

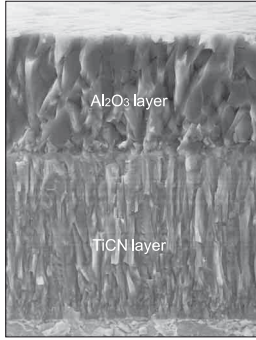
CVD coated grades ideal for turning gray, ductile, nodular cast iron and STEEL!

# UC5105/UC5115

## Features of UC5105/UC5115

Very effective for gray, ductile, nodular cast iron and STEEL!

Newly developed "All-black, Super Smooth coating"



Structure of UC5105/UC5115

### Improved wear resistance

Wear resistance has increased dramatically as a result of thick, fine Al<sub>2</sub>O<sub>3</sub> layer and fine, fibrous TiCN layer.

### UC5105

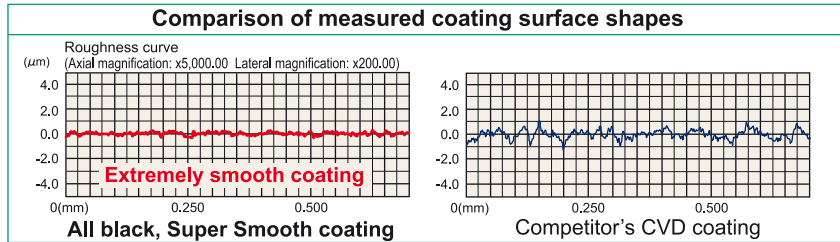
Grade consists of an extremely hard cemented carbide substrate and Super-Smooth coating. Effective in high-speed turning of cast iron and ductile cast iron.

### Improved chipping resistance

Due to a Super-Smooth coating, insert failure such as welding and chipping is unlikely to occur providing consistent cutting performance.

### UC5115

Grade consists of a very tough carbide substrate and Super-Smooth coating. Recommended for more difficult and unstable turning applications for gray, ductile, nodular cast iron and STEEL!

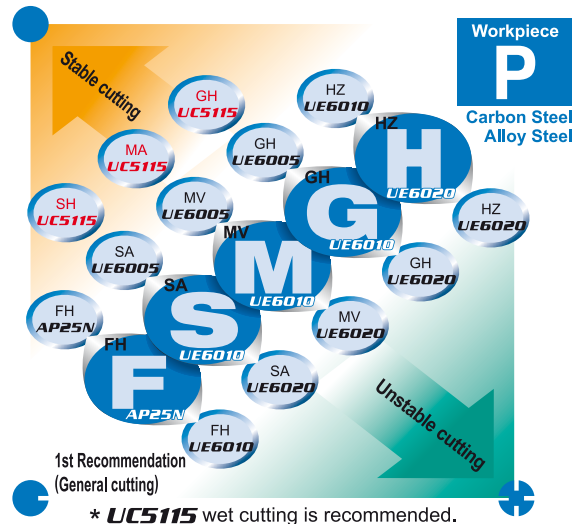
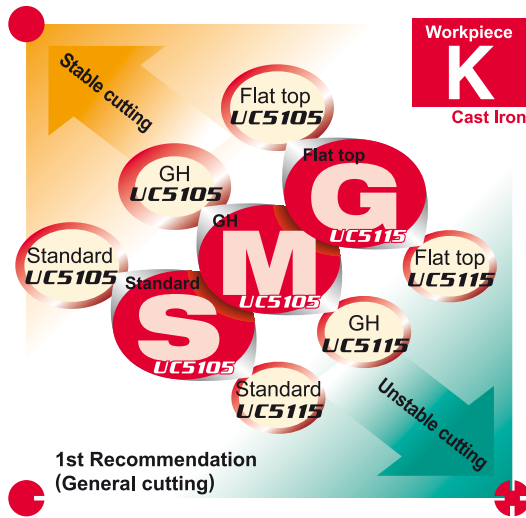


## TOOL NAVI SYSTEM

UC5105 is the grade for cast iron and ductile cast iron turning with improved wear resistance.

UC5115 is the grade for gray, ductile, nodular cast iron and steel turning with excellent balance of wear and fracture resistance.

Negative Style Inserts for Gray, Ductile, Nodular Cast Iron and Steel



CUTTING CONDITIONS		CUTTING AREA	
<b>●</b> Stable Cutting	Continuous Cutting Constant Depth of Cut Pre-Machined Securely Clamped Component Cutting	<b>F</b> Finish Cutting (ap ≤ .020inch)	<b>S</b> Light Cutting (ap = .020— .060inch)
<b>○</b> General Cutting		<b>M</b> Medium Cutting (ap = .060— .157inch)	<b>G</b> Semi-Heavy Cutting (ap = .157— .276inch)
<b>+</b> Unstable Cutting	Heavy Interrupted Cutting Irregular Depth of Cut Low Clamping Rigidity Cutting	<b>H</b> Heavy Cutting (ap = .276— .394inch)	

# Application Range and Recommended Cutting Conditions

## Application Range

ISO	Gray cast iron, Ductile cast iron
K01	
K10	
K20	
K30	

## Recommended Cutting Conditions

Workpiece	Tensile strength	Recommended cutting speed (SFM)	
		UC5105	UC5115
K Gray cast iron	≤300MPa	985(655—1310)	820(490—985)
	≤450MPa	985(655—1310)	820(490—985)
	500—800MPa	755(590—985)	655(490—820)
P Carbon Steel, Alloy Steel	Hardness 180—280HB	—	985(720—1215)

