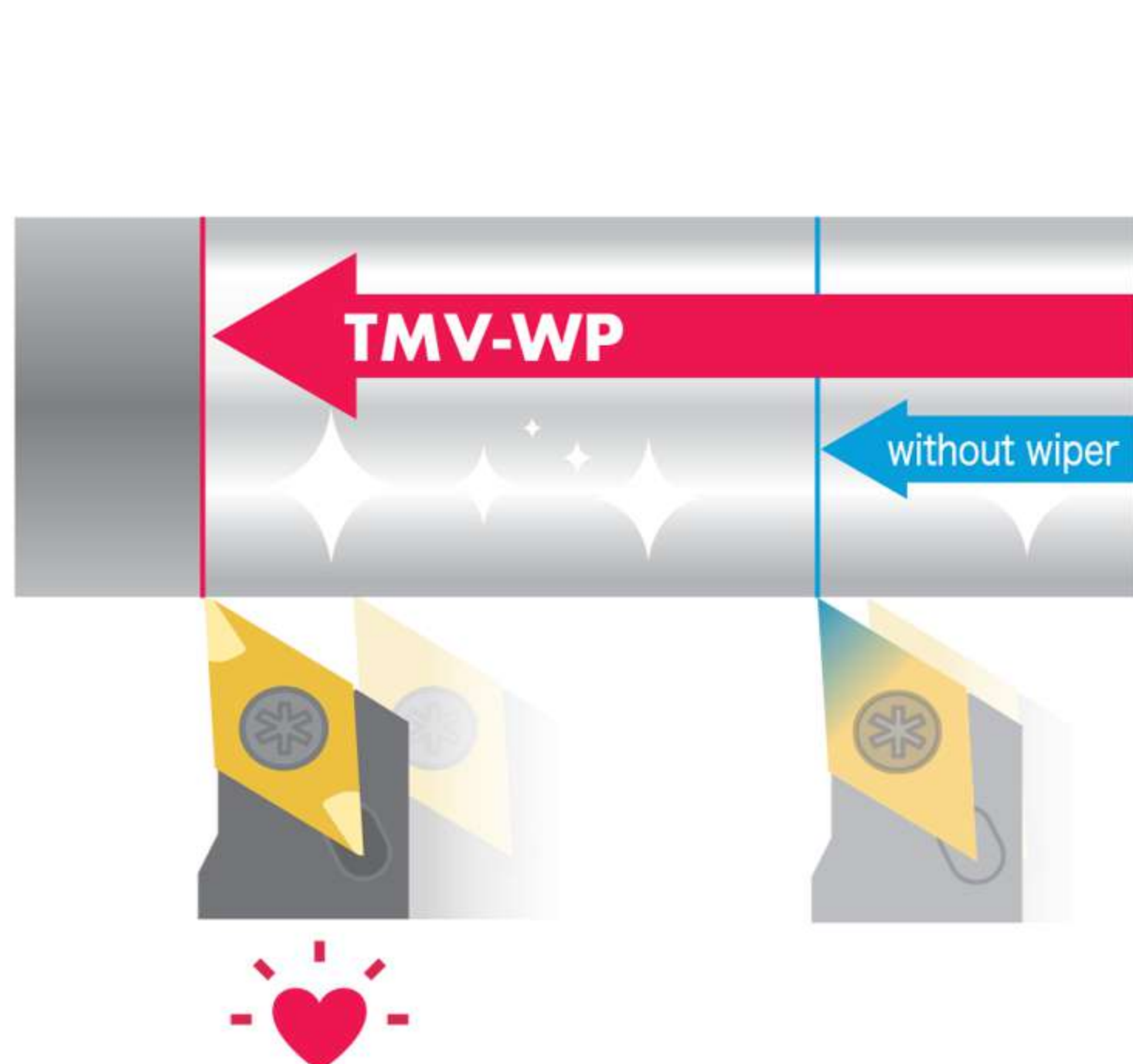


Cutting conditions  
 Work material : SUS316L  $\phi$  16  
 Cutting speed :  $V_c=80$ m/min  
 Feed :  $f=0.05\sim 0.10$ mm/rev  
 Coolant : WET

