

Coated Grades for Cast Iron

AC4010K/AC4015K/^{New}AC4125K

From Ultra-high-speed Machining of Gray Cast Iron to Heavy Interrupted Machining of High-strength Ductile Cast Iron



^{New} New Grade for Interrupted Machining of Cast Iron

Introducing AC4125K

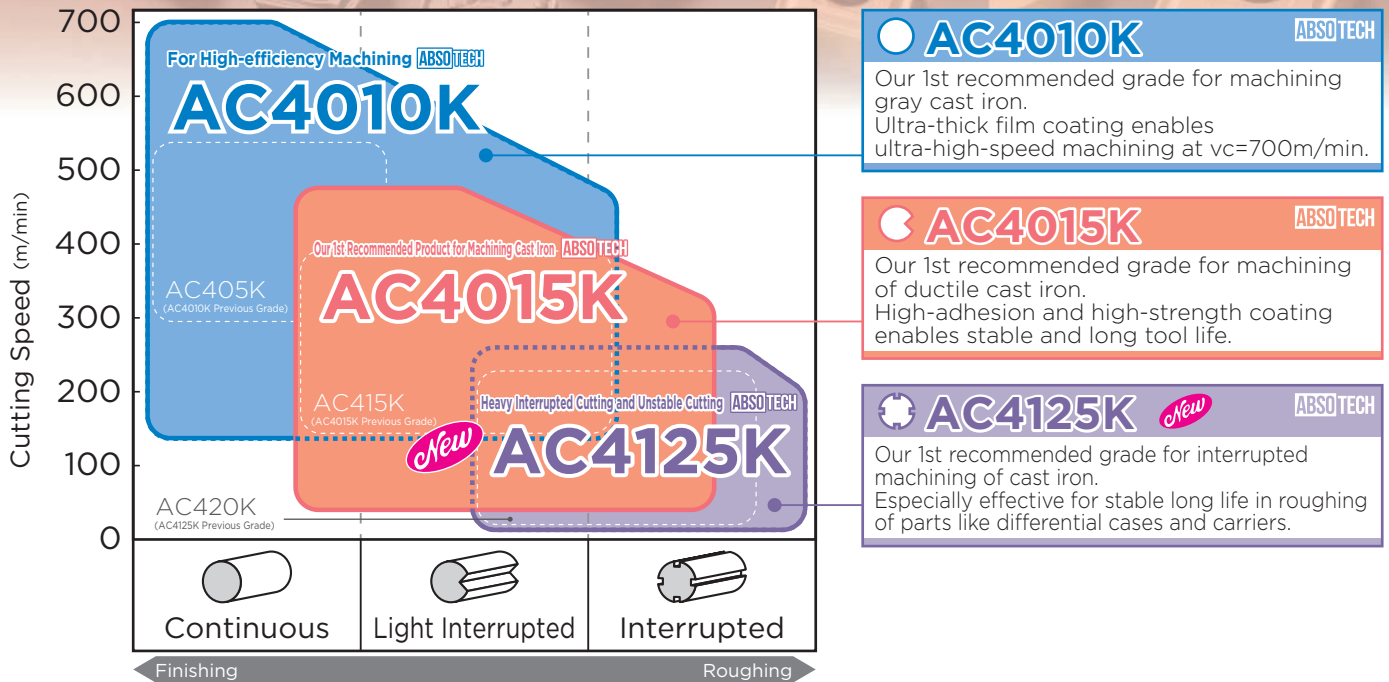




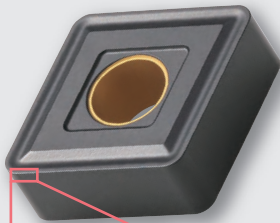
Coated Grades for Cast Iron

AC4010K / AC4015K / AC4125K

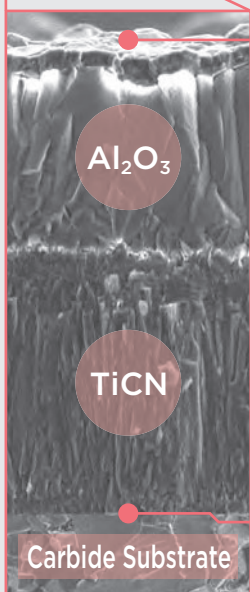
Application Range



Features of AC4010K/AC4015K



Technologies for high-adhesion, crystal orientation control and residual stress control realise stable tool life for various types of cast iron, from grey cast iron (FC) to high-strength ductile cast iron (FCD).

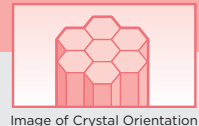


Special Surface Treatment

Compressive stress more than twice as high as conventional stress
Chipping resistance: **Twice as much as conventional types**

Crystal Orientation Control Alumina Layer

Crater wear resistance in high-speed machining:
Twice as much as conventional types



C-rich Ultra-fine TiCN Layer

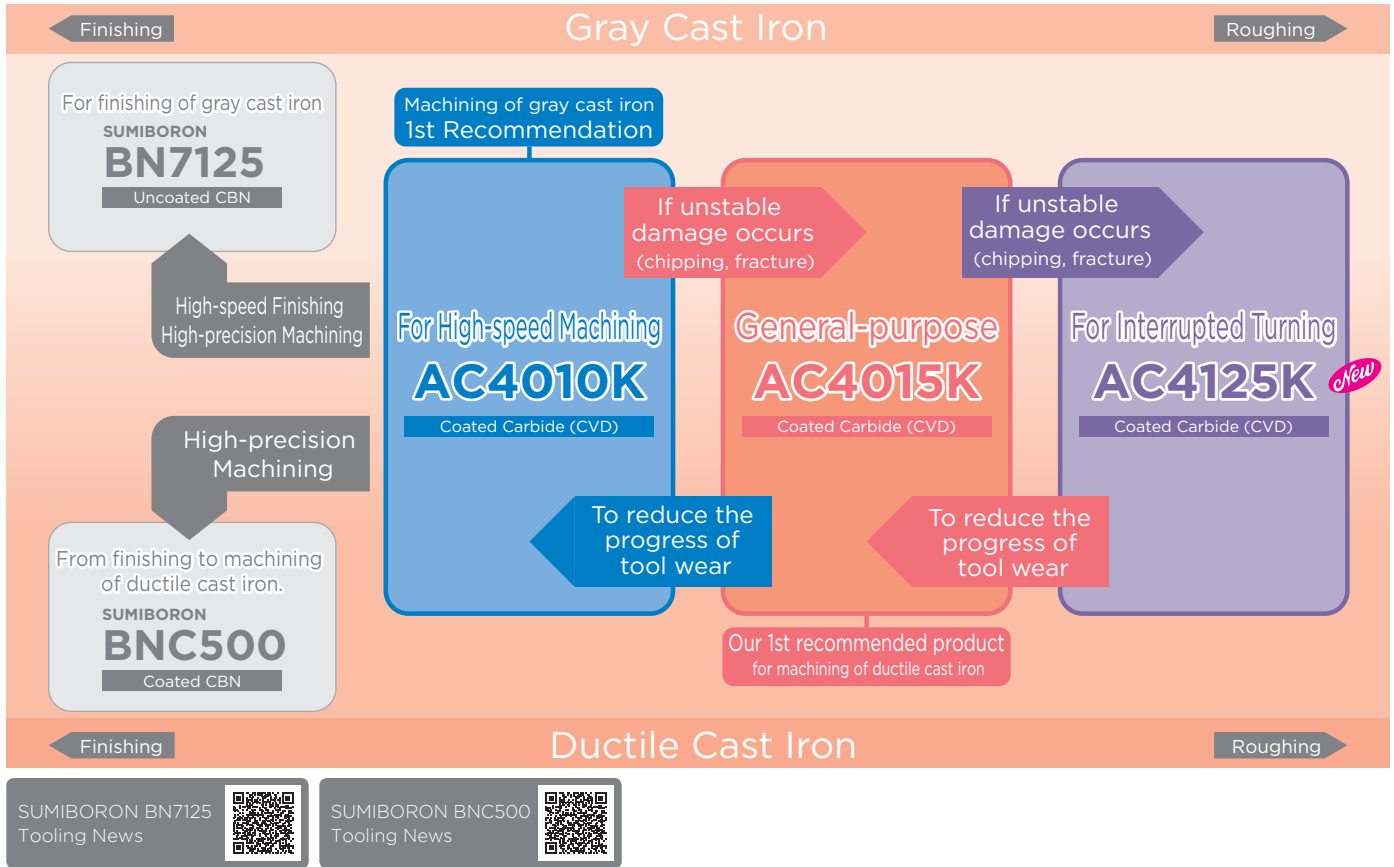
Flank wear resistance: **Twice as much as conventional types**