# Cutting Performance of UC5105/UC5115

## Wear Resistance

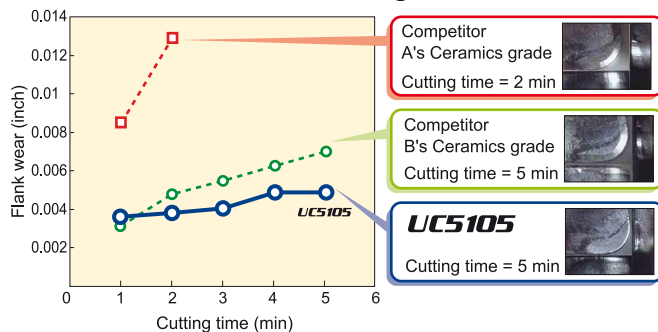
### High speed turning of cast iron

Ductile cast iron : AISI-40

<Cutting Condition>

Insert : CNMA432 Feed : 0.012 IPR  
 Tool : MCLNL-164C Depth of cut : 0.060 inch  
 Cutting speed : 1970 SFM Coolant : Dry cutting

**UC5105 exhibits extraordinary wear resistance similar to ceramic grades!!**



## Wear Resistance

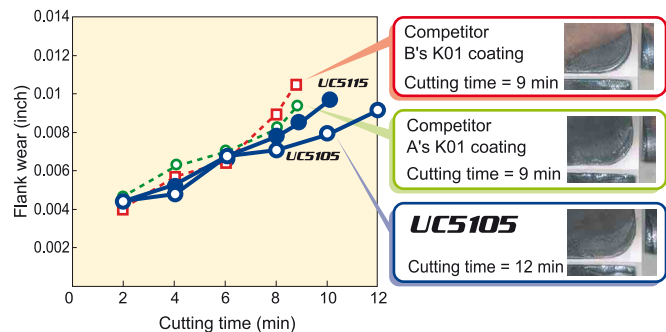
### Continuous turning of ductile cast iron

Ductile cast iron : AISI-100-70-03

<Cutting Condition>

Insert : CNMA432 Feed : 0.012 IPR  
 Tool : MCLNL-164C Depth of cut : 0.060 inch  
 Cutting speed : 655 SFM Coolant : Wet cutting

**UC5105 exhibits excellent wear resistance.**

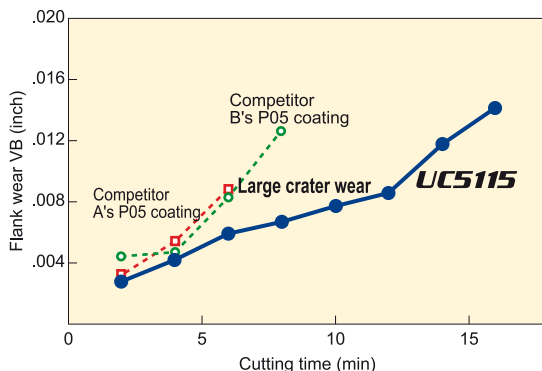


## Wear Resistance

### Continuous turning of alloy steel

Alloy steel : ANSI-4140

**UC5115 exhibits excellent wear resistance**



<Cutting Condition>

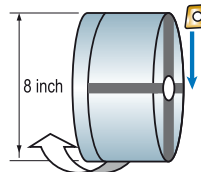
Insert : CNMG432MH Feed : 0.012 IPR  
 Tool : MCLNL-164C Depth of cut : 0.059 inch  
 Cutting speed : 1148 SFM Coolant : Wet cutting

## Fracture Resistance

### Interrupted facing of ductile cast iron

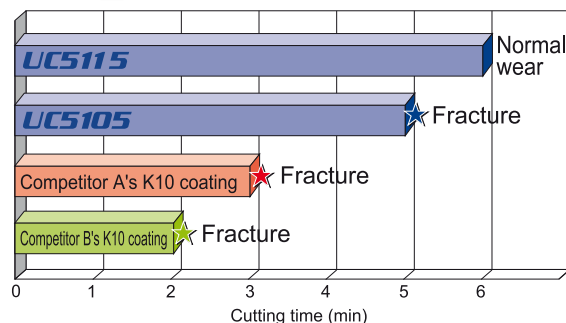
Ductile cast iron : AISI-60-40-18

**UC5115 displays exceptional chipping resistance and achieves extremely stable cutting edge reliability!!**



<Cutting Condition>


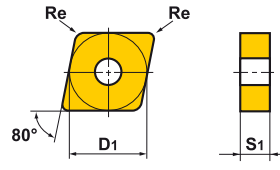

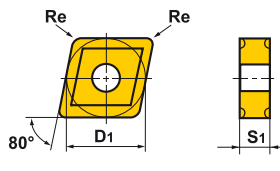

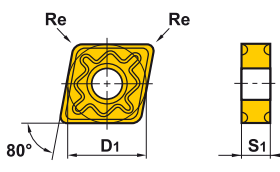

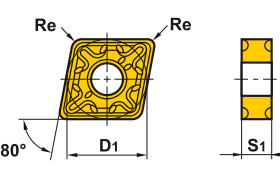

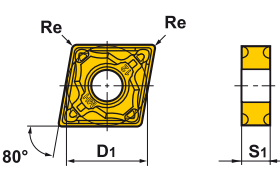

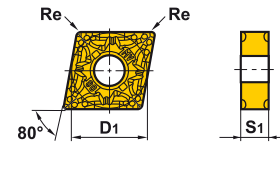
Insert : CNMA432  
 Tool : MCLNL-164C  
 Cutting speed : 395 SFM  
 Feed : 0.012 IPR  
 Depth of cut : 0.060 inch  
 Coolant : Wet cutting




