NEW PRODUCT NEWS

mgt
MEGA TECH METALWORK

Tungaloy Report No. 437-G

Grades for heat-resistant alloy

AH8000 SERIES

Expansion of AH8015 grade for ISO inserts

Member IMC Group Tungaloy INDUSTRY 4.0

TUNGALOY ADDFORCE ACCELERATED LINES

NEW PRODUCT NEWS

Tungaloy Report No. 437-G

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NEW PRODUCT NEWS

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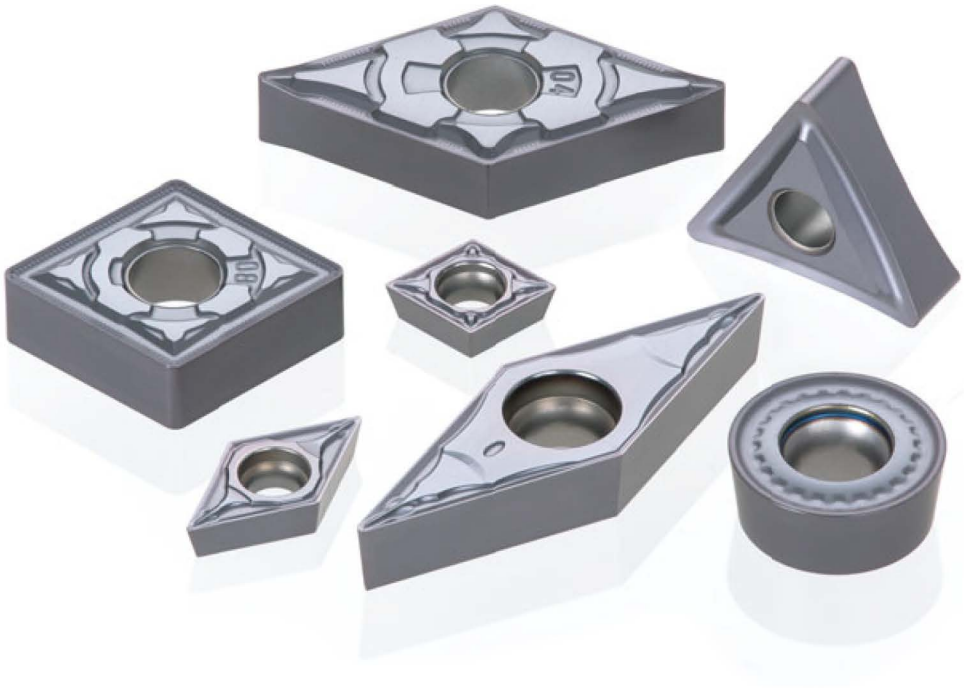
MEGA TECH METALWORK

AH8000 SERIES



The AH8015 grade ISO turning insert lineup has been significantly expanded across a wide range of applications.

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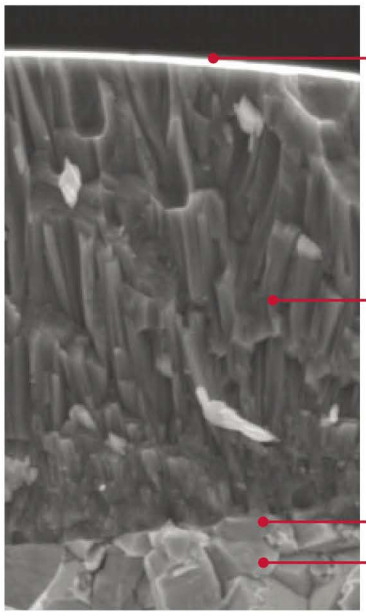
TUNGALOY ADDFORCE ACCELERATED LINES

mgt
MEGA TECH METALWORK

AH8000 SERIES

Incredible reliability in turning of heat-resistant alloys



PREMIUMTEC
Special surface technology

Nano-multi-layered AlTiN coating with high Al content
- Increases hardness by 20%
- Prevents micro cracks from developing

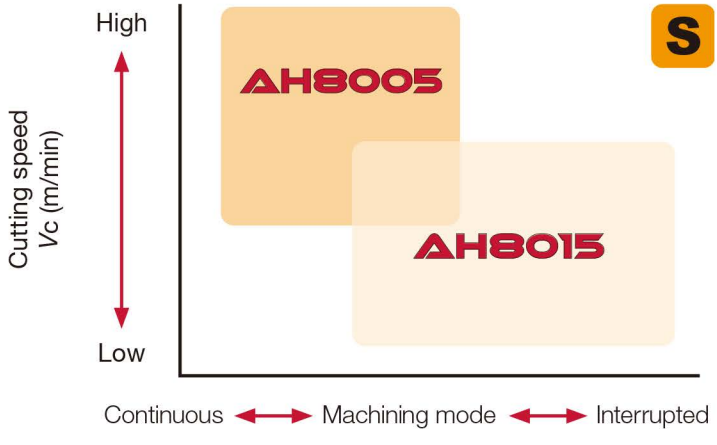
→ Long tool life & stable machining

Improved adhesion strength

→ Prevents notch wear that tends to occur in machining heat-resistant alloys

Newly developed substrates

APPLICATION AREA



AH8015
The 1st recommendation for heat-resistant alloys

Versatile grade with high wear and fracture resistance

AH8005
Grade with high hardness and excellent wear resistance

NEW PRODUCT NEWS

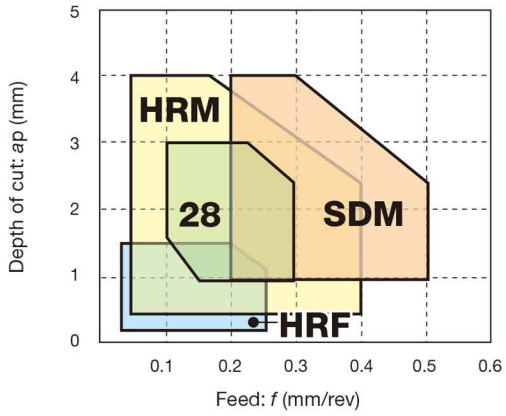
Tungaloy Report No. 437-G

MEGA TECH METALWORK

CHIPBREAKER

Negative inserts chipbreaker

- The **HRF** and **HRM** styles have been added as first-choice chipbreakers to the standard lineup, along with the **SDM** chipbreaker for effective notch damage control.
- A wide range of general-purpose chipbreakers are available, including the free-cutting **28** chipbreaker with inclination.