## TMV-WP New

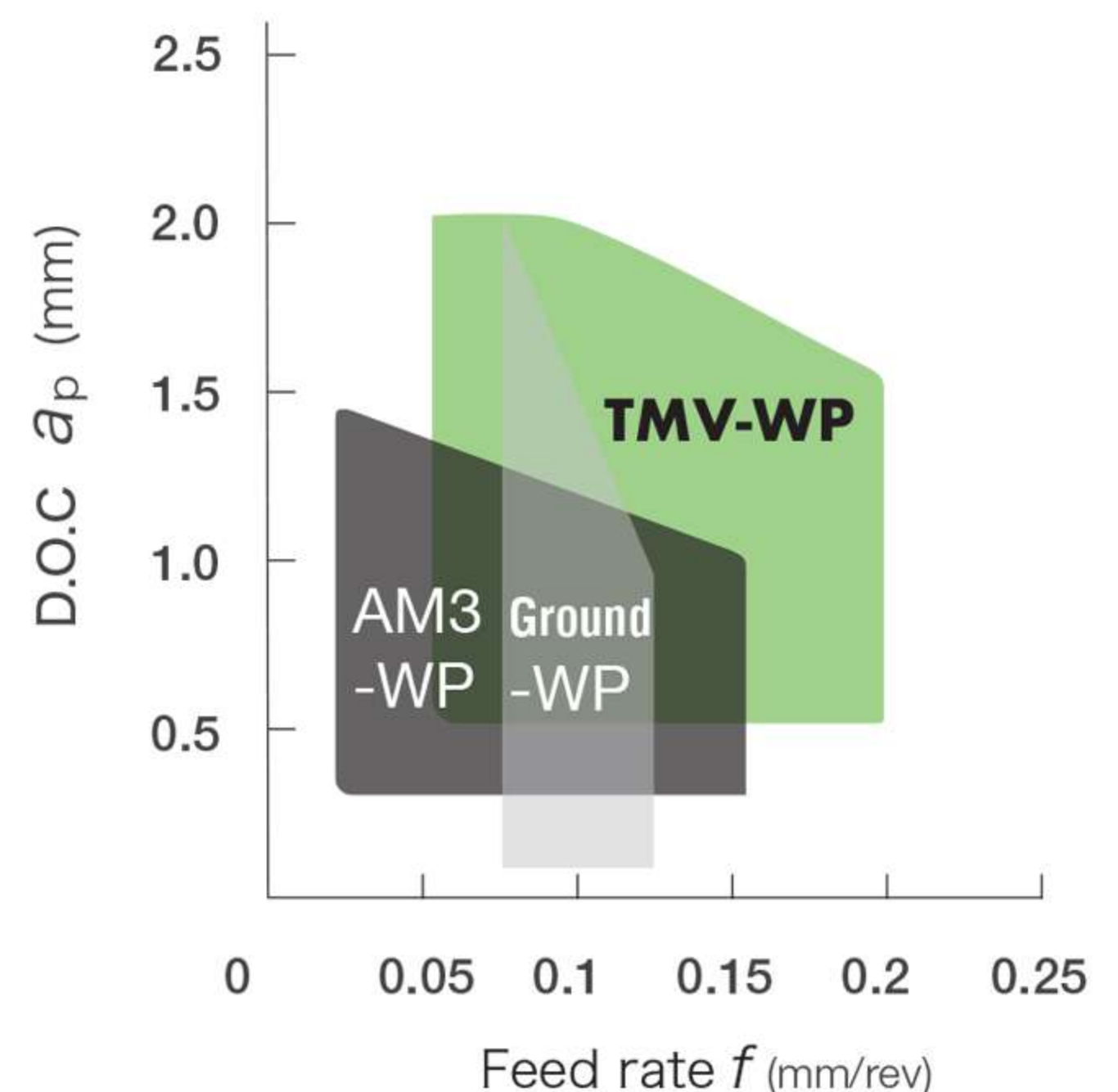
**Double the feed rate and tool life & Reduce machining time by half.**

Superior surface finish even under high feed conditions thanks to the wiper. Contributes to extended tool life by increasing feed.