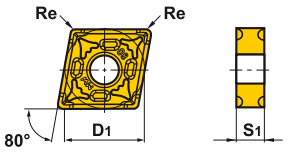

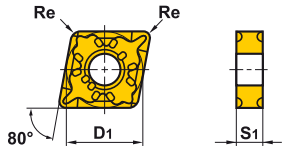

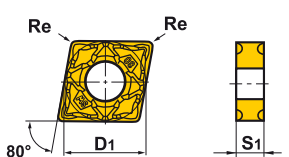

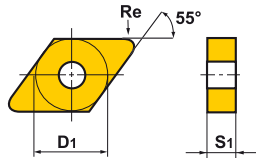

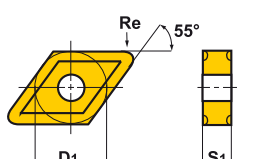

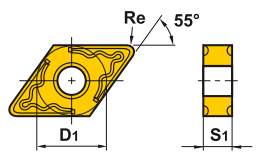

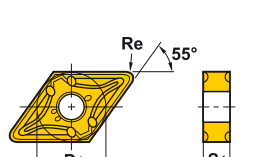

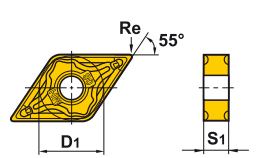
# UC5105/UC5115

## Inserts

### ● Negative Inserts (With hole)

Shape	Order Number	(ISO) Number	Stock		Dimensions (inch)			Geometry
			UC5105	UC5115	D1	S1	Re	
	<b>CNMA431</b>	<b>CNMA120404</b>	●	●	.500	.188	.016	
	432	120408	●	●	.500	.188	.031	
	433	120412	●	●	.500	.188	.047	
	434	120416	●	●	.500	.188	.063	
	543	160612	●	●	.625	.250	.047	
	544	160616	●	●	.625	.250	.063	
	643	190612	●	●	.750	.250	.047	
644	190616	●	●	.750	.250	.063		
	<b>CNMG431</b>	<b>CNMG120404</b>	●	●	.500	.188	.016	
	432	120408	●	●	.500	.188	.031	
	433	120412	●	●	.500	.188	.047	
	434	120416	★	★	.500	.188	.063	
	543	160612	●	●	.625	.250	.047	
	544	160616	★	★	.625	.250	.063	
	643	190612	●	●	.750	.250	.047	
644	190616	★	★	.750	.250	.063		
	<b>CNMG432GH</b>	<b>CNMG120408-GH</b>	●	●	.500	.188	.031	
	433GH	120412-GH	●	●	.500	.188	.047	
	<b>NEW</b> 434GH	120416-GH	●	●	.500	.188	.063	
	543GH	160612-GH	●	●	.625	.250	.047	
	544GH	160616-GH	●	●	.625	.250	.063	
	643GH	190612-GH	●	●	.750	.250	.047	
	644GH	190616-GH	●	●	.750	.250	.063	
	<b>NEW</b> <b>CNMG431MA</b>	<b>CNMG120404-MA</b>	●	●	.500	.188	.016	
	<b>NEW</b> 432MA	120408-MA	●	●	.500	.188	.031	
	<b>NEW</b> 433MA	120412-MA	●	●	.500	.188	.047	
	<b>NEW</b> 434MA	120416-MA	●	●	.500	.188	.063	
	<b>NEW</b> 542MA	160608-MA	●	●	.625	.250	.031	
	<b>NEW</b> 543MA	160612-MA	●	●	.625	.250	.047	
	<b>NEW</b> 544MA	160616-MA	●	●	.625	.250	.063	
	<b>NEW</b> 643MA	190612-MA	●	●	.750	.250	.047	
<b>NEW</b> 644MA	190616-MA	●	●	.750	.250	.063		
	<b>NEW</b> <b>CNMG431MH</b>	<b>CNMG120404-MH</b>		●	.500	.188	.016	
	<b>NEW</b> 432MH	120408-MH		●	.500	.188	.031	
	<b>NEW</b> 433MH	120412-MH		●	.500	.188	.047	
	<b>NEW</b> 434MH	120416-MH		●	.500	.188	.063	
	<b>NEW</b> 542MH	160608-MH		●	.625	.250	.031	
	<b>NEW</b> 543MH	160612-MH		●	.625	.250	.047	
	<b>NEW</b> 544MH	160616-MH		★	.625	.250	.063	
	<b>NEW</b> 643MH	190612-MH		★	.750	.250	.047	
<b>NEW</b> 644MH	190616-MH		★	.750	.250	.063		
	<b>NEW</b> <b>CNMG431MV</b>	<b>CNMG120404-MV</b>		●	.500	.188	.016	
	<b>NEW</b> 432MV	120408-MV		●	.500	.188	.031	
	<b>NEW</b> 433MV	120412-MV		●	.500	.188	.047	
	<b>NEW</b> 434MV	120416-MV		□	.500	.188	.063	


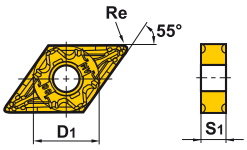

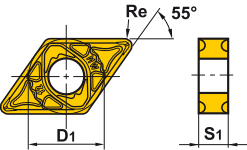
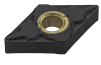
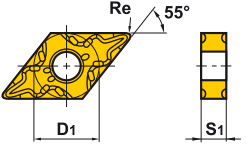

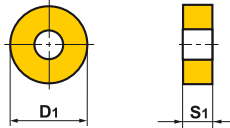

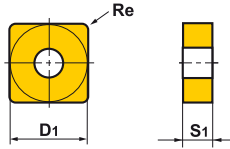

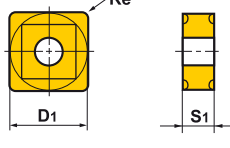

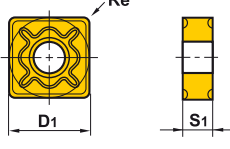
● : Inventory maintained. □ : Non stock, produced to order only. ★ : Inventory maintained in Japan.