High Adhesion Technology

Smooth cutting edge treatment ($Rz0.15\mu\text{m} \rightarrow 0.07\mu\text{m}$) greatly improves peel-off resistance

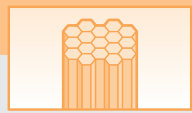
AC4010K/AC4015K/AC4125K

Applications of AC4000K Series (Example)



Features of AC4125K

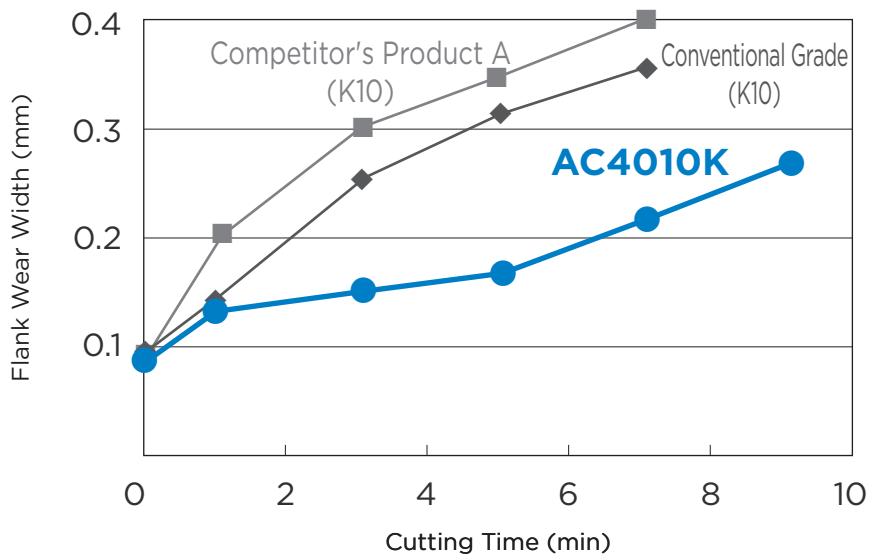
Excellent chipping resistance is demonstrated by the evolution of high adhesion technology, fine crystal orientation control technology and residual stress control technology, and very stable machining is realized in heavy interrupted machining and unstable machining of cast iron. In addition, it adopts a gold color that makes used corners easily identifiable.

- Special Surface Treatment**
Significantly improves the compressive stress while maintaining the gold color
Chipping resistance: **Twice as much as conventional types**
- Crystal Orientation Control Ultra-fine Alumina Layer**
Fine grain structure greatly improves the coating strength
Chipping resistance: **Twice as much as conventional types** 
- C-rich Ultra-fine TiCN Layer**
Flank wear resistance: **1.5x as much as conventional types**
- High Adhesion Technology**
Smooth cutting edge treatment (**Rz0.15µm→0.07µm**) greatly improves peel-off resistance

Labels in diagram: Al_2O_3 , TiCN, Carbide Substrate

AC4010K/AC4015K/AC4125K

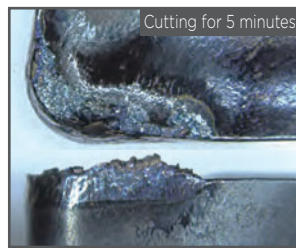
Wear Resistance of AC4010K (Continuous Cutting of Gray Cast Iron)



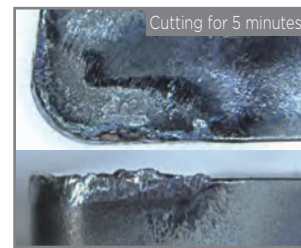
Work Material: FC250
 Continuous
 Insert : CNMG120408
 Cutting Conditions: $v_c=600\text{m/min}$
 $f=0.4\text{mm/rev}$
 $a_p=2.0\text{mm}$
 Dry



AC4010K+GZ



Conventional Grade (K10)



Comp's A (K10)

Chipping Resistance of AC4010K/AC4015K (Interrupted Cutting of Gray Cast Iron)



AC4010K+GZ

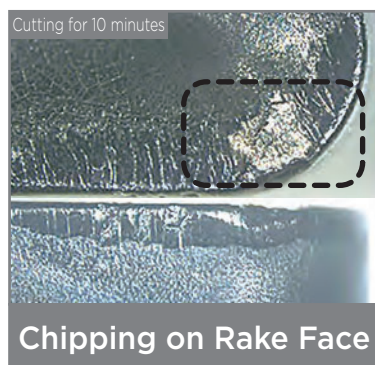


AC4015K+GZ

Work Material: FC250
 Interrupted
 Insert : CNMG120408
 Cutting Conditions: $v_c=400\text{m/min}$
 $f=0.3\text{mm/rev}$
 $a_p=2.0\text{mm}$
 Wet



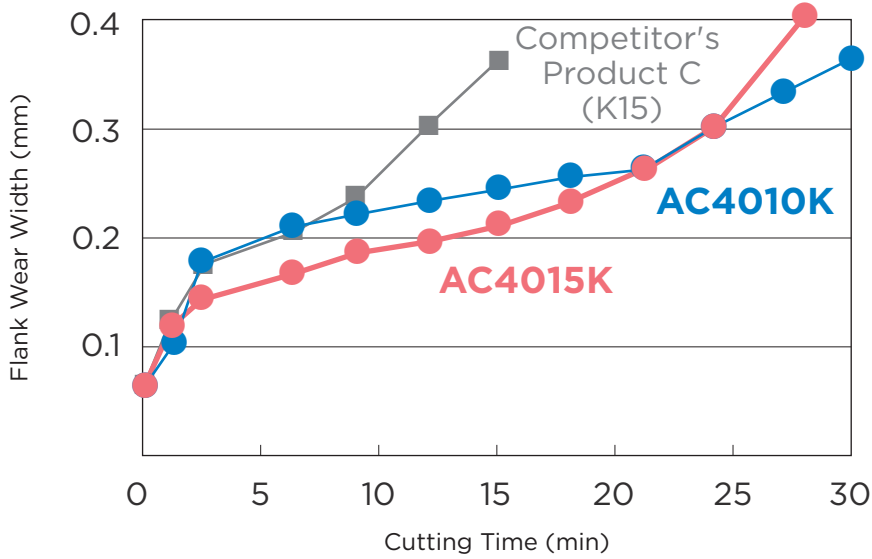
Conventional Grade (K10)