HRM For finishing to medium cutting

- **Unique protrusions on the rake face**
  Reduce the contact area of rake face and chips
- **Optimized rake face geometry and protrusion**
  Provide low cutting force and stable chip control

HRF For finishing

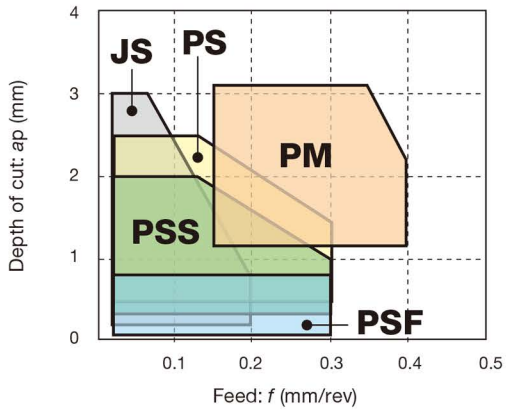
- **Special protrusion**
  Provides excellent chip control in machining depth of cut less than the corner R
- **Large rake angle and inclination**
  Reduce cutting force

SDM For medium cutting

- **Combination of original land shape with variable widths and large rake angle**
  Excellent resistance to notch damage and crater damage

Positive inserts chipbreaker

- **PSF, PSS, PS** and **PM** chipbreakers cover finishing to medium cutting
- The high precision **JS** chipbreaker allows light cutting action and excellent chip breaking with superior surface finishing.



JS

- **High precision G-class 3D chipbreaker**
  Provides excellent chip control and superior surface finishing in heat-resistant superalloys

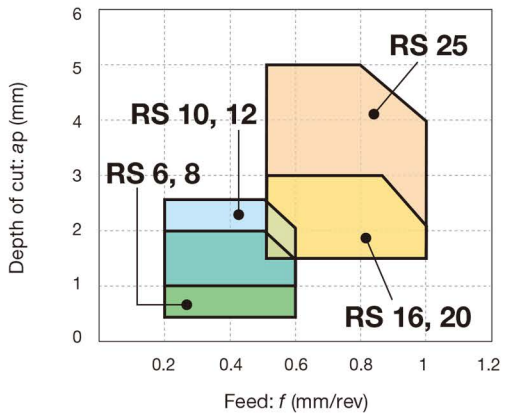
■ Chip control

Feed : f = 0.025 mm/rev
Depth of cut : ap = 2 mm

Feed : f = 0.05 mm/rev
Depth of cut : ap = 0.5 mm

S

Insert	: DCGT11T302M-JS AH8015
Workpiece material	: Inconel718
Cutting speed	: Vc = 30 m/min
Coolant	: Wet



RS For RCMT inserts

- **Sharp cutting edge generates light cutting action**
  Most suited for heat-resistant superalloys and stainless steel

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TUNGALOY ADDFORCE ACCELERATED LINES

NEW PRODUCT NEWS

Tungaloy Report No. 437-G

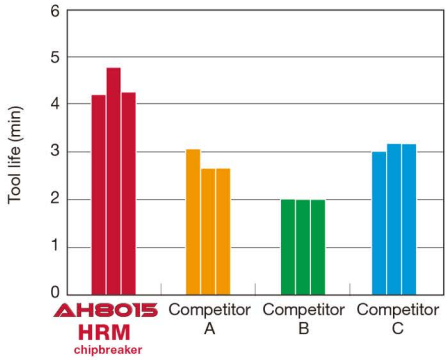
mgt MEGA TECH METALWORK

AH8000 SERIES

CUTTING PERFORMANCE

1 AH8015 HRM chipbreaker

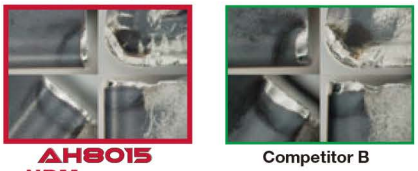
S Inconel 718



General cutting condition

Insert	: CNMG120408-**
Cutting speed	: *Vc* = 60 m/min
Feed	: *f* = 0.2 mm/rev
Depth of cut	: *ap* = 1.0 mm
Machining	: External turning
Coolant	: Wet

After 4 min.



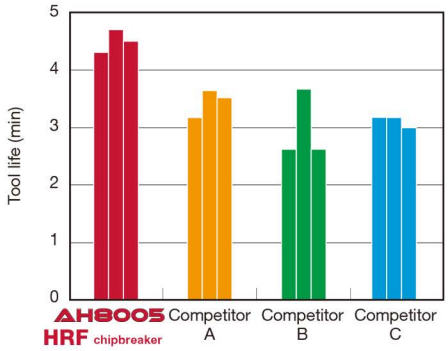
AH8015 HRM chipbreaker

Competitor B

After 2 min.

2 AH8005 HRF chipbreaker

S Inconel 718



High-speed cutting condition

Insert	: CNMG120408-**
Cutting speed	: *Vc* = 100 m/min
Feed	: *f* = 0.15 mm/rev
Depth of cut	: *ap* = 0.3 mm
Machining	: External turning
Coolant	: Wet

After 2.7 min.

AH8005 HRF chipbreaker

After 2.7 min.

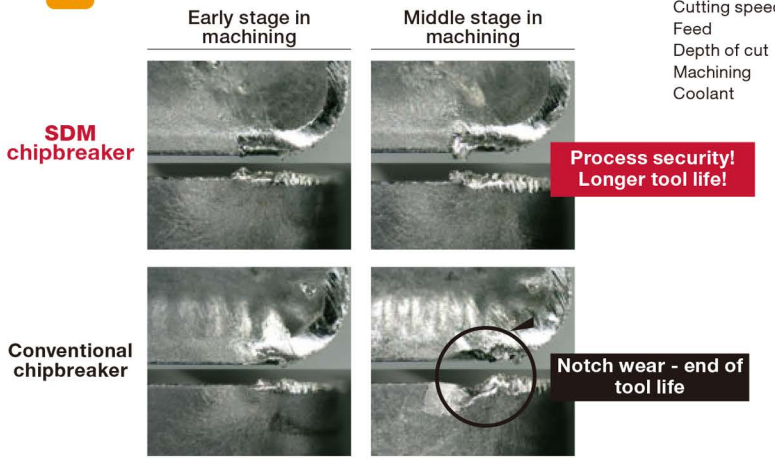
Competitor B

3 AH8015 SDM chipbreaker

S Inconel 718

Light interrupted cutting condition

Cutting speed	: *Vc* = 30 m/min
Feed	: *f* = 0.2 mm/rev
Depth of cut	: *ap* = 1 mm
Machining	: External turning
Coolant	: Wet



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TUNGALOY ADDFORCE ACCELERATED LINES