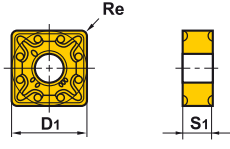

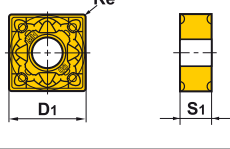

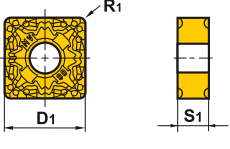

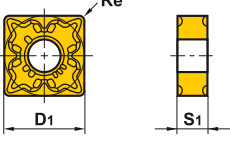

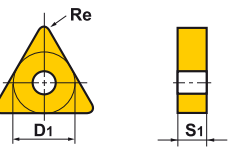

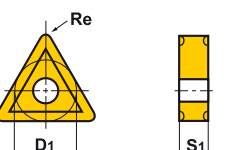

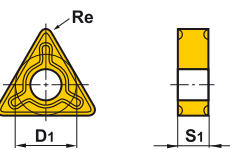

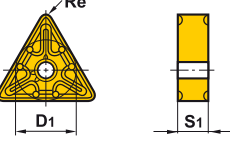

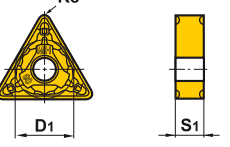
Shape	Order Number	(ISO) Number	Stock		Dimensions (inch)			Geometry
			UCS105	UCS115	D1	S1	Re	
<b>MW</b> Breaker  Medium Cutting (Wiper)	<b>CNMG432MW</b>	<b>CNMG120408-MW</b>	●	●	.500	.188	.031	
	<b>433MW</b>	<b>120412-MW</b>	●	●	.500	.188	.047	
<b>SH</b> Breaker  Light Cutting	<b>CNMG431SH</b>	<b>CNMG120404-SH</b>		●	.500	.188	.016	
	<b>432SH</b>	<b>120408-SH</b>		●	.500	.188	.031	
	<b>433SH</b>	<b>120412-SH</b>		□		.500	.188	
<b>SW</b> Breaker  Light Cutting (Wiper)	<b>CNMG431SW</b>	<b>CNMG120404-SW</b>		●	.500	.188	.016	
	<b>432SW</b>	<b>120408-SW</b>		●	.500	.188	.031	
<b>Flat Top</b> 	<b>DNMA431</b>	<b>DNMA150404</b>	●	●	.500	.188	.016	
	<b>432</b>	<b>150408</b>	●	●	.500	.188	.031	
	<b>433</b>	<b>150412</b>	●	●	.500	.188	.047	
	<b>434</b>	<b>150416</b>	□	□	.500	.188	.063	
	<b>442</b>	<b>150608</b>	★	★	.500	.250	.031	
<b>Standard</b> Breaker  Medium Cutting	<b>DNMG431</b>	<b>DNMG150404</b>	●	●	.500	.188	.016	
	<b>432</b>	<b>150408</b>	●	●	.500	.188	.031	
	<b>433</b>	<b>150412</b>	●	●	.500	.188	.047	
	<b>441</b>	<b>150604</b>	□	□	.500	.250	.016	
	<b>442</b>	<b>150608</b>	★	★	.500	.250	.031	
<b>GH</b> Breaker  Semi-Heavy Cutting	<b>DNMG432GH</b>	<b>DNMG150408-GH</b>	●	●	.500	.188	.031	
	<b>433GH</b>	<b>150412-GH</b>	●	●	.500	.188	.047	
	<b>442GH</b>	<b>150608-GH</b>	★	★	.500	.250	.031	
	<b>443GH</b>	<b>150612-GH</b>	★	★	.500	.250	.047	
<b>MA</b> Breaker  Medium Cutting	<b>DNMG431MA</b>	<b>DNMG150404-MA</b>	●	●	.500	.188	.016	
	<b>432MA</b>	<b>150408-MA</b>	●	●	.500	.188	.031	
	<b>433MA</b>	<b>150412-MA</b>	●	●	.500	.188	.047	
	<b>442MA</b>	<b>150608-MA</b>	●	●	.500	.250	.031	
	<b>443MA</b>	<b>150612-MA</b>	★	★	.500	.250	.047	
<b>MH</b> Breaker  Medium Cutting	<b>DNMG431MH</b>	<b>DNMG150404-MH</b>		●	.500	.188	.016	
	<b>432MH</b>	<b>150408-MH</b>		●	.500	.188	.031	
	<b>433MH</b>	<b>150412-MH</b>		●	.500	.188	.047	
	<b>441MH</b>	<b>150604-MH</b>		★	.500	.250	.016	
	<b>442MH</b>	<b>150608-MH</b>		★	.500	.250	.031	
	<b>443MH</b>	<b>150612-MH</b>		★	.500	.250	.047	