- Increased feed rate reduces machining time!
- Surface roughness is maintained by wiper
- Extend tool life by reducing cutting distance

Function range



Please use 93 degree set angle toolholder

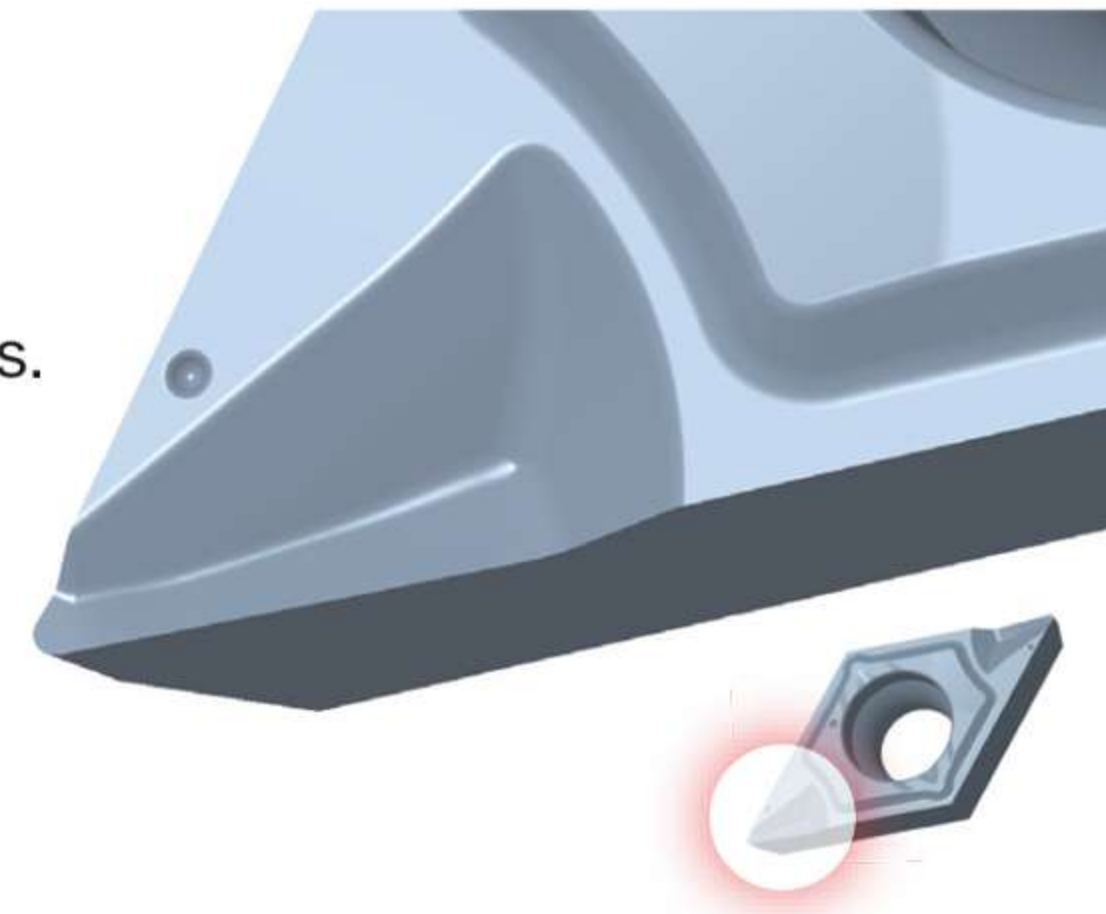
\* The wiper function is effective when the cutting edge is parallel to the workpiece surface.

