

# Offers the best performance for automotive parts applications !

■ Smooth chip control even at varied depths of cut, feeds and cutting speeds !



# New Chip Breaker

# MP Breaker

## Outline

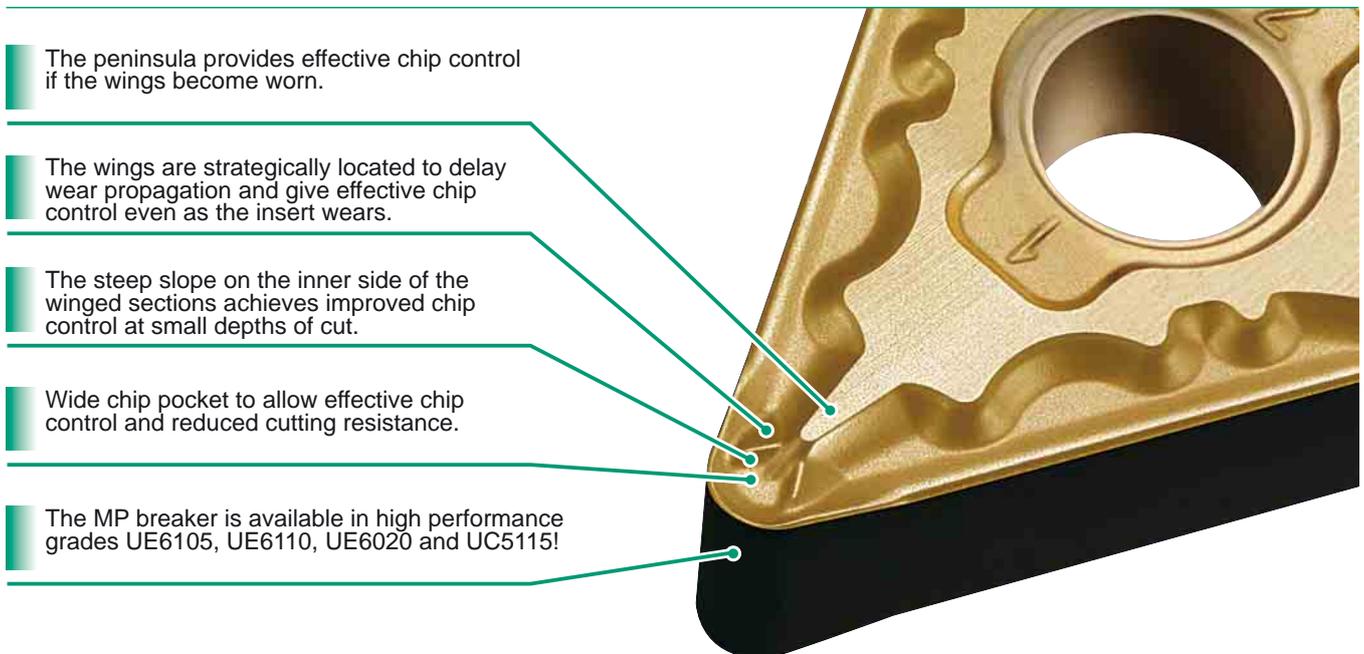
When copying, cutting conditions such as the depth of cut, feed rate and cutting speed can vary.

This can lead to a number of problems and reduce efficiency:

- Ineffective chip control due to the use of one breaker style.
- Machine down time due to chip jamming.
- Poor tool management due to the use of numerous insert geometries.

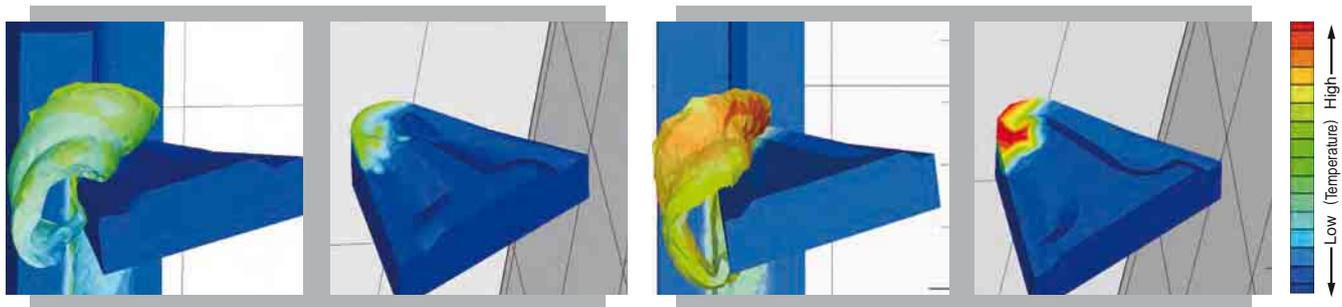
**MP** breaker uses a unique geometry that provides effective chip control over a wide application area. It also improves wear resistance because of lower heat generation during cutting, therefore contributing to a large increase in productivity.