# UC5105/UC5115

## Inserts

### ● Negative Inserts (With hole)


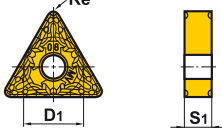

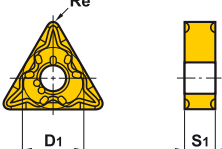

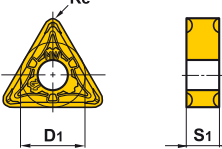

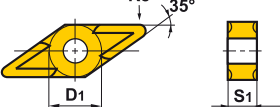

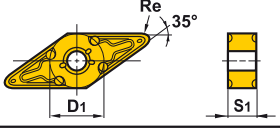

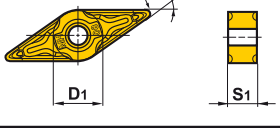

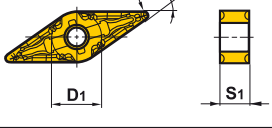

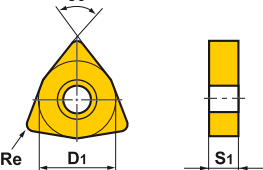

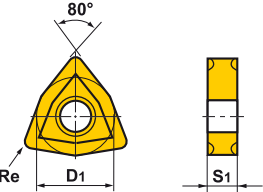
Shape	Order Number	(ISO) Number	Stock		Dimensions (inch)			Geometry
			UC5105	UC5115	D1	S1	Re	
<b>MV</b> Breaker    Medium Cutting	<b>NEW</b> DNMG431MV	DNMG150404-MV		●	.500	.188	.016	
	<b>NEW</b> 432MV	150408-MV		●	.500	.188	.031	
	<b>NEW</b> 433MV	150412-MV		●	.500	.188	.047	
	<b>NEW</b> 434MV	150416-MV		□	.500	.188	.063	
	<b>NEW</b> 441MV	150604-MV		□	.500	.250	.016	
	<b>NEW</b> 442MV	150608-MV		□	.500	.250	.031	
	<b>NEW</b> 443MV	150612-MV		□	.500	.250	.047	
	<b>NEW</b> 444MV	150616-MV		□	.500	.250	.063	
<b>MW</b> Breaker    Medium Cutting (Wiper)	DNMX432MW	DNMX150408-MW	●	●	.500	.188	.031	
	433MW	150412-MW	●	●	.500	.188	.047	
	<b>NEW</b> 442MW	150608-MW	□	□	.500	.250	.031	
	<b>NEW</b> 443MW	150612-MW	□	□	.500	.250	.047	
<b>SH</b> Breaker    Light Cutting	<b>NEW</b> DNMG431SH	DNMG150404-SH		●	.500	.188	.016	
	<b>NEW</b> 432SH	150408-SH		●	.500	.188	.031	
	<b>NEW</b> 433SH	150412-SH		□	.500	.188	.047	
	<b>NEW</b> 441SH	150604-SH		□	.500	.250	.016	
	<b>NEW</b> 442SH	150608-SH		□	.500	.250	.031	
<b>Standard</b> Breaker    Medium Cutting	RNMA43	RNMA120400	●	●	.500	.188	—	
<b>Flat Top</b>  	SNMA322	SNMA090308	●	●	.375	.125	.031	
	432	120408	●	●	.500	.188	.031	
	433	120412	●	●	.500	.188	.047	
	434	120416	●	●	.500	.188	.063	
	543	150612	●	●	.625	.250	.047	
	643	190612	●	●	.750	.250	.047	
	644	190616	●	●	.750	.250	.063	
<b>Standard</b> Breaker    Medium Cutting	SNMG432	SNMG120408	★	★	.500	.188	.031	
	433	120412	★	★	.500	.188	.047	
	434	120416	●	●	.500	.188	.063	
	543	150612	●	●	.625	.250	.047	
	<b>NEW</b> 643	190612	★	★	.750	.250	.047	
	<b>NEW</b> 644	190616	★	★	.750	.250	.063	
<b>GH</b> Breaker    Semi-Heavy Cutting	SNMG432GH	SNMG120408-GH	●	●	.500	.188	.031	
	433GH	120412-GH	●	●	.500	.188	.047	

Shape	Order Number	(ISO) Number	Stock		Dimensions (inch)			Geometry
			UCS105	UCS115	D1	S1	Re	
<b>MA</b> Breaker    Medium Cutting	<b>NEW</b> SNMG431MA	SNMG120404-MA		●	.500	.188	.016	
	<b>NEW</b> 432MA	120408-MA	●	●	.500	.188	.031	
	<b>NEW</b> 433MA	120412-MA	●	●	.500	.188	.047	
	<b>NEW</b> 434MA	120416-MA	●	●	.500	.188	.063	
	<b>NEW</b> 543MA	150612-MA	□	□	.625	.250	.047	
	<b>NEW</b> 643MA	190612-MA	●	●	.750	.250	.047	
<b>NEW</b> 644MA	190616-MA	●	●	.750	.250	.063		
<b>MH</b> Breaker    Medium Cutting	<b>NEW</b> SNMG431MH	SNMG120404-MH		★	.500	.188	.016	
	<b>NEW</b> 432MH	120408-MH		●	.500	.188	.031	
	<b>NEW</b> 433MH	120412-MH		●	.500	.188	.047	
	<b>NEW</b> 643MH	190612-MH		★	.750	.250	.047	
	<b>NEW</b> 644MH	190616-MH		★	.750	.250	.063	
<b>MV</b> Breaker    Medium Cutting	<b>NEW</b> SNMG431MV	SNMG120404-MV		□	.500	.188	.016	
	<b>NEW</b> 432MV	120408-MV		□	.500	.188	.031	
	<b>NEW</b> 433MV	120412-MV		□	.500	.188	.047	
<b>SH</b> Breaker    Light Cutting	<b>NEW</b> SNMG431SH	SNMG120404-SH		●	.500	.188	.016	
	<b>NEW</b> 432SH	120408-SH		●	.500	.188	.031	
	<b>NEW</b> 433SH	120412-SH		□	.500	.188	.047	
<b>Flat Top</b>    Medium Cutting	TNMA331	TNMA160404	●	●	.375	.188	.016	
	332	160408	●	●	.375	.188	.031	
	333	160412	●	●	.375	.188	.047	
	334	160416	★	★	.375	.188	.063	
	335	160420	★	★	.375	.188	.078	
	432	220408	●	●	.500	.188	.031	
	433	220412	●	●	.500	.188	.047	
434	220416	●	●	.500	.188	.063		
<b>Standard</b> Breaker    Medium Cutting	TNMG331	TNMG160404	★	★	.375	.188	.016	
	332	160408	★	★	.375	.188	.031	
	333	160412	★	★	.375	.188	.047	
	<b>NEW</b> 334	160416	★	★	.375	.188	.063	
	335	160420	★	★	.375	.188	.078	
	432	220408	●	●	.500	.188	.031	
	433	220412	★	★	.500	.188	.047	
<b>NEW</b> 434	220416	★	★	.500	.188	.063		
<b>GH</b> Breaker    Semi-Heavy Cutting	TNMG332GH	TNMG160408-GH	●	●	.375	.188	.031	
	333GH	160412-GH	●	●	.375	.188	.047	
	432GH	220408-GH	●	●	.500	.188	.031	
	433GH	220412-GH	●	●	.500	.188	.047	
<b>MA</b> Breaker    Medium Cutting	<b>NEW</b> TNMG331MA	TNMG160404-MA	●	●	.375	.188	.016	
	<b>NEW</b> 332MA	160408-MA	●	●	.375	.188	.031	
	<b>NEW</b> 333MA	160412-MA	●	●	.375	.188	.047	
	<b>NEW</b> 334MA	160416-MA	●	●	.375	.188	.063	
	<b>NEW</b> 432MA	220408-MA	●	●	.500	.188	.031	
	<b>NEW</b> 433MA	220412-MA	●	●	.500	.188	.047	
<b>NEW</b> 434MA	220416-MA	●	●	.500	.188	.063		
<b>MH</b> Breaker    Medium Cutting	<b>NEW</b> TNMG331MH	TNMG160404-MH		●	.375	.188	.016	
	<b>NEW</b> 332MH	160408-MH		●	.375	.188	.031	
	<b>NEW</b> 333MH	160412-MH		●	.375	.188	.047	
	<b>NEW</b> 432MH	220408-MH		●	.500	.188	.031	
	<b>NEW</b> 433MH	220412-MH		●	.500	.188	.047	