STANDARD CUTTING CONDITIONS

For negative inserts chipbreaker

ISO	Chipbreaker	Corner radius RE	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min) AH8005	AH8015
S	HRF	0.4	0.2 - 1.5	0.05 - 0.23	40 - 100	20 - 80
		0.8	0.2 - 1.5	0.05 - 0.25	40 - 100	20 - 80
		1.2	0.2 - 1.5	0.07 - 0.27	40 - 100	20 - 80
	HRM	0.4	0.5 - 4	0.05 - 0.3	40 - 100	20 - 80
		0.8	0.5 - 4	0.07 - 0.33	40 - 100	20 - 80
		1.2	0.5 - 4	0.1 - 0.35	40 - 100	20 - 80
		1.6	0.5 - 4	0.15 - 0.4	40 - 100	20 - 80
	SDM	0.4	1 - 4	0.2 - 0.3	40 - 100	20 - 80
		0.8	1 - 4	0.2 - 0.5	40 - 100	20 - 80
		1.2	1 - 4	0.2 - 0.5	40 - 100	20 - 80
	28	0.4	0.5 - 3	0.08 - 0.2	40 - 100	20 - 80
		0.8	0.5 - 3	0.1 - 0.3	40 - 100	20 - 80
		1.2	0.5 - 3	0.1 - 0.3	40 - 100	20 - 80

For positive inserts chipbreaker

ISO	Chipbreaker	Size	Corner radius RE	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min) AH8005	AH8015
S	PSF	-	0.4	0.05 - 0.5	0.02 - 0.2	40 - 100	20 - 80
		-	0.8	0.05 - 0.5	0.02 - 0.3	40 - 100	20 - 80
	PSS	-	0.4	0.3 - 2	0.02 - 0.2	40 - 100	20 - 80
		-	0.8	0.3 - 2	0.03 - 0.3	40 - 100	20 - 80
		-	1.2	0.3 - 2	0.05 - 0.3	40 - 100	20 - 80
	PS	-	0.4	0.5 - 2.5	0.02 - 0.2	40 - 100	20 - 80
		-	0.8	0.5 - 2.5	0.03 - 0.3	40 - 100	20 - 80
		-	1.2	0.5 - 2.5	0.05 - 0.3	40 - 100	20 - 80
	PM	-	0.4	1 - 3	0.15 - 0.3	40 - 100	20 - 80
		-	0.8	1 - 3	0.15 - 0.3	40 - 100	20 - 80
		-	1.2	1 - 3	0.15 - 0.3	40 - 100	20 - 80
	RS	RCMT06...	-	0.5 - 2	0.2 - 0.6	40 - 100	20 - 80
		RCMT08...	-	0.5 - 2	0.2 - 0.6	40 - 100	20 - 80
		RCMT10...	-	1 - 2.5	0.2 - 0.6	40 - 100	20 - 80
		RCMT12...	-	1 - 2.5	0.2 - 0.6	40 - 100	20 - 80
		RCMT16...	-	1.5 - 3	0.5 - 1	40 - 100	20 - 80
		RCMT20...	-	1.5 - 3	0.5 - 1	40 - 100	20 - 80
		RCMT25...	-	1.5 - 5	0.5 - 1	40 - 100	20 - 80
	JS	-	< 0.1	0.5 - 3	0.02 - 0.05	-	20 - 80
		-	< 0.2	0.5 - 3	0.02 - 0.1	-	20 - 80
		-	< 0.4	0.5 - 3	0.05 - 0.2	-	20 - 80

AH8000 SERIES

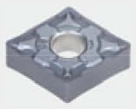
STANDARD CUTTING CONDITIONS

Chipbreakers for negative inserts

- For finishing (*ap* = 0.2 - 1.5 mm)

The 1st recommendation

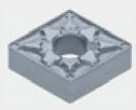
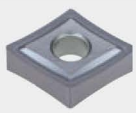
AH8015 HRF

Wear	AH8005 HRF	
Fracture	AH8015 HRM	
Chip control	AH8015 TSF, PS, ZF	

- For finishing to medium cutting (*ap* = 0.5 - 4 mm)

The 1st recommendation

AH8015 HRM

Wear	AH8005 HRM	
Fracture	AH8015 SDM	
Chip control	AH8015 TM, PM, ZM	
Low cutting force	AH8015 28	

NEW PRODUCT NEWS

Tungaloy Report No. 437-G

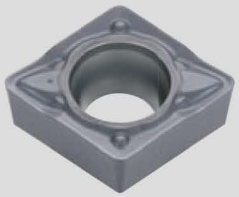
MEGA TECH METALWORK

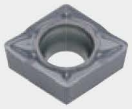
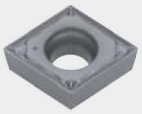
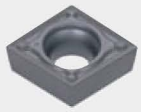
Chipbreakers for positive inserts

- For finishing (*ap* = 0.3 - 2 mm)

The 1st recommendation

AH8015 PSS

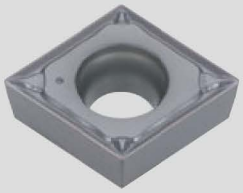


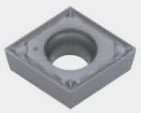
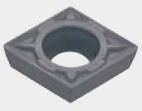
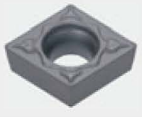
Wear	AH8005 PSS	
Fracture	AH8015 PS	
Chip control	AH8015 PSF, TSF	
High precision	AH8015 JS	

- For finishing to medium cutting (*ap* = 0.5 - 2.5 mm)

The 1st recommendation

AH8015 PS



Wear	AH8005 PS	
Fracture	AH8015 PM	
Chip control	AH8015 PSS, TM	
High precision	AH8015 JS	

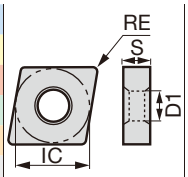
Insert NEGATIVE TYPE

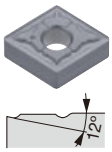
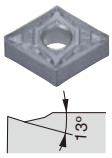
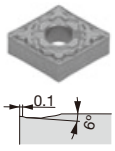
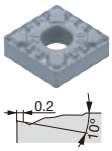
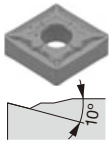
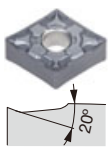
● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