## Features



## Analysis: Chip geometry and cutting edge temperatures

**Low cutting heat reduces crater wear! Lower workpiece temperatures lead to higher dimensional accuracy!**

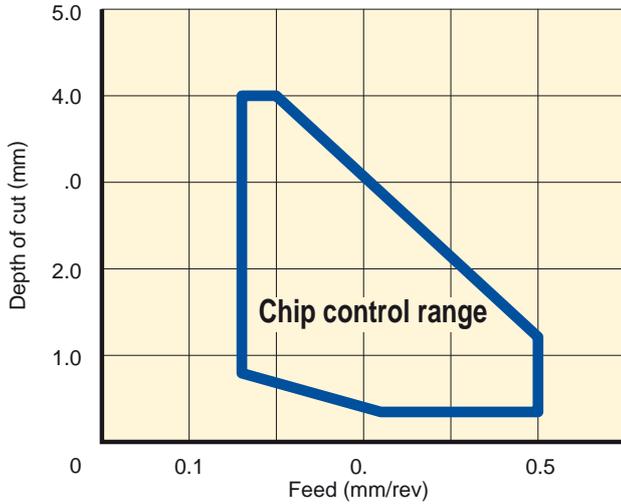


<Cutting Conditions>

Insert : DNMG150412- Feed : 0.4mm/rev  
Workpiece : DIN Ck45 Depth of cut: 2.0mm  
Cutting speed: 200m/min Dry cutting

# Cutting performance

## Optimal chip control range



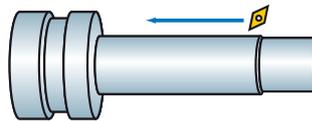
<Cutting conditions>

Insert : CNMG12040 -MP  
 Workpiece : DIN 42CrMo4  
 Cutting speed: 200m/min  
 Wet cutting

## Chip control comparison

Cutting speed	MP Breaker	Conventional breaker
m min		
m min		

DIN Ck45



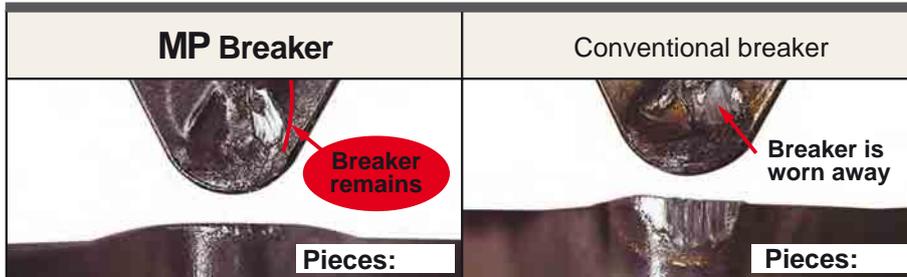
<Cutting conditions>

Insert : DNMG150412-00  
 Feed : 0.45mm/rev  
 Depth of cut : 1.0mm  
 Wet cutting

## Cutting edge comparison

<Cutting Conditions>

Workpiece : DIN Ck55 Feed : 0.2 .0.5mm/rev  
 Insert : DNMG150412-00 Depth of cut : 0.4 2.5mm  
 Cutting speed: 200m/min Wet cutting



## Recommended cutting conditions

Work Material	Hardness	Grade	Recommended Cutting speed (m/min)	Work Material	Hardness	Grade	Recommended Cutting speed (m/min)
P	Mild steel	≤1 0H	0 (260 400)	Cast Iron	Tensile strength ≤ 500MPa	C	200 (160 300)
			40 (250 420)				
			10 (240 300)				
	200 (200 300)						
Carbon steel alloy steel	1 0 2 0H	260 (100 300)	Ductile Cast Iron	Tensile strength ≤ 500MPa	C	200 (150 250)	
		240 (100 300)					