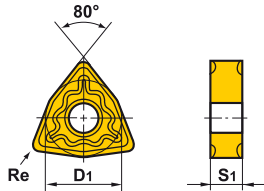
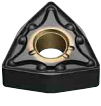
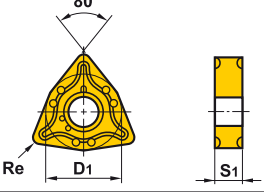

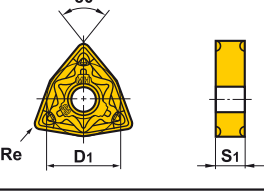

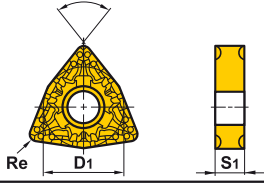

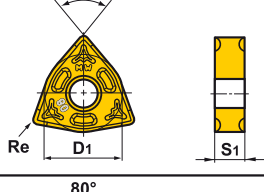

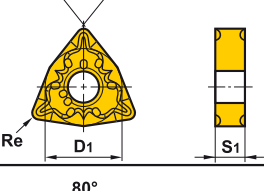

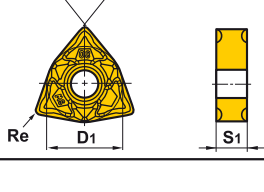
# UC5105/UC5115

## Inserts


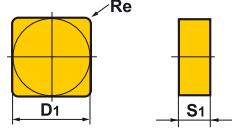

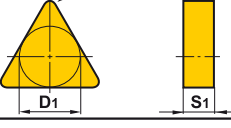
### ● Negative Inserts (With hole)

Shape	Order Number	(ISO) Number	Stock		Dimensions (inch)			Geometry
			UC5105	UC5115	D1	S1	Re	
<b>MV</b> Breaker  Medium Cutting	<b>NEW</b> TNMG331MV	TNMG160404-MV		□	.375	.188	.016	
	<b>NEW</b> 332MV	160408-MV		□	.375	.188	.031	
	<b>NEW</b> 333MV	160412-MV			□	.375	.188	
<b>SH</b> Breaker  Light Cutting	<b>NEW</b> TNMG331SH	TNMG160404-SH		●	.375	.188	.016	
	<b>NEW</b> 332SH	160408-SH		●	.375	.188	.031	
<b>MW</b> Breaker  Medium Cutting (Wiper)	<b>NEW</b> TNMX332MW	TNMX160408-MW	□	□	.375	.188	.031	
	<b>NEW</b> 333MW	160412-MW	□	□	.375	.188	.047	
<b>Standard</b> Breaker  Medium Cutting	<b>NEW</b> VNMG331	VNMG160404	★	★	.375	.188	.016	
	332	160408	★	★	.375	.188	.031	
	333	160412	★	★	.375	.188	.047	
<b>MA</b> Breaker  Medium Cutting	<b>NEW</b> VNMG331MA	VNMG160404-MA	●	●	.375	.188	.016	
	<b>NEW</b> 332MA	160408-MA	●	●	.375	.188	.031	
<b>MH</b> Breaker  Medium Cutting	<b>NEW</b> VNMG331MH	VNMG160404-MH		●	.375	.188	.016	
	<b>NEW</b> 332MH	160408-MH		●	.375	.188	.031	
<b>MV</b> Breaker  Medium Cutting	<b>NEW</b> VNMG331MV	VNMG160404-MV		●	.375	.188	.016	
	<b>NEW</b> 332MV	160408-MV		●	.375	.188	.031	
<b>Flat Top</b> 	WNMA431	WNMA080404	●	●	.500	.188	.016	
	432	080408	●	●	.500	.188	.031	
	433	080412	●	●	.500	.188	.047	
	434	080416	★	★	.500	.188	.063	
<b>Standard</b> Breaker  Medium Cutting	WNMG431	WNMG080404	●	●	.500	.188	.016	
	432	080408	●	●	.500	.188	.031	
	433	080412	●	●	.500	.188	.047	
	434	080416	★	★	.500	.188	.063	

● : Inventory maintained. □ : Non stock, produced to order only. ★ : Inventory maintained in Japan.

Shape	Order Number	(ISO) Number	Stock		Dimensions (inch)			Geometry
			UCS105	UCS115	D1	S1	Re	
<b>GH</b> Breaker  Semi-Heavy Cutting	<b>WNMG432GH</b>	<b>WNMG080408-GH</b>	●	●	.500	.188	.031	
	<b>433GH</b>	<b>080412-GH</b>	●	●	.500	.188	.047	
<b>MA</b> Breaker  Medium Cutting	<b>NEW</b> <b>WNMG431MA</b>	<b>WNMG080404-MA</b>	●	●	.500	.188	.016	
	<b>NEW</b> <b>432MA</b>	<b>080408-MA</b>	●	●	.500	.188	.031	
	<b>NEW</b> <b>433MA</b>	<b>080412-MA</b>	●	●	.500	.188	.047	
	<b>NEW</b> <b>434MA</b>	<b>080416-MA</b>	●	●	.500	.188	.063	
<b>MH</b> Breaker  Medium Cutting	<b>NEW</b> <b>WNMG431MH</b>	<b>WNMG080404-MH</b>		●	.500	.188	.016	
	<b>NEW</b> <b>432MH</b>	<b>080408-MH</b>		●	.500	.188	.031	
	<b>NEW</b> <b>433MH</b>	<b>080412-MH</b>		●	.500	.188	.047	
<b>MV</b> Breaker  Medium Cutting	<b>NEW</b> <b>WNMG431MV</b>	<b>WNMG080404-MV</b>		●	.500	.188	.016	
	<b>NEW</b> <b>432MV</b>	<b>080408-MV</b>		●	.500	.188	.031	
	<b>NEW</b> <b>433MV</b>	<b>080412-MV</b>		□	.500	.188	.047	
<b>MW</b> Breaker  Medium Cutting (Wiper)	<b>WNMG332MW</b>	<b>WNMG060408-MW</b>	●	●	.375	.188	.031	
	<b>333MW</b>	<b>060412-MW</b>	●	●	.375	.188	.047	
	<b>432MW</b>	<b>080408-MW</b>	●	●	.500	.188	.031	
	<b>433MW</b>	<b>080412-MW</b>	●	●	.500	.188	.047	
<b>SH</b> Breaker  Light Cutting	<b>NEW</b> <b>WNMG431SH</b>	<b>WNMG080404-SH</b>		●	.500	.188	.016	
	<b>NEW</b> <b>432SH</b>	<b>080408-SH</b>		●	.500	.188	.031	
	<b>NEW</b> <b>433SH</b>	<b>080412-SH</b>		□	.500	.188	.047	
<b>SW</b> Breaker  Light Cutting (Wiper)	<b>NEW</b> <b>WNMG431SW</b>	<b>WNMG080404-SW</b>		●	.500	.188	.016	
	<b>NEW</b> <b>432SW</b>	<b>080408-SW</b>		●	.500	.188	.031	