Competitor's Product B (K10)

AC4010K/AC4015K/AC4125K

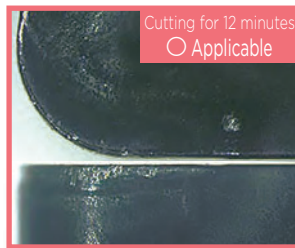
Wear Resistance of AC4010K/AC4015K (Continuous Cutting of Ductile Cast Iron)



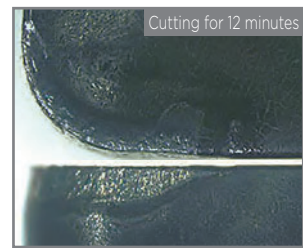
Work Material: FCD700
 Continuous
 Insert : CNMG120408
 Cutting Conditions: $v_c=140\text{m/min}$
 $f=0.3\text{mm/rev}$
 $a_p=1.5\text{mm}$
 Wet



AC4010K+GZ

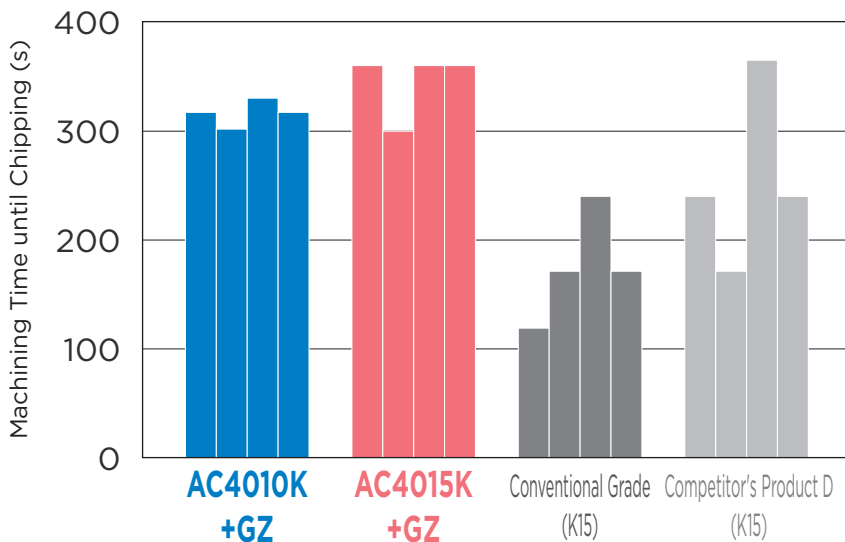


AC4015K+GZ

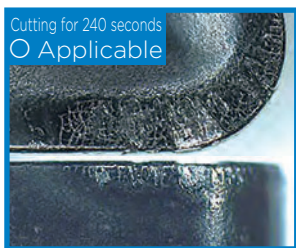


Comp's C (K15)

Chipping Resistance of AC4010K/AC4015K (Interrupted Cutting of Ductile Cast Iron)



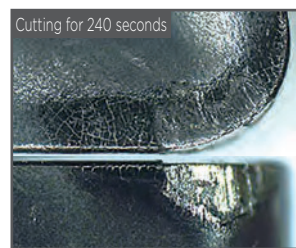
Work Material: FCD450
 Interrupted
 Insert : CNMG120408
 Cutting Conditions: $v_c=450\text{m/min}$
 $f=0.3\text{mm/rev}$
 $a_p=1.5\text{mm}$
 Wet



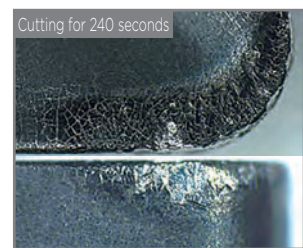
AC4010K



AC4015K



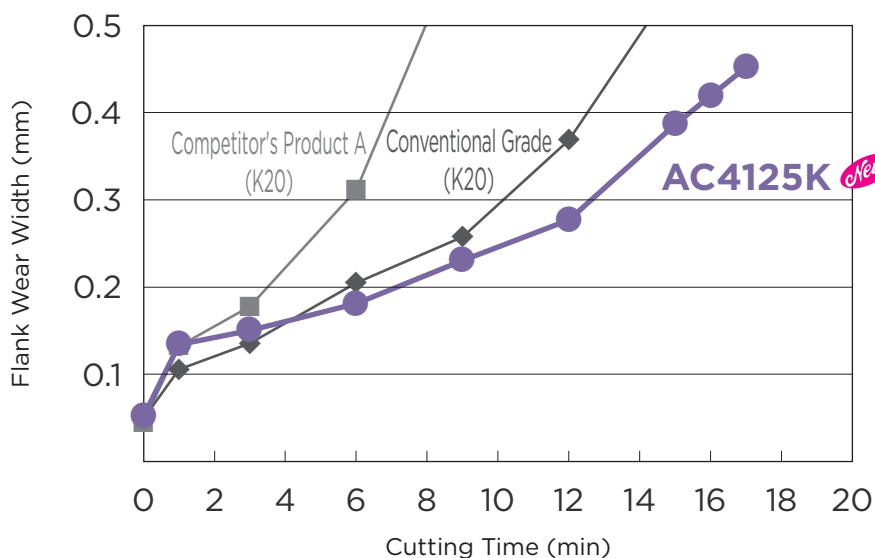
Conventional Grade (K15)



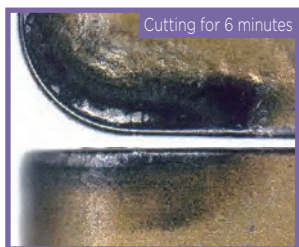
Competitor's Product D (K15)

AC4010K/AC4015K/AC4125K

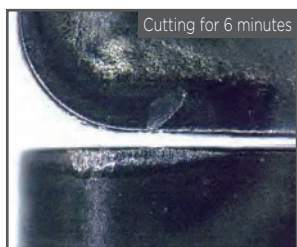
Wear Resistance of AC4125K (Continuous Cutting of Cast Iron)



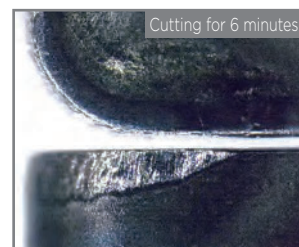
Work Material: FCD700
 Continuous
 Insert : CNMG120408
 Cutting Conditions: $v_c=140\text{m/min}$
 $f=0.3\text{mm/rev}$
 $a_p=1.5\text{mm}$
 Wet



AC4125K+GZ

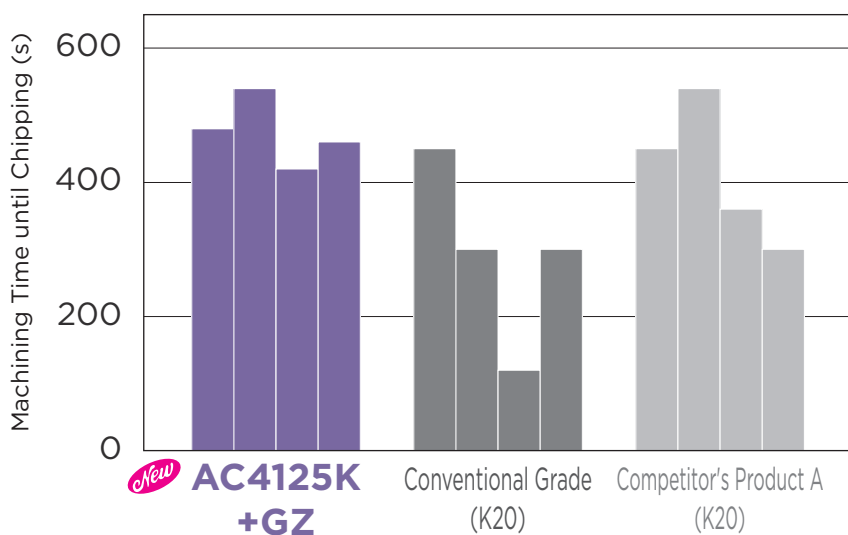


Conventional Grade (K20)