## TMV Chipbreaker

**For Vibration/Oscillation or Conventional cutting, It can extend tool life and achieve good chip control.**

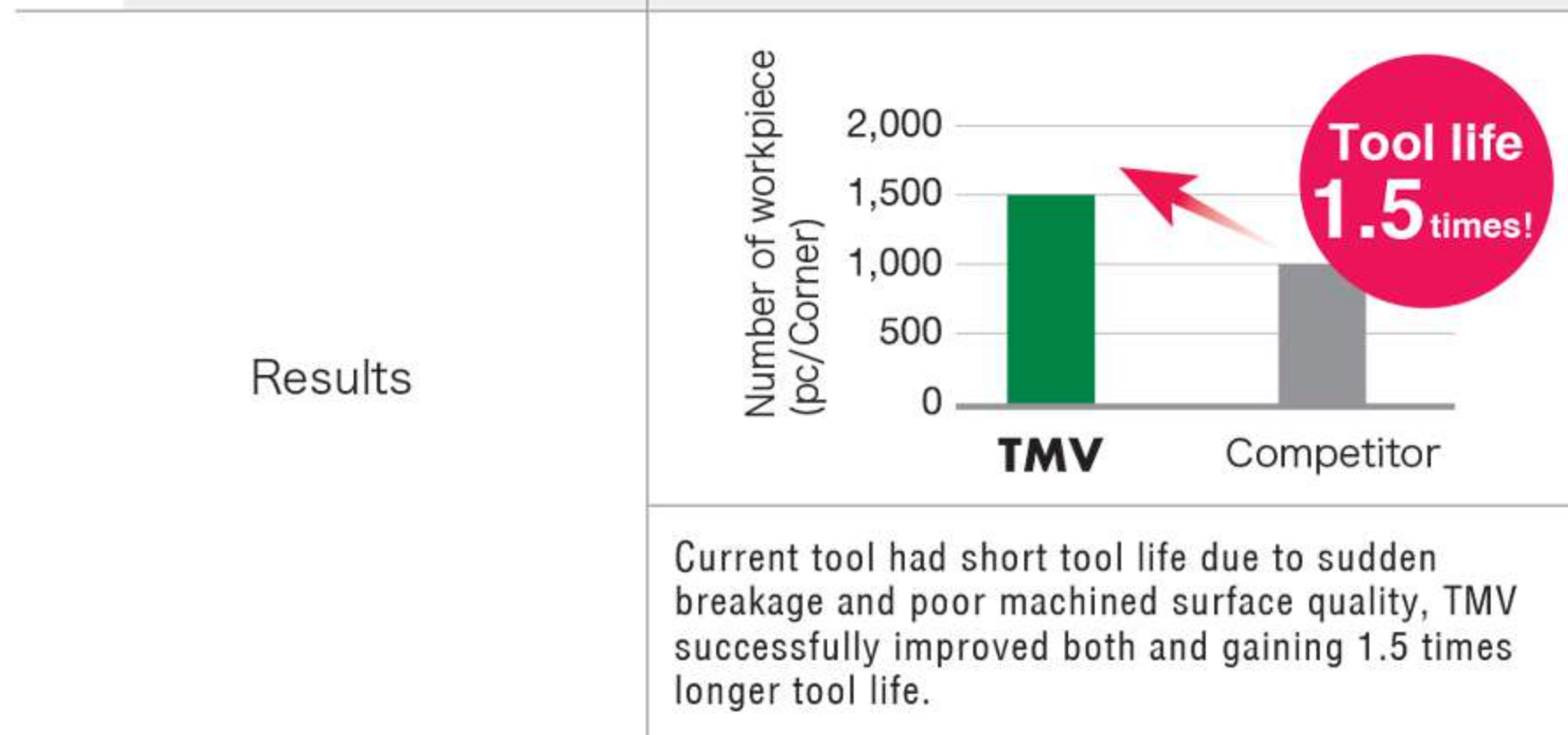
**Performance**

- **Significantly reduces cutting edge damage**  
Longer tool life can be expected even when machining difficult-to-cut materials.
- **Stable chip control**  
The large chipbreaker produces regular and stable chip shapes.