● Negative Inserts (Without hole)


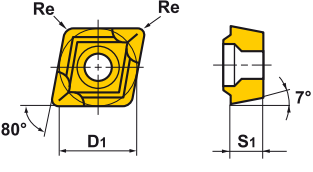

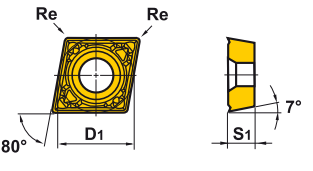

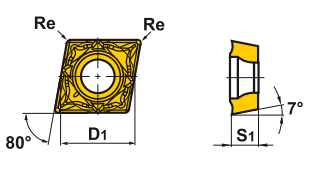

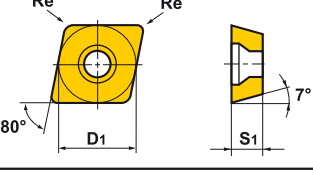

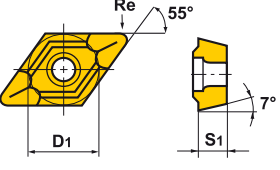

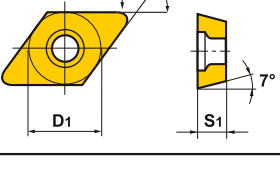

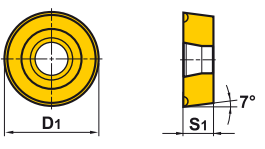
Shape	Order Number	(ISO) Number	Stock		Dimensions (inch)			Geometry
			UCS105	UCS115	D1	S1	Re	
	<b>SNMN432</b>	<b>SNMN120408</b>	★	★	.500	.188	.031	
	<b>433</b>	<b>120412</b>	●	●	.500	.188	.047	
	<b>434</b>	<b>120416</b>	●	●	.500	.188	.063	
	<b>TNMN332</b>	<b>TNMN160408</b>	★	★	.375	.188	.031	
	<b>333</b>	<b>160412</b>	★	★	.375	.188	.047	
	<b>334</b>	<b>160416</b>	★	★	.375	.188	.063	
	<b>335</b>	<b>160420</b>	★	★	.375	.188	.078	




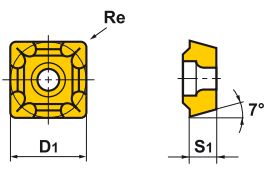

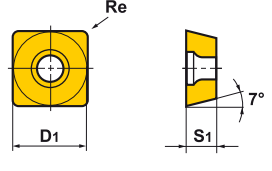

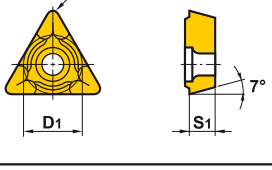

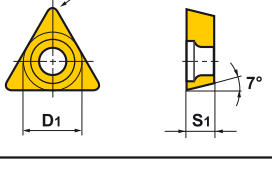

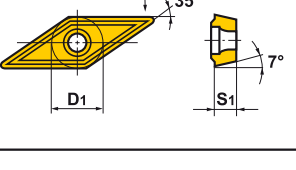

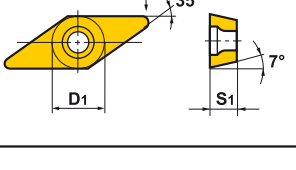
# UC5105/UC5115

## Inserts


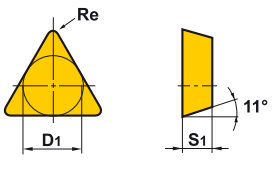
### ● Positive Inserts (With hole)