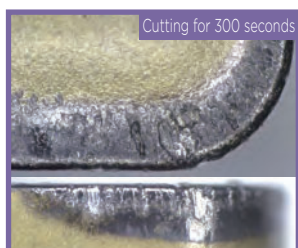


Comp's A (K20)

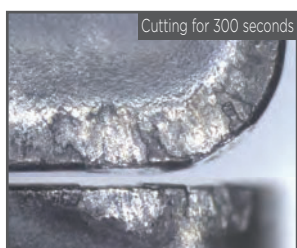
Chipping Resistance of AC4125K (Interrupted Cutting of Ductile Cast Iron)



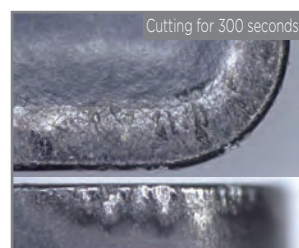
Work Material: FCD450
 Interrupted
 Insert : CNMG120408
 Cutting Conditions: $v_c=450\text{m/min}$
 $f=0.3\text{mm/rev}$
 $a_p=1.5\text{mm}$
 Wet



AC4125K+GZ



Conventional Grade (K20)



Comp's A (K20)

AC4010K/AC4015K/AC4125K

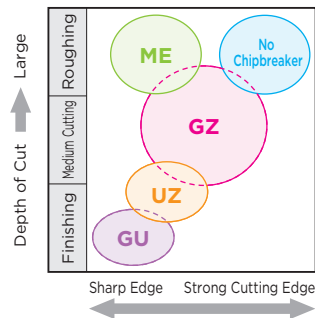
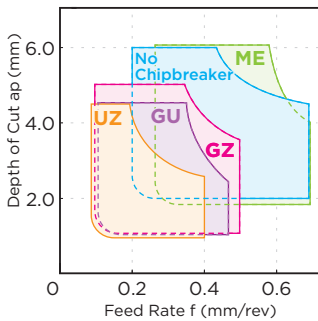
Chipbreaker Selection

The selection matrix plots 'Frequency of Interruption' (from Continuous to Interrupted) against 'Work Material Rigidity' (from Low to High). It shows the application ranges for various chipbreaker types: GU, UZ, GZ, ME, and No Chipbreaker.

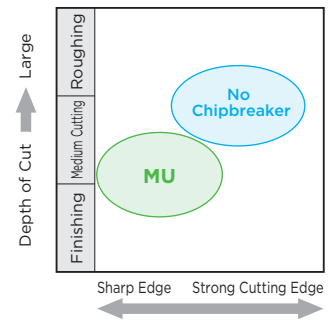
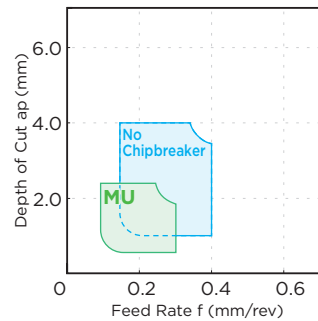
Type	Key Dimensions	Description
GU type	0.25, 2.05, 7°, 25°	Low-resistance breaker suitable for machining workpieces with low rigidity such as ones that are slim and long
UZ type	0.25, 1.9, 4°, 14°	General finishing breaker that is both sharp and strong edged
GZ type	0.25, 1.9, 16°	Our 1st recommended breaker with excellent cutting edge strength and high versatility
ME type	0.3, 2.4, 4°	Roughing breaker that demonstrates both sharpness and strength in high-feed machining
No Chipbreaker	-	Excellent cutting edge strength, ideal for large depths of cut and interrupted machining

Chipbreaker Application Range

● Negative



● Positive



Recommended Cutting Conditions

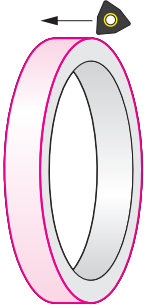






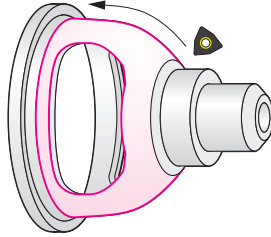

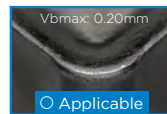


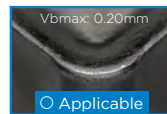





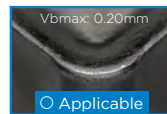

(Red text indicates 1st recommendation)

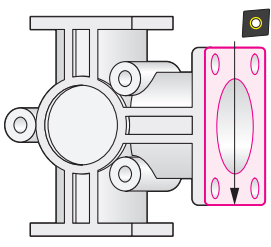
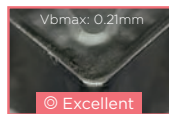
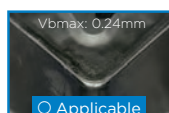
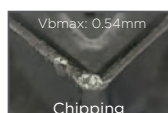
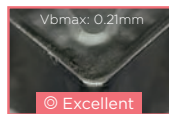
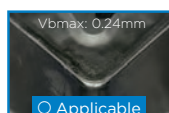
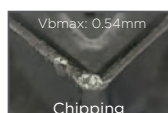
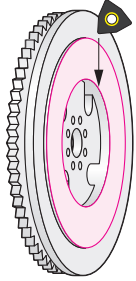




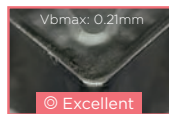
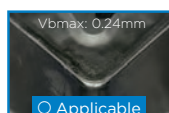
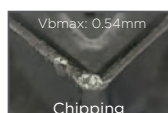


Work Material	Application	Grade	Cutting Conditions		
			Depth of Cut a_p (mm)	Feed Rate f (mm/rev)	Cutting Speed (vc) (m/min)
Gray Cast Iron (example: FC250)	Continuous to General	AC4010K	0.5 - 2.0 - 6.0	0.10 - 0.25 - 0.40	200 - 400 - 700
	Interrupted	AC4015K	0.5 - 2.0 - 6.0	0.10 - 0.30 - 0.50	180 - 300 - 450
	Heavy Interrupted	AC4125K	0.5 - 2.0 - 6.0	0.10 - 0.30 - 0.60	150 - 200 - 300
Ductile Cast Iron (example: FCD450)	Continuous	AC4010K	0.5 - 2.0 - 6.0	0.10 - 0.25 - 0.40	180 - 300 - 450
	General to Interrupted	AC4015K	0.5 - 2.0 - 6.0	0.10 - 0.30 - 0.50	160 - 250 - 400
	Heavy Interrupted	AC4125K	0.5 - 2.0 - 6.0	0.10 - 0.30 - 0.60	120 - 170 - 250
High-strength Ductile Cast Iron (example: FCD700)	Continuous	AC4010K	0.5 - 2.0 - 6.0	0.10 - 0.25 - 0.40	160 - 250 - 400
	General to Interrupted	AC4015K	0.5 - 2.0 - 6.0	0.10 - 0.30 - 0.50	140 - 200 - 350
	Heavy Interrupted	AC4125K	0.5 - 2.0 - 6.0	0.10 - 0.30 - 0.60	80 - 150 - 220