P	Steel	●	ⓒ
M	Stainless	●	ⓒ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ⓒ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Finishing	TF	CNMG090402E-TF		●	0.2	9.525	4.76	3.81
		CNMG090404E-TF		●	0.4	9.525	4.76	3.81
		CNMG090408E-TF		●	0.8	9.525	4.76	3.81
		CNMG120402-TF		●	0.2	12.7	4.76	5.16
		CNMG120404-TF		●	0.4	12.7	4.76	5.16
		CNMG120408-TF		●	0.8	12.7	4.76	5.16
	TSF	CNMG090402E-TSF		●	0.2	9.525	4.76	3.81
		CNMG090404E-TSF		●	0.4	9.525	4.76	3.81
		CNMG090408E-TSF		●	0.8	9.525	4.76	3.81
		CNMG120402-TSF		●	0.2	12.7	4.76	5.16
		CNMG120404-TSF		●	0.4	12.7	4.76	5.16
		CNMG120408-TSF		●	0.8	12.7	4.76	5.16
		CNMG120412-TSF		●	1.2	12.7	4.76	5.16
	PS	CNMG090402E-PS		●	0.2	9.525	4.76	3.81
		CNMG090404E-PS		●	0.4	9.525	4.76	3.81
		CNMG090408E-PS		●	0.8	9.525	4.76	3.81
		CNMG120402-PS		●	0.2	12.7	4.76	5.16
		CNMG120404-PS		●	0.4	12.7	4.76	5.16
		CNMG120408-PS		●	0.8	12.7	4.76	5.16
		CNMG120412-PS		●	1.2	12.7	4.76	5.16
Finishing for mild steel	ZF	CNMG090402E-ZF		●	0.2	9.525	4.76	3.81
		CNMG090404E-ZF		●	0.4	9.525	4.76	3.81
		CNMG090408E-ZF		●	0.8	9.525	4.76	3.81
		CNMG120402-ZF		●	0.2	12.7	4.76	5.16
		CNMG120404-ZF		●	0.4	12.7	4.76	5.16
		CNMG120408-ZF		●	0.8	12.7	4.76	5.16
		CNMG120412-ZF		●	1.2	12.7	4.76	5.16
Finishing	TS	CNMG090402E-TS		●	0.2	9.525	4.76	3.81
		CNMG090404E-TS		●	0.4	9.525	4.76	3.81
		CNMG090408E-TS		●	0.8	9.525	4.76	3.81
		CNMG120402-TS		●	0.2	12.7	4.76	5.16
		CNMG120404-TS		●	0.4	12.7	4.76	5.16
		CNMG120408-TS		●	0.8	12.7	4.76	5.16
		CNMG120412-TS		●	1.2	12.7	4.76	5.16
	HRF	CNMG120404-HRF	●	●	0.4	12.7	4.76	5.16
		CNMG120408-HRF	●	●	0.8	12.7	4.76	5.16
		CNMG120412-HRF	●	●	1.2	12.7	4.76	5.16

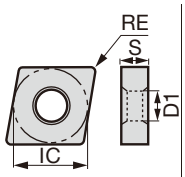
● : Line up

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

P	Steel		
M	Stainless	●	ⓒ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ⓒ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Medium cutting	TM	CNMG090404E-TM		●	0.4	9.525	4.76	3.81
		CNMG090408E-TM		●	0.8	9.525	4.76	3.81
		CNMG090412E-TM		●	1.2	9.525	4.76	3.81
		CNMG120404-TM		●	0.4	12.7	4.76	5.16
		CNMG120408-TM		●	0.8	12.7	4.76	5.16
		CNMG120412-TM		●	1.2	12.7	4.76	5.16
		CNMG120416-TM		●	1.6	12.7	4.76	5.16
	PM	CNMG090404E-PM		●	0.4	9.525	4.76	3.81
		CNMG090408E-PM		●	0.8	9.525	4.76	3.81
		CNMG090412E-PM		●	1.2	9.525	4.76	3.81
		CNMG120404-PM		●	0.4	12.7	4.76	5.16
		CNMG120408-PM		●	0.8	12.7	4.76	5.16
		CNMG120412-PM		●	1.2	12.7	4.76	5.16
		CNMG120416-PM		●	1.6	12.7	4.76	5.16
Medium cutting for mild steel	ZM	CNMG090404E-ZM		●	0.4	9.525	4.76	3.81
		CNMG090408E-ZM		●	0.8	9.525	4.76	3.81
		CNMG090412E-ZM		●	1.2	9.525	4.76	3.81
		CNMG120404-ZM		●	0.4	12.7	4.76	5.16
		CNMG120408-ZM		●	0.8	12.7	4.76	5.16
		CNMG120412-ZM		●	1.2	12.7	4.76	5.16
		CNMG120416-ZM		●	1.6	12.7	4.76	5.16
Medium cutting	DM	CNMG120404-DM		●	0.4	12.7	4.76	5.16
		CNMG120408-DM		●	0.8	12.7	4.76	5.16
		CNMG120412-DM		●	1.2	12.7	4.76	5.16
		CNMG120416-DM		●	1.6	12.7	4.76	5.16
	SM	CNMG120404-SM		●	0.4	12.7	4.76	5.16
		CNMG120408-SM		●	0.8	12.7	4.76	5.16
		CNMG120412-SM		●	1.2	12.7	4.76	5.16
	SDM	CNMG120404-SDM	●	●	0.4	12.7	4.76	5.16
		CNMG120408-SDM	●	●	0.8	12.7	4.76	5.16
		CNMG120412-SDM	●	●	1.2	12.7	4.76	5.16

● : New product
● : Line up

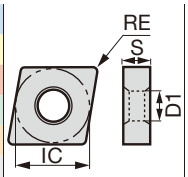
Insert NEGATIVE TYPE

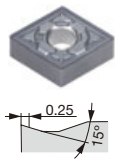
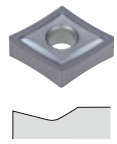
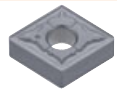
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

P	Steel	●	ɔ
M	Stainless	●	ɔ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ɔ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Medium cutting	HRM	CNMG120404-HRM	●	●	0.4	12.7	4.76	5.16
		CNMG120408-HRM	●	●	0.8	12.7	4.76	5.16
		CNMG120412-HRM	●	●	1.2	12.7	4.76	5.16
		CNMG160608-HRM	●	●	0.8	15.875	6.35	6.35
		CNMG160612-HRM	●	●	1.2	15.875	6.35	6.35
		CNMG190612-HRM	●	●	1.2	19.05	6.35	7.93
		CNMG190616-HRM	●	●	1.6	19.05	6.35	7.93
	28	CNMG120404-28	●	●	0.4	12.7	4.76	5.16
		CNMG120408-28	●	●	0.8	12.7	4.76	5.16
		CNMG120412-28	●	●	1.2	12.7	4.76	5.16
	TH	CNMG120408-TH		●	0.8	12.7	4.76	5.16
		CNMG120412-TH		●	1.2	12.7	4.76	5.16
		CNMG120416-TH		●	1.6	12.7	4.76	5.16

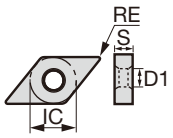
● : Line up

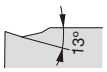
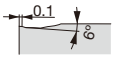
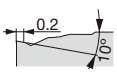
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