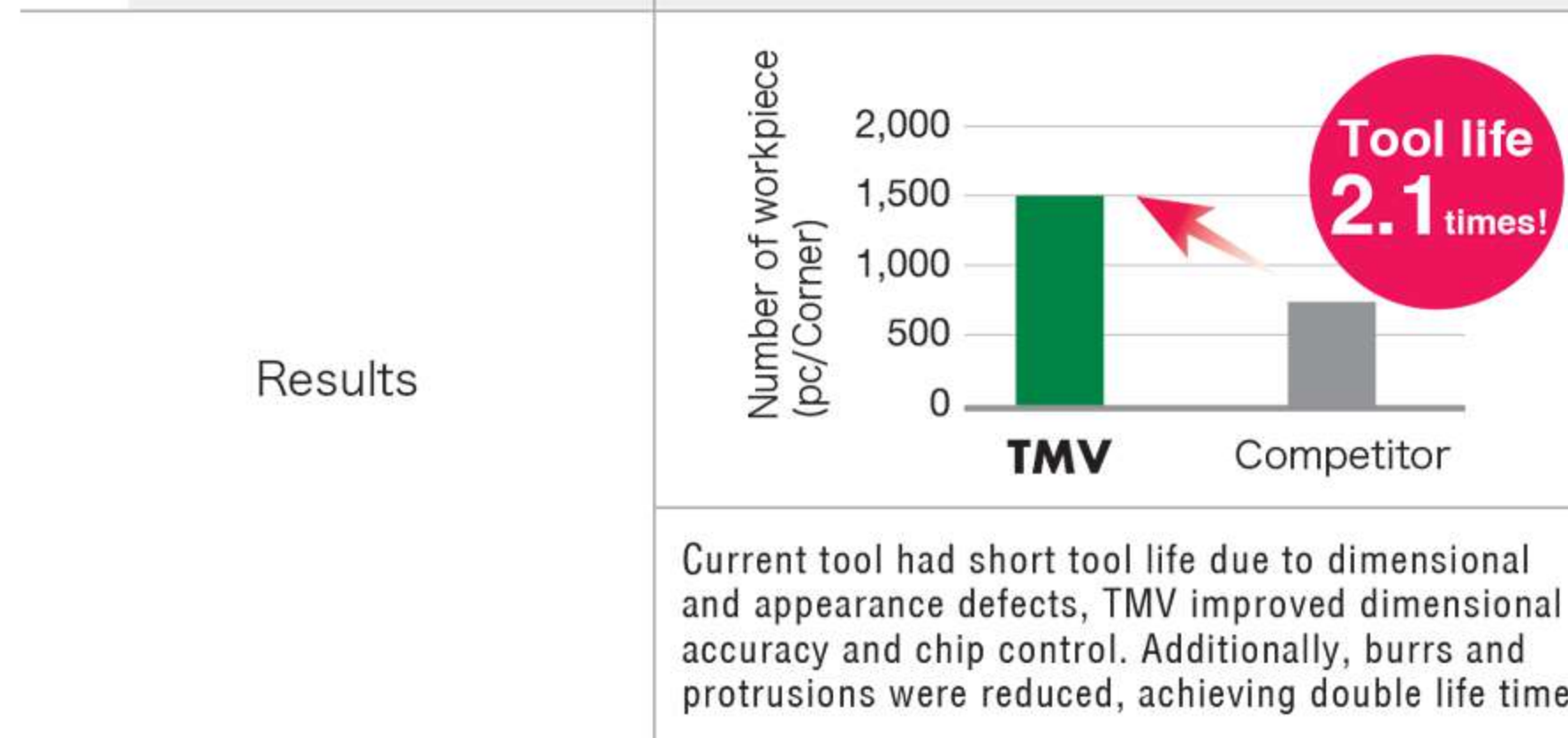


**Vibration/Oscillation cutting practical examples**

Component name		Piston
Insert		CCGT09T301MRTMV ST4
Tool Holder		SCLCR type
Workpiece		SUS430 / 430SS
Cutting speed (m/min)		45
Revolutions per minute (rpm)		1,200
Feed (mm/rev)		0.02
DOC (mm)		2.0
Machining area		Facing + OD turning
Coolant		WET