AC4010K/AC4015K/AC4125K

Application Examples of AC4010K / AC4015K

FC250 Brake Disc Black Skin Facing AC4010K K	FC250 Brake Disc Black Skin Facing AC4015K K								
<p>AC4010K achieved 1.4x longer tool life with minimal wear</p>  <p>Acute Angle 80°</p> <table border="0"> <tr> <td> Vbmax: 0.27mm</td> <td> Vbmax: 0.28mm</td> </tr> <tr> <td> Small amount of wear</td> <td> Large wear</td> </tr> </table> <p>AC4010K+GZ (70 pcs/C) Competitor's Product A (50 pcs/C)</p>	 Vbmax: 0.27mm	 Vbmax: 0.28mm	 Small amount of wear	 Large wear	<p>AC4015K achieves 1.4x longer tool life than competitors' products Minor damage even when machining 35 pieces</p>  <p>Obtuse Angle 100°</p> <table border="0"> <tr> <td> Vbmax: 0.23mm</td> <td> Vbmax: 0.23mm</td> </tr> <tr> <td> No exposed substrate</td> <td> With exposed substrate</td> </tr> </table> <p>AC4015K+GZ (35 pcs/C) Competitor's Product B (35 pcs/C)</p>	 Vbmax: 0.23mm	 Vbmax: 0.23mm	 No exposed substrate	 With exposed substrate
 Vbmax: 0.27mm	 Vbmax: 0.28mm								
 Small amount of wear	 Large wear								
 Vbmax: 0.23mm	 Vbmax: 0.23mm								
 No exposed substrate	 With exposed substrate								
<p>Tool Used: CNMG120408N-GZ (AC4010K) Continuous Cutting Cutting Conditions: vc=960m/min f=0.75mm/rev ap=2.0mm Wet</p>	<p>Tool Used: CNMG120408N-GZ (AC4015K) Continuous Cutting Cutting Conditions: vc=960m/min f=0.75mm/rev ap=2.0mm Wet</p>								

FCD800 Gear Ring External Turning AC4010K K	FCD600 Differential Case External Turning AC4010K K																
<p>Good wear resistance for machining high-strength ductile cast iron</p>  <table border="0"> <tr> <td> Vbmax: 0.17mm ⊙ Excellent</td> <td></td> </tr> <tr> <td>AC4015K+ME</td> <td></td> </tr> <tr> <td> Vbmax: 0.21mm ○ Applicable</td> <td> Vbmax: 0.27mm Adhesion</td> </tr> <tr> <td>AC4010K+ME Competitor's Product C</td> <td></td> </tr> </table>	 Vbmax: 0.17mm ⊙ Excellent		AC4015K+ME		 Vbmax: 0.21mm ○ Applicable	 Vbmax: 0.27mm Adhesion	AC4010K+ME Competitor's Product C		<p>Excellent chipping resistance and wear suppression in heavy interrupted machining of high-strength ductile cast iron</p>  <table border="0"> <tr> <td> Vbmax: 0.20mm ⊙ Excellent</td> <td></td> </tr> <tr> <td>AC4015K+GZ (60 pcs/C)</td> <td></td> </tr> <tr> <td> Vbmax: 0.20mm ○ Applicable</td> <td> Vbmax: 0.21mm</td> </tr> <tr> <td>AC4010K+GZ (45 pcs/C) Competitor's Product D (45 pcs/C)</td> <td></td> </tr> </table>	 Vbmax: 0.20mm ⊙ Excellent		AC4015K+GZ (60 pcs/C)		 Vbmax: 0.20mm ○ Applicable	 Vbmax: 0.21mm	AC4010K+GZ (45 pcs/C) Competitor's Product D (45 pcs/C)	
 Vbmax: 0.17mm ⊙ Excellent																	
AC4015K+ME																	
 Vbmax: 0.21mm ○ Applicable	 Vbmax: 0.27mm Adhesion																
AC4010K+ME Competitor's Product C																	
 Vbmax: 0.20mm ⊙ Excellent																	
AC4015K+GZ (60 pcs/C)																	
 Vbmax: 0.20mm ○ Applicable	 Vbmax: 0.21mm																
AC4010K+GZ (45 pcs/C) Competitor's Product D (45 pcs/C)																	
<p>Tool Used: WNMG080412N-ME (AC4010K/AC4015K) Continuous Cutting Cutting Conditions: vc=120m/min f=0.25mm/rev ap=1.0-3.0mm Wet</p>	<p>Tool Used: WNMG080412N-GZ (AC4010K/AC4015K) Interrupted Cutting Cutting Conditions: vc=250m/min f=0.30-0.45mm/rev ap=2.0mm Wet</p>																

FCD500 Gear Case Facing AC4010K K	FCD450 Flywheel Facing AC4015K K												
<p>Combined with ME type breaker for rough cutting for 1.2x longer tool life than competitor's products</p>  <table border="0"> <tr> <td> Vbmax: 0.21mm ⊙ Excellent</td> <td></td> </tr> <tr> <td>AC4015K+ME (12 units/C)</td> <td></td> </tr> <tr> <td> Vbmax: 0.24mm ○ Applicable</td> <td> Vbmax: 0.54mm Chipping</td> </tr> <tr> <td>AC4010K+ME (12 units/C) Competitor's Product E (10 units/C)</td> <td></td> </tr> </table>	 Vbmax: 0.21mm ⊙ Excellent		AC4015K+ME (12 units/C)		 Vbmax: 0.24mm ○ Applicable	 Vbmax: 0.54mm Chipping	AC4010K+ME (12 units/C) Competitor's Product E (10 units/C)		<p>AC4015K has excellent wear resistance, resulting in minimal wear even after machining double the number of parts</p>  <table border="0"> <tr> <td></td> <td></td> </tr> <tr> <td>AC4015K (80 units/C)</td> <td>Competitor's Product F (40 units/C)</td> </tr> </table>			AC4015K (80 units/C)	Competitor's Product F (40 units/C)
 Vbmax: 0.21mm ⊙ Excellent													
AC4015K+ME (12 units/C)													
 Vbmax: 0.24mm ○ Applicable	 Vbmax: 0.54mm Chipping												
AC4010K+ME (12 units/C) Competitor's Product E (10 units/C)													
													
AC4015K (80 units/C)	Competitor's Product F (40 units/C)												
<p>Tool Used: CNMG120408N-ME (AC4010K/AC4015K) Interrupted Cutting Cutting Conditions: vc=220m/min f=0.35mm/rev ap=1.5mm Wet</p>	<p>Tool Used: WNMA080408 (AC4015K) Continuous Cutting Cutting Conditions: vc=230m/min f=0.3mm/rev ap=2.0mm Wet</p>												