P	Steel		
M	Stainless	●	ɔ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ɔ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Finishing	TF	DNMG110402E-TF		●	0.2	9.525	4.76	3.81
		DNMG110404E-TF		●	0.4	9.525	4.76	3.81
		DNMG110408E-TF		●	0.8	9.525	4.76	3.81
		DNMG150402-TF		●	0.2	12.7	4.76	5.16
		DNMG150404-TF		●	0.4	12.7	4.76	5.16
		DNMG150408-TF		●	0.8	12.7	4.76	5.16
	TSF	DNMG110402E-TSF		●	0.2	9.525	4.76	3.81
		DNMG110404E-TSF		●	0.4	9.525	4.76	3.81
		DNMG110408E-TSF		●	0.8	9.525	4.76	3.81
		DNMG110412E-TSF		●	1.2	9.525	4.76	3.81
		DNMG150402-TSF		●	0.2	12.7	4.76	5.16
		DNMG150404-TSF		●	0.4	12.7	4.76	5.16
		DNMG150408-TSF		●	0.8	12.7	4.76	5.16
		DNMG150412-TSF		●	1.2	12.7	4.76	5.16
		DNMG150602-TSF		●	0.2	12.7	6.35	5.16
		DNMG150604-TSF		●	0.4	12.7	6.35	5.16
		DNMG150608-TSF		●	0.8	12.7	6.35	5.16
		DNMG150612-TSF		●	1.2	12.7	6.35	5.16
	PS	DNMG110402E-PS		●	0.2	9.525	4.76	3.81
		DNMG110404E-PS		●	0.4	9.525	4.76	3.81
		DNMG110408E-PS		●	0.8	9.525	4.76	3.81
		DNMG150402-PS		●	0.2	12.7	4.76	5.16
		DNMG150404-PS		●	0.4	12.7	4.76	5.16
		DNMG150408-PS		●	0.8	12.7	4.76	5.16
		DNMG150412-PS		●	1.2	12.7	4.76	5.16
		DNMG150602-PS		●	0.2	12.7	6.35	5.16
		DNMG150604-PS		●	0.4	12.7	6.35	5.16
		DNMG150608-PS		●	0.8	12.7	6.35	5.16
		DNMG150612-PS		●	1.2	12.7	6.35	5.16
Finishing for mild steel	ZF	DNMG110402E-ZF		●	0.2	9.525	4.76	3.81
		DNMG110404E-ZF		●	0.4	9.525	4.76	3.81
		DNMG110408E-ZF		●	0.8	9.525	4.76	3.81
		DNMG150402-ZF		●	0.2	12.7	4.76	5.16
		DNMG150404-ZF		●	0.4	12.7	4.76	5.16
		DNMG150408-ZF		●	0.8	12.7	4.76	5.16
		DNMG150412-ZF		●	1.2	12.7	4.76	5.16
		DNMG150602-ZF		●	0.2	12.7	6.35	5.16
		DNMG150604-ZF		●	0.4	12.7	6.35	5.16
		DNMG150608-ZF		●	0.8	12.7	6.35	5.16
		DNMG150612-ZF		●	1.2	12.7	6.35	5.16

● : Line up

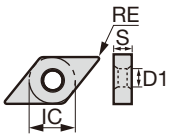
Insert NEGATIVE TYPE

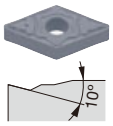
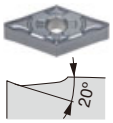
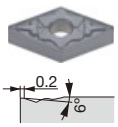
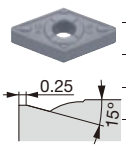
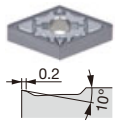
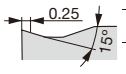
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

P	Steel	
M	Stainless	● ɔ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ɔ
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Finishing	TS	DNMG110402E-TS		●	0.2	9.525	4.76	3.81
		DNMG110404E-TS		●	0.4	9.525	4.76	3.81
		DNMG110408E-TS		●	0.8	9.525	4.76	3.81
		DNMG150402-TS		●	0.2	12.7	4.76	5.16
		DNMG150404-TS		●	0.4	12.7	4.76	5.16
		DNMG150408-TS		●	0.8	12.7	4.76	5.16
		DNMG150412-TS		●	1.2	12.7	4.76	5.16
		DNMG150602-TS		●	0.2	12.7	6.35	5.16
		DNMG150604-TS		●	0.4	12.7	6.35	5.16
		DNMG150608-TS		●	0.8	12.7	6.35	5.16
		DNMG150612-TS		●	1.2	12.7	6.35	5.16
	HRF	DNMG150404-HRF	●	●	0.4	12.7	4.76	5.16
		DNMG150408-HRF	●	●	0.8	12.7	4.76	5.16
		DNMG150604-HRF	●	●	0.4	12.7	6.35	5.16
		DNMG150608-HRF	●	●	0.8	12.7	6.35	5.16
Medium cutting	TM	DNMG150616-TM	●		1.6	12.7	6.35	5.16
								
	DM	DNMG150404-DM		●	0.4	12.7	4.76	5.16
		DNMG150408-DM		●	0.8	12.7	4.76	5.16
		DNMG150412-DM		●	1.2	12.7	4.76	5.16
		DNMG150416-DM		●	1.6	12.7	4.76	5.16
		DNMG150604-DM		●	0.4	12.7	6.35	5.16
		DNMG150608-DM		●	0.8	12.7	6.35	5.16
		DNMG150612-DM		●	1.2	12.7	6.35	5.16
		DNMG150616-DM		●	1.6	12.7	6.35	5.16
	SDM	DNMG150404-SDM	●	●	0.4	12.7	4.76	5.16
		DNMG150408-SDM	●	●	0.8	12.7	4.76	5.16
		DNMG150608-SDM	●	●	0.8	12.7	6.35	5.16
		DNMG150612-SDM	●	●	1.2	12.7	6.35	5.16
	HRM	DNMG150404-HRM	●	●	1.2	12.7	6.35	5.16
		DNMG150408-HRM	●	●	0.4	12.7	4.76	5.16
		DNMG150412-HRM	●	●	0.8	12.7	4.76	5.16
		DNMG150604-HRM	●	●	1.2	12.7	4.76	5.16
		DNMG150608-HRM	●	●	0.4	12.7	6.35	5.16
		DNMG150612-HRM	●	●	0.8	12.7	6.35	5.16

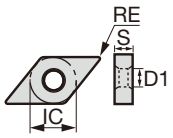
● : Line up

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

P	Steel	
M	Stainless	● ⓒ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ⓒ
H	Hard material	



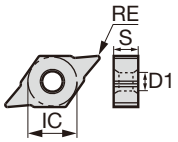
Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Medium cutting	28	DNMG150404-28	●	●	0.4	12.7	4.76	5.16
		DNMG150408-28	●	●	0.8	12.7	4.76	5.16
		DNMG150604-28	●	●	0.4	12.7	6.35	5.16
		DNMG150608-28	●	●	0.8	12.7	6.35	5.16
					0.8	12.7	4.76	5.16
Medium to heavy cutting	TH	DNMG150408-TH		●	1.2	12.7	4.76	5.16
		DNMG150412-TH		●	1.6	12.7	4.76	5.16