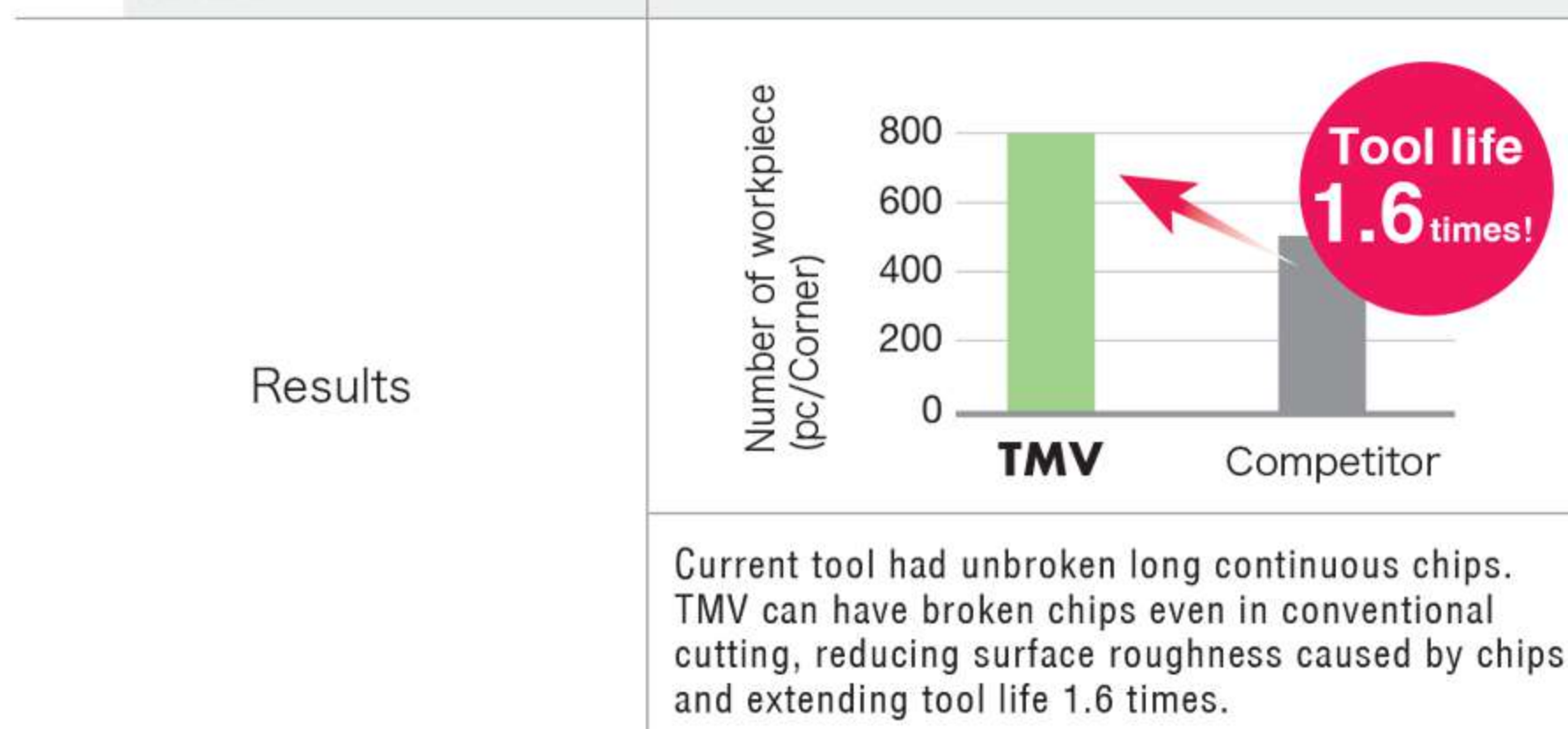


Component name		Bolt
Insert		DCGT11T302MRTMV ST4
Tool Holder		SDJCR type
Workpiece		SUS304 / 304SS
Cutting speed (m/min)		51
Revolutions per minute (rpm)		4,680
Feed (mm/rev)		0.03
DOC (mm)		1.2
Machining area		Facing + OD turning
Coolant		WET