AC4010K/AC4015K/AC4125K

Application Examples of AC4125K




<p>FCD600 Differential Case External Turning/Facing AC4125K K</p> <p>AC4125K demonstrates excellent chipping resistance and 1.5x tool life in heavy interrupted machining of high-strength ductile cast iron.</p>   <p>AC4125K+GU (17 pcs/C)</p>  <p>Competitor's Product G (11 pcs/C)</p> <p>Tool Used: CNMG160412N-GU (AC4125K) Interrupted Cutting Cutting Conditions: $vc=160\text{m/min}$ $f=0.20\text{-}0.45\text{mm/rev}$ $ap=2.5\text{-}3.0\text{mm}$ Wet</p>	<p>FCD600 Differential Case External/Internal Turning/Facing AC4125K K</p> <p>AC4125K demonstrates excellent chipping resistance in heavy interrupted machining of high-strength ductile cast iron</p>   <p>AC4125K+GU (11 pcs/C)</p>  <p>Competitor's Product H (11 pcs/C)</p> <p>Tool Used: CNMG160412N-GU (AC4125K) Interrupted Cutting Cutting Conditions: $vc=130\text{-}170\text{m/min}$ $f=0.20\text{-}0.45\text{mm/rev}$ $ap=2.5\text{-}3.0\text{mm}$ Wet</p>
<p>FCD500 Wheel Hub Facing AC4125K K</p> <p>AC4125K achieves 1.3x longer tool life than competitors' products</p>   <p>AC4125K+GZ (10 pcs/C)</p>  <p>Competitor's Product I (8 pcs/C)</p> <p>Tool Used: DNMG150608N-GZ (AC4125K) Interrupted Cutting Cutting Conditions: $vc=200\text{-}300\text{m/min}$ $f=0.15\text{mm/rev}$ $ap=0.5\text{mm}$ Wet</p>	<p>FCD450 Load Sheave External Turning/Roughing AC4125K K</p> <p>AC4125K achieves 1.2x longer tool life than competitors' products</p>   <p>AC4125K (240 pcs/C)</p>  <p>Competitor's Product J (200 pcs/C)</p> <p>Tool Used: DNMA150408 (AC4125K) Interrupted Cutting Cutting Conditions: $vc=200\text{m/min}$ $f=0.15\text{mm/rev}$ $ap=1.0\text{mm}$ Wet</p>
<p>FCD450 Carrier Case External Turning/Facing AC4125K K</p> <p>AC4125K achieves 2x longer tool life than competitors' products Minor damage even after machining 50 pieces</p>   <p>AC4125K+GZ (50 units/C)</p>  <p>Conventional Grade (50 units/C)</p> <p>Tool Used: CNMG120412N-GZ (AC4125K) Interrupted Cutting Cutting Conditions: $vc=200\text{m/min}$ $f=0.3\text{mm/rev}$ $ap=2.5\text{mm}$ Wet</p>	<p>FCD450 Differential Case External Interrupted Turning AC4125K K</p> <p>AC4125K achieves 1.3x longer tool life than competitors' products Minor damage even after machining 30 pieces</p>   <p>AC4125K+ME (30 units/C)</p>  <p>Chipping</p> <p>Competitor's Product K (30 units/C)</p> <p>Tool Used: CNMG120412N-ME (AC4125K) Interrupted Cutting Cutting Conditions: $vc=150\text{m/min}$ $f=0.2\text{-}0.3\text{mm/rev}$ $ap=2.0\text{mm}$ Wet</p>

AC4010K/AC4015K/AC4125K



◊ Negative 80° Diamond type

Shape	Cat. No.	Stock			Dimensions (mm)			
		AC4010K	AC4015K	AC4125K	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	CNMG 090304N-GU	●	●	○	9.525	3.18	3.81	0.4
	090308N-GU	●	●	○				0.8
	CNMG 090412N-GU	●	●	○	9.525	4.76	3.81	1.2
	CNMG 120404N-GU	●	●	○				0.4
	120408N-GU	●	●	○	12.7	4.76	5.16	0.8
	120412N-GU	●	●	○				1.2
	120416N-GU	●	●	○				1.6
CNMG 160608N-GU	●	●	○	0.8				
160612N-GU	●	●	○	15.875	6.35	6.35	1.2	
160616N-GU	●	●	○				1.6	
CNMG 190612N-GU	●	●	○				1.2	
	CNMG 120408N-ME	●	●	○	12.7	4.76	5.16	0.8
	120412N-ME	●	●	○				1.2
	120416N-ME	●	●	○				1.6
	CNMG 160608N-ME	●	●	○	15.875	6.35	6.35	0.8
	160612N-ME	●	●	○				1.2
	160616N-ME	●	●	○				1.6
	CNMG 190612N-ME	●	●	○				1.2
190616N-ME	●	●	○	19.05	6.35	7.94	1.6	
190624N-ME	●	●	○				2.4	
CNMG 250924N-ME	●	●	○				2.4	
	CNMG 120404N-UZ	●	●	○	12.7	4.76	5.16	0.4
	120408N-UZ	●	●	○				0.8
	120412N-UZ	●	●	○				1.2
	CNMG 160612N-UZ	●	●	○	15.875	6.35	6.35	1.2
	160616N-UZ	●	●	○				1.6
	CNMG 190612N-UZ	●	●	○				1.2
	190616N-UZ	●	●	○				1.6
19.05	6.35	7.94	1.2					
1.6								
	CNMG 090408N-GZ	●	●	○	9.525	4.76	3.81	0.8
	090412N-GZ	●	●	○				1.2
	CNMG 120404N-GZ	●	●	○				0.4
	120408N-GZ	●	●	○	12.7	4.76	5.16	0.8
	120412N-GZ	●	●	○				1.2
	120416N-GZ	●	●	○				1.6
	CNMG 160608N-GZ	●	●	○				0.8
	160612N-GZ	●	●	○	15.875	6.35	6.35	1.2
	160616N-GZ	●	●	○				1.6
	CNMG 190612N-GZ	●	●	○				1.2
	190616N-GZ	●	●	○	19.05	6.35	7.94	1.6
	1.2							
	1.6							
	CNMA 120404	●	●	○	12.7	4.76	5.16	0.4
	120408	●	●	○				0.8
	120412	●	●	○				1.2
	120416	●	●	○				1.6
	CNMA 160608	●	●	○	15.875	6.35	6.35	0.8
	160612	●	●	○				1.2
	160616	●	●	○				1.6
	CNMA 190612	●	●	○	19.05	6.35	7.94	1.2
	1.6							
	1.6							






◊ Negative 55° Diamond type

Shape	Cat. No.	Stock			Dimensions (mm)			
		AC4010K	AC4015K	AC4125K	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	DNMG 110404N-GU	●	●	○	9.525	4.76	3.81	0.4
	110408N-GU	●	●	○				0.8
	110412N-GU	●	●	○				1.2
	DNMG 150404N-GU	●	●	○	12.7	4.76	5.16	0.4
	150408N-GU	●	●	○				0.8
	150412N-GU	●	●	○				1.2
	150416N-GU	●	●	○				1.6
DNMG 150604N-GU	●	●	○	12.7	6.35	5.16	0.4	
150608N-GU	●	●	○				0.8	
150612N-GU	●	●	○				1.2	
150616N-GU	●	●	○				1.6	
	DNMG 150408N-ME	●	●	○	12.7	4.76	5.16	0.8
	150412N-ME	●	●	○				1.2
	150416N-ME	●	●	○				1.6
	DNMG 150608N-ME	●	●	○	12.7	6.35	5.16	0.8
	150612N-ME	●	●	○				1.2
150616N-ME	●	●	○	1.6				
	DNMG 150404N-UZ	●	●	○	12.7	4.76	5.16	0.4
	150408N-UZ	●	●	○				0.8
	150412N-UZ	●	●	○				1.2
	DNMG 150608N-UZ	●	●	○	12.7	6.35	5.16	0.8
	150612N-UZ	●	●	○				1.2