● : Line up

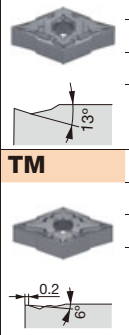
FN

Rhombic, 45° with hole

P	Steel	
M	Stainless	● ⓒ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ⓒ
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing	TSF	FNMG110402E-TSF		●	0.2	9.525	4.76	3.81
		FNMG110404E-TSF		●	0.4	9.525	4.76	3.81
		FNMG110408E-TSF		●	0.8	9.525	4.76	3.81
		FNMG110412E-TSF		●	1.2	9.525	4.76	3.81
Medium cutting	TM	FNMG110404E-TM		●	0.4	9.525	4.76	3.81
		FNMG110408E-TM		●	0.8	9.525	4.76	3.81
		FNMG110412E-TM		●	1.2	9.525	4.76	3.81



Make sure to offset the cutting edge position after insert change.
Please note that the insert shim may interfere with the workpiece when FNMG insert is used with Q-style toolholder to undercut a work diameter of 50 mm or smaller.

● : Line up

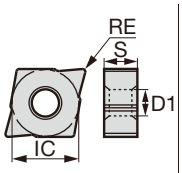
Insert NEGATIVE TYPE

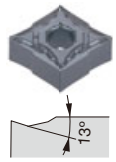
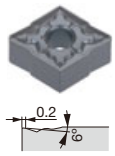
● : Continuous cutting
ᑕ : Light interrupted cutting
✣ : Heavy interrupted cutting

GN

Rhombic, 70° with hole

P	Steel		
M	Stainless	●	ᑕ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ᑕ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing	TSF	GNMG090402E-TSF		●	0.2	9.525	4.76	3.81
		GNMG090404E-TSF		●	0.4	9.525	4.76	3.81
		GNMG090408E-TSF		●	0.8	9.525	4.76	3.81
Medium cutting	TM	GNMG090404E-TM		●	0.4	9.525	4.76	3.81
		GNMG090408E-TM		●	0.8	9.525	4.76	3.81
		GNMG090412E-TM		●	1.2	9.525	4.76	3.81

Make sure to offset the cutting edge position after insert change.
Do not use ISO-EcoTurn cartridge set for CNMG09 (AD-CL-4/3-SET or -SET-S) with GNMG09 insert.
The insert may move during machining.

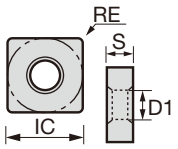
● : Line up

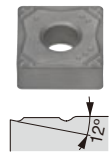
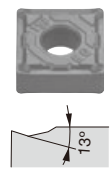
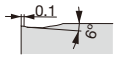
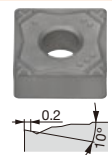
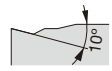
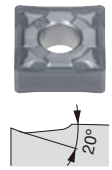
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

SN

Square with hole

P	Steel		
M	Stainless	●	ɔ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ɔ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Finishing	TF	SNMG120402-TF		●	0.2	12.7	4.76	5.16
		SNMG120404-TF		●	0.4	12.7	4.76	5.16
		SNMG120408-TF		●	0.8	12.7	4.76	5.16
								
	TSF	SNMG120402-TSF		●	0.2	12.7	4.76	5.16
		SNMG120404-TSF		●	0.4	12.7	4.76	5.16
		SNMG120408-TSF		●	0.8	12.7	4.76	5.16
		SNMG120412-TSF		●	1.2	12.7	4.76	5.16
								
	PS	SNMG120402-PS		●	0.2	12.7	4.76	5.16
		SNMG120404-PS		●	0.4	12.7	4.76	5.16
		SNMG120408-PS		●	0.8	12.7	4.76	5.16
		SNMG120412-PS		●	1.2	12.7	4.76	5.16
								
Finishing for mild steel	ZF	SNMG120402-ZF		●	0.2	12.7	4.76	5.16
		SNMG120404-ZF		●	0.4	12.7	4.76	5.16
		SNMG120408-ZF		●	0.8	12.7	4.76	5.16
		SNMG120412-ZF		●	1.2	12.7	4.76	5.16
								
Finishing	TS	SNMG120402-TS		●	0.2	12.7	4.76	5.16
		SNMG120404-TS		●	0.4	12.7	4.76	5.16
		SNMG120408-TS		●	0.8	12.7	4.76	5.16
		SNMG120412-TS		●	1.2	12.7	4.76	5.16
								
	HRF	SNMG120408-HRF	●	●	0.8	12.7	4.76	5.16
		SNMG120412-HRF	●	●	1.2	12.7	4.76	5.16
								

● : Line up

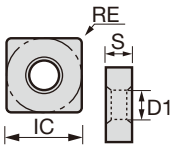
Insert NEGATIVE TYPE

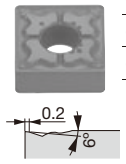
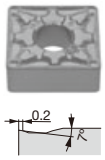
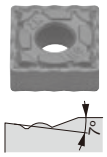
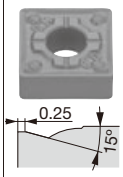
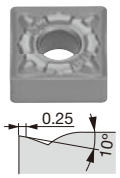
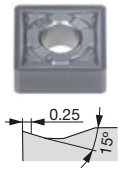
● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

SN

Square with hole

P	Steel		
M	Stainless	●	ⓒ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ⓒ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Medium cutting	TM	SNMG120404-TM		●	0.4	12.7	4.76	5.16
		SNMG120408-TM		●	0.8	12.7	4.76	5.16
		SNMG120412-TM		●	1.2	12.7	4.76	5.16
		SNMG120416-TM		●	1.6	12.7	4.76	5.16
								
	PM	SNMG120404-PM		●	0.4	12.7	4.76	5.16
		SNMG120408-PM		●	0.8	12.7	4.76	5.16
		SNMG120412-PM		●	1.2	12.7	4.76	5.16
		SNMG120416-PM		●	1.6	12.7	4.76	5.16
								
Medium cutting for mild steel	ZM	SNMG120404-ZM		●	0.4	12.7	4.76	5.16
		SNMG120408-ZM		●	0.8	12.7	4.76	5.16
		SNMG120412-ZM		●	1.2	12.7	4.76	5.16
		SNMG120416-ZM		●	1.6	12.7	4.76	5.16
								
Medium cutting	DM	SNMG120404-DM		●	0.4	12.7	4.76	5.16
		SNMG120408-DM		●	0.8	12.7	4.76	5.16
		SNMG120412-DM		●	1.2	12.7	4.76	5.16
		SNMG120416-DM		●	1.6	12.7	4.76	5.16
								