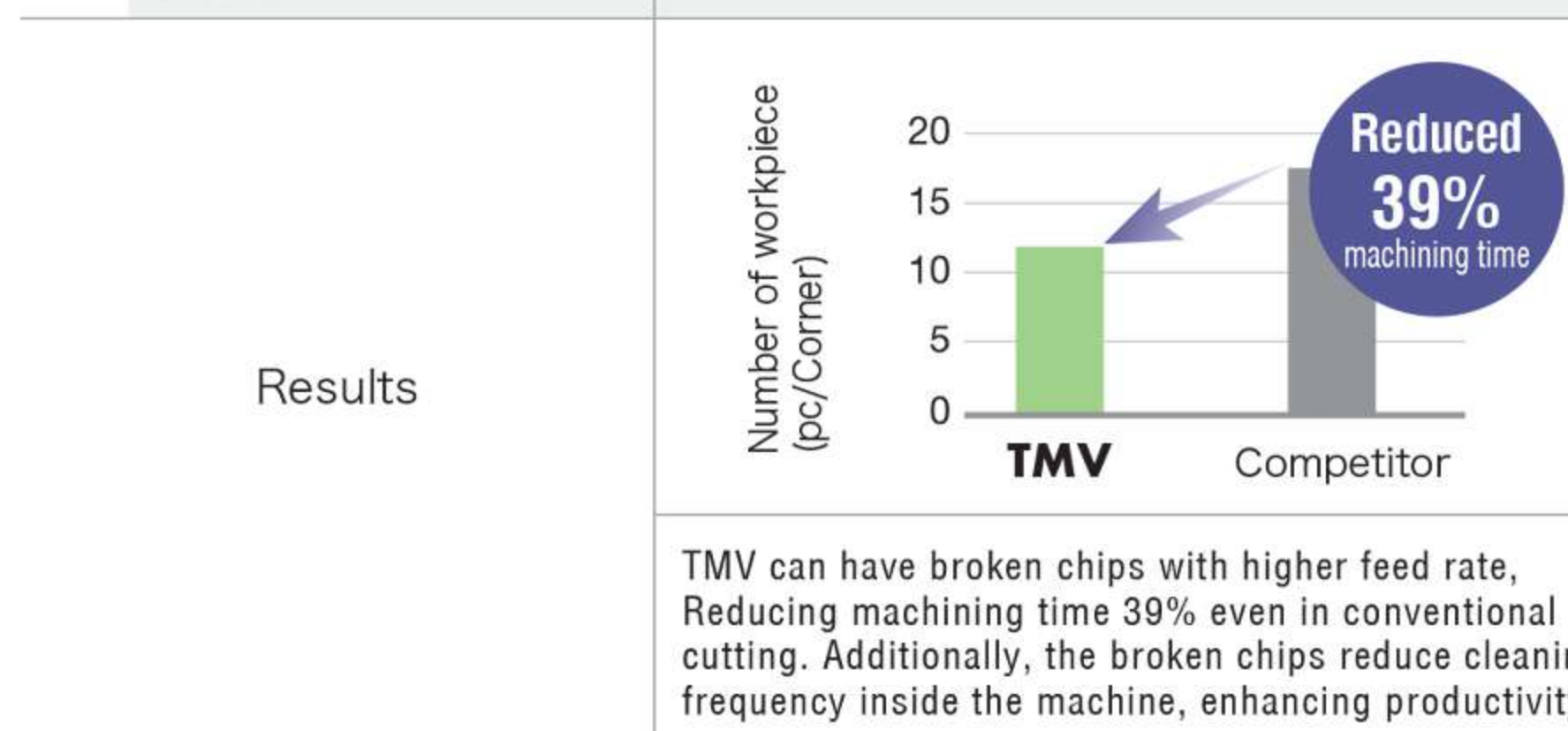


**Conventional cutting practical examples**

Component name		Precision equipment
Insert		DCGT11T302MRTMV TM4
Tool Holder		SDJCR type
Workpiece		SUS303 / 303SS
Cutting speed (m/min)		80
Revolutions per minute (rpm)		910
Feed (mm/rev)		0.07
DOC (mm)		0.4
Machining area		OD turning
Coolant		WET



Component name		Valve
Insert		DCGT11T302MRTMV TM4
Tool Holder		SDJCR type
Workpiece		A2017
Cutting speed (m/min)		250
Revolutions per minute (rpm)		5,000
Feed (mm/rev)		0.08
DOC (mm)		1.0
Machining area		Facing + OD turning
Coolant		WET



## TMV Chipbreaker

NEW

### Lineup

Shape	Item number	PVD grade				Dimension				TMV centerline lowering amount *	
	Metric	NTK650	ST4	DM4	TM4	IC	Thickness	Corner Radius	Wiper width	Centerline height from the reference surface (Blue)	Centerline height from the reference surface (Red)
	DCGT11T301MRTMV	●	●	●	●	9.525	3.97	0.08	-	0.51	0.08
	DCGT11T302MRTMV	●	●	●	●	9.525	3.97	0.18	-	0.53	0.10
	DCGT11T304MRTMV	●	●	●	●	9.525	3.97	0.38	-	0.55	0.12
	DCGT11T301MRTMV-WP	●	●	○	○	9.525	3.97	0.08	(0.3)	0.51	0.08
	DCGT11T302MRTMV-WP	●	●	○	○	9.525	3.97	0.18	(0.3)	0.53	0.10
	CCGT09T301MRTMV	●	●	●	●	9.525	3.97	0.08	-	0.52	0.08
	CCGT09T302MRTMV	●	●	●	●	9.525	3.97	0.18	-	0.53	0.09
	CCGT09T304MRTMV	●	●	●	●	9.525	3.97	0.38	-	0.55	0.12
	VCGT110302MRTMV	●	●	●	●	6.35	3.18	0.18	-	0.53	0.07
	VCGT110304MRTMV	●	●	●	●	6.35	3.18	0.38	-	0.55	0.10
	TNGG160402MRTMV	●	●	●	●	9.525	4.76	0.18	-	0.53	0.09
	TNGG160404MRTMV	●	●	●	●	9.525	4.76	0.38	-	0.56	0.11

○ Made-to-order products

\*Centerline height is nominal, please adjust using actual measured values during setup.

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