◊ Negative 55° Diamond type

Shape	Cat. No.	Stock			Dimensions (mm)			
		AC4010K	AC4015K	AC4125K	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	DNMG 110408N-GZ	●	●	○	9.525	4.76	3.81	0.8
	110412N-GZ	●	●	○				1.2
	DNMG 150404N-GZ	●	●	○	12.7	4.76	5.16	0.4
	150408N-GZ	●	●	○				0.8
	150412N-GZ	●	●	○				1.2
	150416N-GZ	●	●	○				1.6
DNMG 150608N-GZ	●	●	○	12.7	6.35	5.16	0.8	
150612N-GZ	●	●	○				1.2	
	DNMA 150404	●	●	○	12.7	4.76	5.16	0.4
	150408	●	●	○				0.8
	150412	●	●	○				1.2
	150416	●	●	○				1.6
	DNMA 150608	●	●	○	12.7	6.35	5.16	0.8
150612	●	●	○	1.2				



○ Negative Square type

Shape	Cat. No.	Stock			Dimensions (mm)			
		AC4010K	AC4015K	AC4125K	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	SNMG 090304N-GU	●	●	○	9.525	3.18	3.81	0.4
	090308N-GU	●	●	○				0.8
	SNMG 120404N-GU	●	●	○	12.7	4.76	5.16	0.4
	120408N-GU	●	●	○				0.8
	120412N-GU	●	●	○				1.2
	120416N-GU	●	●	○				1.6
	SNMG 150608N-GU	●	●	○	15.875	6.35	6.35	0.8
150612N-GU	●	●	○	1.2				
150616N-GU	●	●	○	1.6				
	SNMG 120408N-ME	●	●	○	12.7	4.76	5.16	0.8
	120412N-ME	●	●	○				1.2
	120416N-ME	●	●	○				1.6
	SNMG 150608N-ME	●	●	○	15.875	6.35	6.35	0.8
	150612N-ME	●	●	○				1.2
	150616N-ME	●	●	○				1.6
	SNMG 190612N-ME	●	●	○				1.2
190616N-ME	●	●	○	19.05	6.35	7.94	1.6	
190624N-ME	●	●	○				2.4	
SNMG 250924N-ME	●	●	○				2.4	
	SNMG 120408N-UZ	●	●	○	12.7	4.76	5.16	0.8
	120412N-UZ	●	●	○				1.2
	120416N-UZ	●	●	○				1.6
	SNMG 190612N-UZ	●	●	○	19.05	6.35	7.94	1.2
	190616N-UZ	●	●	○				1.6
	SNMG 120408N-GZ	●	●	○	12.7	4.76	5.16	0.8
	120412N-GZ	●	●	○				1.2
	120416N-GZ	●	●	○				1.6
	SNMG 150612N-GZ	●	●	○				15.875
	150616N-GZ	●	●	○	1.6			
	SNMG 190612N-GZ	●	●	○	1.2			
	190616N-GZ	●	●	○	19.05	6.35	7.94	1.6
1.2								
1.6								
	SNMA 120404	●	●	○	12.7	4.76	5.16	0.4
	120408	●	●	○				0.8
	120412	●	●	○				1.2
	120416	●	●	○				1.6
	SNMA 150612	●	●	○	15.875	6.35	6.35	1.2
	150616	●	●	○				1.6
	SNMA 190612	●	●	○				1.2
	190616	●	●	○	19.05	6.35	7.94	1.6
1.6								




● mark: Standard stocked item ● mark: Standard stocked item (new product/expanded item) ○ mark: Planned stock (Feb 2024) Blank: Made-to-order item

AC4010K/AC4015K/AC4125K


△ Negative Triangular type

Shape	Cat. No.	Stock			Dimensions (mm)						
		AC4010K	AC4015K	AC4125K	Inscribed Circle	Thickness	Hole Dia.	Corner Radius			
	TNMG 160404N-GU	●	●	●	9.525	4.76	3.81	0.4			
	160408N-GU	●	●	●				0.8			
	160412N-GU	●	●	○				1.2			
	160416N-GU	●	●	○				1.6			
GU	TNMG 220404N-GU	●	●	○	12.7	4.76	5.16	0.4			
	220408N-GU	●	●	○				0.8			
	220412N-GU	●	●	○				1.2			
	TNMG 160408N-ME	●	●	●	9.525	4.76	3.81	0.8			
	160412N-ME	●	●	○				1.2			
	TNMG 220408N-ME	●	●	○				0.8			
	220412N-ME	●	●	○				1.2			
ME	220416N-ME	●	●	○	12.7	4.76	5.16	1.6			
	TNMG 160404N-UZ	●	●	●				9.525	4.76	3.81	0.4
	160408N-UZ	●	●	●							0.8
160412N-UZ	●	●	○	1.2							
160416N-UZ	●	●	○	1.6							
UZ	160420N-UZ	●	●	○	12.7	4.76	5.16	2.0			
	TNMG 220408N-UZ	●	●	○				0.8			
	220412N-UZ	●	●	○				1.2			
UZ	220416N-UZ	●	●	○	12.7	4.76	5.16	1.6			
	TNMG 160404N-GZ	●	●	●				9.525	4.76	3.81	0.4
	160408N-GZ	●	●	●							0.8
160412N-GZ	●	●	●	1.2							
TNMG 220408N-GZ	●	●	○	0.8							
GZ	220412N-GZ	●	●	○	12.7	4.76	5.16	1.2			
	220416N-GZ	●	●	○				1.6			
	TNMA 160404	●	●	○				9.525	4.76	3.81	0.4
160408	●	●	○	0.8							
160412	●	●	○	1.2							
160416	●	●	○	1.6							
GZ	160420	●	●	○	12.7	4.76	5.16	2.0			
	TNMA 220408	●	●	○				0.8			
	220412	●	●	○				1.2			
GZ	220416	●	●	○	12.7	4.76	5.16	1.6			


△ Negative Trigon type

Shape	Cat. No.	Stock			Dimensions (mm)						
		AC4010K	AC4015K	AC4125K	Inscribed Circle	Thickness	Hole Dia.	Corner Radius			
	WNMG 060404N-GU	●	●	●	9.525	4.76	3.81	0.4			
	060408N-GU	●	●	○				0.8			
	060412N-GU	●	●	○				1.2			
	060416N-GU	●	●	○				1.6			
GU	WNMG 080404N-GU	●	●	○	12.7	4.76	5.16	0.4			
	080408N-GU	●	●	○				0.8			
	080412N-GU	●	●	○				1.2			
	WNMG 060408N-ME	●	●	○	9.525	4.76	3.81	0.8			
	060412N-ME	●	●	○				1.2			
	WNMG 080408N-ME	●	●	○				12.7	4.76	5.16	0.8
	080412N-ME	●	●	○							1.2
080416N-ME	●	●	○	1.6							
ME	WNMG 080404N-UZ	●	●	○	12.7	4.76	5.16	0.4			
	080408N-UZ	●	●	○				0.8			
	080412N-UZ	●	●	○				1.2			
	WNMG 060408N-GZ	●	●	○	9.525	4.76	3.81	0.8			
	060412N-GZ	●	●	○				1.2			
	WNMG 080404N-GZ	●	●	○				12.7	4.76	5.16	0.4
	080408N-GZ	●	●	○							0.8
080412N-GZ	●	●	○	1.2							
GZ	WNMA 080408	●	●	○	12.7	4.76	5.16	0.8			
	080412	●	●	○				1.2			
	080416	●	●	○				1.6			