	SM	SNMG120408-SM		●	0.8	12.7	4.76	5.16
								
	HRM	SNMG120408-HRM	●	●	0.8	12.7	4.76	5.16
		SNMG120412-HRM	●	●	1.2	12.7	4.76	5.16
		SNMG150608-HRM	●	●	0.8	15.875	6.35	6.35
		SNMG150612-HRM	●	●	1.2	15.875	6.35	6.35
		SNMG190612-HRM	●	●	1.2	19.05	6.35	7.93
		SNMG190616-HRM	●	●	1.6	19.05	6.35	7.93
								

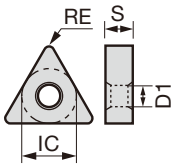
● : New product
● : Line up

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TN

Triangular with hole

P	Steel		
M	Stainless	●	ɔ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ɔ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing	TF	TNMG110402E-TF		●	0.2	6.35	4.76	2.26
		TNMG110404E-TF		●	0.4	6.35	4.76	2.26
		TNMG110408E-TF		●	0.8	6.35	4.76	2.26
		TNMG160402-TF		●	0.2	9.525	4.76	3.81
		TNMG160404-TF		●	0.4	9.525	4.76	3.81
		TNMG160408-TF		●	0.8	9.525	4.76	3.81
	TSF	TNMG110402E-TSF		●	0.2	6.35	4.76	2.26
		TNMG110404E-TSF		●	0.4	6.35	4.76	2.26
		TNMG110408E-TSF		●	0.8	6.35	4.76	2.26
		TNMG160402-TSF		●	0.2	9.525	4.76	3.81
		TNMG160404-TSF		●	0.4	9.525	4.76	3.81
		TNMG160408-TSF		●	0.8	9.525	4.76	3.81
		TNMG160412-TSF		●	1.2	9.525	4.76	3.81
	PS	TNMG110402E-PS		●	0.2	6.35	4.76	2.26
		TNMG110404E-PS		●	0.4	6.35	4.76	2.26
		TNMG110408E-PS		●	0.8	6.35	4.76	2.26
		TNMG160402-PS		●	0.2	9.525	4.76	3.81
		TNMG160404-PS		●	0.4	9.525	4.76	3.81
		TNMG160408-PS		●	0.8	9.525	4.76	3.81
		TNMG160412-PS		●	1.2	9.525	4.76	3.81
Finishing for mild steel	ZF	TNMG110402E-ZF		●	0.2	6.35	4.76	2.26
		TNMG110404E-ZF		●	0.4	6.35	4.76	2.26
		TNMG110408E-ZF		●	0.8	6.35	4.76	2.26
		TNMG160402-ZF		●	0.2	9.525	4.76	3.81
		TNMG160404-ZF		●	0.4	9.525	4.76	3.81
		TNMG160408-ZF		●	0.8	9.525	4.76	3.81
		TNMG160412-ZF		●	1.2	9.525	4.76	3.81
Finishing	TS	TNMG110402E-TS		●	0.2	6.35	4.76	2.26
		TNMG110404E-TS		●	0.4	6.35	4.76	2.26
		TNMG110408E-TS		●	0.8	6.35	4.76	2.26
		TNMG160402-TS		●	0.2	9.525	4.76	3.81
		TNMG160404-TS		●	0.4	9.525	4.76	3.81
		TNMG160408-TS		●	0.8	9.525	4.76	3.81
		TNMG160412-TS		●	1.2	9.525	4.76	3.81
	HRF	TNMG160404-HRF	●	●	0.4	9.525	4.76	3.81
		TNMG160408-HRF	●	●	0.8	9.525	4.76	3.81

● : Line up

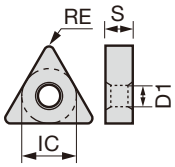
Insert NEGATIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TN

Triangular with hole

P	Steel		
M	Stainless	●	ɔ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ɔ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Medium cutting	TM	TNMG110404E-TM		●	0.4	6.35	4.76	2.26
		TNMG110408E-TM		●	0.8	6.35	4.76	2.26
		TNMG110412E-TM		●	1.2	6.35	4.76	2.26
		TNMG160404-TM		●	0.4	9.525	4.76	3.81
		TNMG160408-TM		●	0.8	9.525	4.76	3.81
		TNMG160412-TM		●	1.2	9.525	4.76	3.81
		TNMG160416-TM	●	●	1.6	9.525	4.76	3.81
	PM	TNMG110404E-PM		●	0.4	6.35	4.76	2.26
		TNMG110408E-PM		●	0.8	6.35	4.76	2.26
		TNMG110412E-PM		●	1.2	6.35	4.76	2.26
		TNMG160404-PM		●	0.4	9.525	4.76	3.81
		TNMG160408-PM		●	0.8	9.525	4.76	3.81
		TNMG160412-PM		●	1.2	9.525	4.76	3.81
		TNMG160416-PM		●	1.6	9.525	4.76	3.81
Medium cutting for mild steel	ZM	TNMG110404E-ZM		●	0.4	6.35	4.76	2.26
		TNMG110408E-ZM		●	0.8	6.35	4.76	2.26
		TNMG110412E-ZM		●	1.2	6.35	4.76	2.26
		TNMG160404-ZM		●	0.4	9.525	4.76	3.81
		TNMG160408-ZM		●	0.8	9.525	4.76	3.81
		TNMG160412-ZM		●	1.2	9.525	4.76	3.81
		TNMG160416-ZM		●	1.6	9.525	4.76	3.81
Medium cutting	DM	TNMG160404-DM		●	0.4	9.525	4.76	3.81
		TNMG160408-DM		●	0.8	9.525	4.76	3.81
		TNMG160412-DM		●	1.2	9.525	4.76	3.81
		TNMG160416-DM		●	1.6	9.525	4.76	3.81
	SM	TNMG160404-SM		●	0.4	9.525	4.76	3.81
		TNMG160408-SM		●	0.8	9.525	4.76	3.81
	HRM	TNMG160404-HRM	●	●	0.4	9.525	4.76	3.81
		TNMG160408-HRM	●	●	0.8	9.525	4.76	3.81
		TNMG160412-HRM	●	●	1.2	9.525	4.76	3.81

● : New product
● : Line up

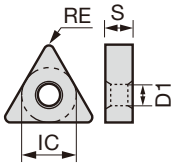
Insert NEGATIVE TYPE

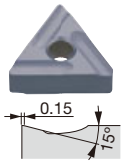
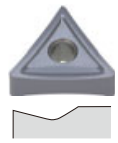
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

TN

Triangular with hole

P	Steel	
M	Stainless	● ɔ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ɔ
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Medium cutting	**S**	**TNMG160404R-S**		●	0.4	9.525	4.76	3.81
		TNMG160408R-S		●	0.8	9.525	4.76	3.81
	28	**TNMG160404-28**	●	●	0.4	9.525	4.76	3.81
		TNMG160408-28	●	●	0.8	9.525	4.76	3.81