Shape	Order Number	(ISO) Number	Stock		Dimensions (inch)			Geometry
			UC5105	UC5115	D1	S1	Re	
<b>Standard Breaker</b>  Medium Cutting	<b>NEW</b> CCMT21.51	CCMT060204		●	.250	.094	.016	
	<b>NEW</b> 21.52	060208		●	.250	.094	.031	
	<b>NEW</b> 32.51	09T304		●	.375	.156	.016	
	<b>NEW</b> 32.52	09T308		●	.375	.156	.031	
	<b>NEW</b> 431	120404		●	.500	.188	.016	
	<b>NEW</b> 432	120408		●	.500	.188	.031	
	<b>NEW</b> 433	120412		□	.500	.188	.047	
<b>MW Breaker</b>  Medium Cutting (Wiper)	<b>NEW</b> CCMT431MW	CCMT120404-MW		●	.500	.188	.016	
	<b>NEW</b> 432MW	120408-MW		●	.500	.188	.031	
<b>SW Breaker</b>  Light Cutting (Wiper)	<b>NEW</b> CCMT21.51SW	CCMT060204-SW		●	.250	.094	.016	
	<b>NEW</b> 32.50.5SW	09T302-SW		●	.375	.156	.008	
	<b>NEW</b> 32.51SW	09T304-SW		●	.375	.156	.016	
<b>Flat Top</b> 	CCMW21.51	CCMW060204	●	●	.250	.094	.016	
	32.51	09T304	●	●	.375	.156	.016	
	32.52	09T308	●	●	.375	.156	.031	
	431	120404	●	●	.500	.188	.016	
	432	120408	●	●	.500	.188	.031	
<b>Standard Breaker</b>  Medium Cutting	<b>NEW</b> DCMT21.51	DCMT070204		□	.250	.094	.016	
	<b>NEW</b> 21.52	070208		●	.250	.094	.031	
	<b>NEW</b> 32.51	11T304		●	.375	.156	.016	
	<b>NEW</b> 32.52	11T308		●	.375	.156	.031	
	<b>NEW</b> 431	150404		□	.500	.188	.016	
	<b>NEW</b> 432	150408		□	.500	.188	.031	
	<b>NEW</b> 433	120412		□	.500	.188	.047	
<b>Flat Top</b> 	<b>NEW</b> DCMW21.51	DCMW070204	□	□	.250	.094	.016	
	32.51	11T304	★	★	.375	.156	.016	
	32.52	11T308	★	★	.375	.156	.031	
	<b>NEW</b> 431	150404	□	□	.500	.188	.016	
	<b>NEW</b> 432	150408	□	□	.500	.188	.031	
<b>Standard Breaker</b> 	<b>NEW</b> RCM1204	RCMX1204M0		★	.472	.188	—	

● : Inventory maintained. □ : Non stock, produced to order only. ★ : Inventory maintained in Japan.

Shape	Order Number	(ISO) Number	Stock		Dimensions (inch)			Geometry
			UC5105	UC5115	D1	S1	Re	
<b>Standard Breaker</b>  Medium Cutting	<b>NEW</b> SCMT32.51	SCMT09T304		●	.375	.156	.016	
	<b>NEW</b> 32.52	09T308		●	.375	.156	.031	
	<b>NEW</b> 431	120404		★	.500	.188	.016	
	<b>NEW</b> 432	120408		★	.500	.188	.031	
	<b>NEW</b> 433	120412		□	.500	.188	.047	
<b>Flat Top</b> 	SCMW32.51	SCMW09T304	★	★	.375	.156	.016	
	32.52	09T308	★	★	.375	.156	.031	
	431	120404	★	★	.500	.188	.016	
	432	120408	★	★	.500	.188	.031	
	<b>NEW</b> 433	120412		□	.500	.188	.047	
<b>Standard Breaker</b>  Medium Cutting	<b>NEW</b> TCMT21.51	TCMT110204		□	.250	.094	.016	
	<b>NEW</b> 32.51	16T304		●	.375	.156	.016	
	<b>NEW</b> 32.52	16T308		●	.375	.156	.031	
<b>Flat Top</b> 	<b>NEW</b> TCMW21.51	TCMW110204	□	□	.250	.094	.016	
	32.51	16T304	●	●	.375	.156	.016	
	32.52	16T308	●	●	.375	.156	.031	
<b>Standard Breaker</b>  Medium Cutting	<b>NEW</b> VCMT331	VCMT160404		□	.375	.188	.016	
	332	160408	●	●	.375	.188	.031	
<b>Flat Top</b> 	<b>NEW</b> VCMW331	VCMW160404	□	□	.375	.188	.016	
	332	160408	★	★	.375	.188	.031	

● Positive Inserts (Without hole)

Shape	Order Number	(ISO) Number	Stock		Dimensions (inch)			Geometry
			UC5105	UC5115	D1	S1	Re	
	TPMN221	TPMN110304	★	★	.250	.125	.016	
	222	110308	★	★	.250	.125	.031	
	321	160304	★	★	.375	.125	.016	
	322	160308	★	★	.375	.125	.031	
	<b>NEW</b> 323	160312	□	□	.375	.125	.047	
	<b>NEW</b> 432	220408	□	□	.500	.188	.031	

# UC5105/UC5115

## Application Examples

Insert	CNMA432	CNMA433	CNMA432
Workpiece	Gray cast iron 	Ductile cast iron 	Ductile cast iron 
Component	Hub	Wheel	Retainer ring
Cutting Conditions	Cutting Speed (SFM)	820	755
	Feed (IPR)	.012	.012
	Depth of Cut (inch)	.1	.08
Coolant	Water soluble oil	Water soluble oil	Water soluble oil
Results	<p>UC5105 achieved more than double the tool life.</p>	<p>UC5105 achieved 1.5 times longer tool life without any abnormal wear.</p>	<p>UC5105 achieved 1.5 times longer tool life without any abnormal wear.</p>

Insert	CNMG432MA (UC5115)	DNMG442MH (UC5115)	CNMG432MW (UC5115)
Workpiece	Alloy steel 	Alloy steel 	Alloy steel 
Component	Spindle	Shaft	Gear shaft
Cutting Conditions	Cutting Speed (SFM)	900	785
	Feed (IPR)	.012	.008
	Depth of Cut (inch)	.12	.04
Coolant	Wet	Wet	Wet
Results	<p>The superior wear resistance of UC5115 helped achieve double tool life.</p>	<p>UC5115 achieved double tool life without any chipping.</p>	<p>UC5115 maintained a stable cutting edge condition at higher feeds and speeds for a reduced cycle time.</p>

### For your safety

●Do not touch sharp parts or chips without wearing gloves. ●Use tools under recommended cutting conditions, and exchange tools before excessive wear occurs. ●Chips become extremely hot, scattered over and may be stretched. Ensure safety guards and goggles are used. ●In case of using non-water soluble oil, make sure to have a fire prevention countermeasure. ●Use the provided wrench, and ensure the inserts and spare parts are damped securely.

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 (Tools specifications subject to change without notice.)