□ Negative Square type (Without Hole)

Shape	Cat. No.	Stock			Dimensions (mm)			
		AC4010K	AC4015K	AC4125K	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	SNMN 120408	●	●	○	12.7	4.76	-	0.8
	120412	●	●	○				1.2
	120416	●	●	○				1.6






◇ Negative 35° Diamond type

Shape	Cat. No.	Stock			Dimensions (mm)			
		AC4010K	AC4015K	AC4125K	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	VNMG 160404N-GU	●	●	○	9.525	4.76	3.81	0.4
	160408N-GU	●	●	○				0.8
	160412N-GU	●	●	○				1.2
GU	VNMG 160404N-UZ	●	●	○	9.525	4.76	3.81	0.4
	160408N-UZ	●	●	○				0.8
	160412N-UZ	●	●	○				1.2
UZ	VNMG 160404N-GZ	●	●	○	9.525	4.76	3.81	0.4
	160408N-GZ	●	●	○				0.8
	160412N-GZ	●	●	○				1.2
GZ	VNMA 160404	●	●	○	9.525	4.76	3.81	0.4
	160408	●	●	○				0.8
	160412	●	●	○				1.2




△ Negative Triangular type (Without Hole)

Shape	Cat. No.	Stock			Dimensions (mm)			
		AC4010K	AC4015K	AC4125K	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	TNMN 160408	●	●	○	9.525	4.76	-	0.8
	160412	●	●	○				1.2
	160416	●	●	○				1.6


Positive 80° Diamond type

Shape	Relief Angle	Cat. No.	Stock			Dimensions (mm)			
			AC4010K	AC4015K	AC4125K	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	7°	CCMT 09T304N-SU <small>NEW</small>	●	●	●	9.525	3.97	4.4	0.4
		09T308N-SU <small>NEW</small>	●	●	●	9.525	3.97	4.4	0.8
	7°	CCMT 09T304N-MU	●	●	●	9.525	3.97	4.4	0.4
		09T308N-MU	●	●	●	9.525	3.97	4.4	0.8
	7°	CCMW 060204	●	●	○	6.35	2.38	2.8	0.4
		CCMW 09T304 09T308	●	●	●	9.525	3.97	4.4	0.4 0.8
	11°	CPMT 080204N-MU 080208N-MU	●	●	●	7.94	2.38	3.4	0.4 0.8
		CPMT 090304N-MU 090308N-MU	●	●	●	9.525	3.18	4.4	0.4 0.8
	11°	CPMW 080204 080208	●	●	○	7.94	2.38	3.4	0.4 0.8
		CPMW 090304 090308	●	●	●	9.525	3.18	4.4	0.4 0.8





Positive 55° Diamond type

	7°	DCMT 070204N-SU <small>NEW</small>	●	●	●	6.35	2.38	2.8	0.4
		070208N-SU <small>NEW</small>	●	●	●	6.35	2.38	2.8	0.8
	7°	DCMT 11T304N-MU	●	●	●	9.525	3.97	4.4	0.4
		11T308N-MU	●	●	●	9.525	3.97	4.4	0.8
	7°	DCMW 070204 070208	●	●	○	6.35	2.38	2.8	0.4 0.8
		DCMW 11T304 11T308	●	●	●	9.525	3.97	4.4	0.4 0.8






Positive Round type

	7°	RCMX 1003M0N-RP	●	●	○	10.0	3.18	3.6	-
		RCMX 1204M0N-RP	●	●	●	12.0	4.76	4.2	-
		RCMX 1606M0N-RP	●	●	○	16.0	6.35	5.2	-


Positive Square type

	7°	SCMT 09T308N-MU	●	●	●	9.525	3.97	4.4	0.8
		SCMT 120408N-MU	●	●	●	12.7	4.76	5.5	0.8
	7°	SCMW 09T308 120408 120412	●	●	●	9.525	3.97	4.4	0.8 0.8 1.2
		SPMT 090304N-LB 090308N-LB <small>NEW</small>	●	●	●	9.525	3.18	3.4	0.4 0.8
	11°	SPMT 070208N-SS <small>NEW</small>	●	●	●	7.94	2.38	3.4	0.8
		SPMT 070308N-US <small>NEW</small>	●	●	●	7.94	3.18	3.4	0.8
	11°	SPGW 070304 070308 <small>NEW</small>	●	●	●	7.94	3.18	3.4	0.4 0.8
		SPGW 090304 090308 <small>NEW</small>	●	●	●	9.525	3.18	3.4	0.4 0.8


Positive Triangular type

Shape	Relief Angle	Cat. No.	Stock			Dimensions (mm)			
			AC4010K	AC4015K	AC4125K	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	7°	TCMW 110204 110208	●	●	●	6.35	2.38	2.8	0.4 0.8
		TCMW 16T304 16T308 16T312	●	●	○	9.525	3.97	4.3	0.4 0.8 1.2
		TPMT 080204N-LU <small>NEW</small>	●	●	○	4.76	2.38	2.4	0.4
		TPMT 090204N-LB <small>NEW</small>	●	●	○	5.56	2.38	2.8	0.4
	11°	TPMT 080204N-SU <small>NEW</small>	●	●	●	4.76	2.38	2.4	0.4
		TPMT 110304N-SU <small>NEW</small>	●	●	●	6.35	3.18	3.4	0.4
	11°	TPMT 160404N-SU <small>NEW</small>	●	●	●	9.525	4.76	4.4	0.4
		160408N-SU <small>NEW</small>	●	●	●	9.525	4.76	4.4	0.8
	11°	TPMT 110304N-MU 110308N-MU	●	●	●	6.35	3.18	3.4	0.4 0.8
		TPMT 160404N-MU 160408N-MU	●	●	●	9.525	4.76	4.4	0.4 0.8
	11°	TPGW 080204 080208 <small>NEW</small>	●	●	●	4.76	2.38	2.4	0.4 0.8
		TPGW 090204 090208 <small>NEW</small>	●	●	●	5.56	2.38	2.8	0.4 0.8
		TPGW 110304 110308 <small>NEW</small>	●	●	●	6.35	3.18	3.4	0.4 0.8
		TPGW 160404 160408 <small>NEW</small>	●	●	●	9.525	4.76	4.4	0.4 0.8


Positive 35° Diamond type

	5°	VBMW 160404 160408	●	●	○	9.525	4.76	4.4	0.4 0.8
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Positive Square type (Without Hole)

	11°	SPMN 090304 090308	●	●	○	9.525	3.18	-	0.4 0.8
		SPMN 120304 120308 120312	●	●	○	12.7	3.18	-	0.4 0.8 1.2

Positive Triangular type (Without Hole)

	11°	TPMN 110304 110308	●	●	●	6.35	3.18	-	0.4 0.8
		TPMN 160304 160308 160312	●	●	○	9.525	3.18	-	0.4 0.8 1.2

● mark: Standard stocked item ● mark: Standard stocked item (new product/expanded item) ○ mark: Planned stock (Feb 2024) Blank: Made-to-order item

< SAFETY NOTES >



● Very hot or lengthy chips may be discharged while the machine is in operation. Therefore, machine guards, safety goggles or other protective covers must be used. Fire safety precautions must also be considered.

● Please handle with care as this product has sharp edges.
● Improper cutting conditions or mis-handling of the tool may result in breakages or projectiles. Therefore, please use the tool within its recommended conditions.

● When using non-water soluble cutting oil, precautions against fire must be taken and please ensure that a fire extinguisher is placed near the machine.

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