● : New product
● : Line up

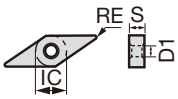
Insert NEGATIVE TYPE

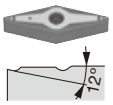
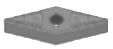
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

VN

Rhombic, 35° with hole

P	Steel	
M	Stainless	● ɔ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ɔ
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing	TF	VNMG120402E-TF		●	0.2	7.15	4.76	3.81
		VNMG120404E-TF		●	0.4	7.15	4.76	3.81
		VNMG120408E-TF		●	0.8	7.15	4.76	3.81
		VNMG160402-TF		●	0.2	9.525	4.76	3.81
		VNMG160404-TF		●	0.4	9.525	4.76	3.81
		VNMG160408-TF		●	0.8	9.525	4.76	3.81
	TSF	VNMG120402E-TSF		●	0.2	7.15	4.76	3.81
		VNMG120404E-TSF		●	0.4	7.15	4.76	3.81
		VNMG120408E-TSF		●	0.8	7.15	4.76	3.81
		VNMG160402-TSF		●	0.2	9.525	4.76	3.81
		VNMG160404-TSF		●	0.4	9.525	4.76	3.81
		VNMG160408-TSF		●	0.8	9.525	4.76	3.81
		VNMG160412-TSF		●	1.2	9.525	4.76	3.81
	PS	VNMG120402E-PS		●	0.2	7.15	4.76	3.81
		VNMG120404E-PS		●	0.4	7.15	4.76	3.81
		VNMG120408E-PS		●	0.8	7.15	4.76	3.81
		VNMG160402-PS		●	0.2	9.525	4.76	3.81
		VNMG160404-PS		●	0.4	9.525	4.76	3.81
		VNMG160408-PS		●	0.8	9.525	4.76	3.81
		VNMG160412-PS		●	1.2	9.525	4.76	3.81
Finishing for mild steel	ZF	VNMG120402E-ZF		●	0.2	7.15	4.76	3.81
		VNMG120404E-ZF		●	0.4	7.15	4.76	3.81
		VNMG120408E-ZF		●	0.8	7.15	4.76	3.81
		VNMG160402-ZF		●	0.25	9.525	4.76	3.81
		VNMG160404-ZF		●	0.4	9.525	4.76	3.81
		VNMG160408-ZF		●	0.8	9.525	4.76	3.81
		VNMG160412-ZF		●	1.2	9.525	4.76	3.81
Finishing	TS	VNMG120402E-TS		●	0.2	7.15	4.76	3.81
		VNMG120404E-TS		●	0.4	7.15	4.76	3.81
		VNMG120408E-TS		●	0.8	7.15	4.76	3.81
		VNMG160402-TS		●	0.2	9.525	4.76	3.81
		VNMG160404-TS		●	0.4	9.525	4.76	3.81
		VNMG160408-TS		●	0.8	9.525	4.76	3.81
		VNMG160412-TS		●	1.2	9.525	4.76	3.81
	HRF	VNMG160404-HRF	●	●	0.4	9.525	4.76	3.81
		VNMG160408-HRF	●	●	0.8	9.525	4.76	3.81
								

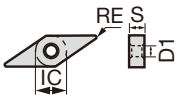
● : Line up

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

VN

Rhombic, 35° with hole

P	Steel	●	ⓒ
M	Stainless	●	ⓒ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ⓒ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Medium cutting	TM	VNMG120404E-TM		●	0.4	7.15	4.76	3.81
		VNMG120408E-TM		●	0.8	7.15	4.76	3.81
		VNMG120412E-TM		●	1.2	7.15	4.76	3.81
		VNMG160404-TM		●	0.4	9.525	4.76	3.81
		VNMG160408-TM		●	0.8	9.525	4.76	3.81
		VNMG160412-TM		●	1.2	9.525	4.76	3.81
	PM	VNMG120404E-PM		●	0.4	7.15	4.76	3.81
		VNMG120408E-PM		●	0.8	7.15	4.76	3.81
		VNMG120412E-PM		●	1.2	7.15	4.76	3.81
		VNMG160404-PM		●	0.4	9.525	4.76	3.81
		VNMG160408-PM		●	0.8	9.525	4.76	3.81
		VNMG160412-PM		●	1.2	9.525	4.76	3.81
Medium cutting for mild steel	ZM	VNMG120404E-ZM		●	0.4	7.15	4.76	3.81
		VNMG120408E-ZM		●	0.8	7.15	4.76	3.81
		VNMG120412E-ZM		●	1.2	7.15	4.76	3.81
		VNMG160404-ZM		●	0.4	9.525	4.76	3.81
		VNMG160408-ZM		●	0.8	9.525	4.76	3.81
		VNMG160412-ZM		●	1.2	9.525	4.76	3.81
Medium cutting	DM	VNMG160404-DM		●	0.8	9.525	4.76	3.81
		VNMG160408-DM		●	0.8	9.525	4.76	3.81
		VNMG160412-DM		●	1.2	9.525	4.76	3.81
	HRM	VNMG160404-HRM	●	●	0.4	9.525	4.76	3.81
		VNMG160408-HRM	●	●	0.8	9.525	4.76	3.81
		VNMG160412-HRM	●	●	1.2	9.525	4.76	3.81
	28	VNMG160404-28	●	●	0.4	9.525	4.76	3.81
		VNMG160408-28	●	●	0.8	9.525	4.76	3.81

● : Line up

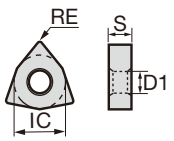
Insert NEGATIVE TYPE

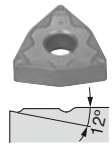
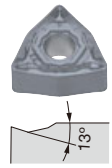
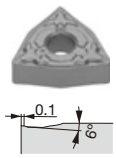
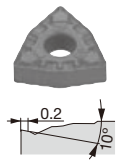
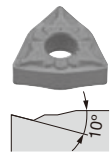
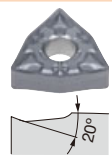
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

WN

Trigon, 80° with hole

P	Steel		
M	Stainless	●	ɔ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ɔ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Finishing	TF	WNMG060402E-TF		●	0.2	9.525	4.76	3.81
		WNMG060404E-TF		●	0.4	9.525	4.76	3.81
		WNMG060408E-TF		●	0.8	9.525	4.76	3.81
		WNMG080402-TF		●	0.2	12.7	4.76	5.16
		WNMG080404-TF		●	0.4	12.7	4.76	5.16
		WNMG080408-TF		●	0.8	12.7	4.76	5.16
	TSF	WNMG060402E-TSF		●	0.2	9.525	4.76	3.81
		WNMG060404E-TSF		●	0.4	9.525	4.76	3.81
		WNMG060408E-TSF		●	0.8	9.525	4.76	3.81
		WNMG060412E-TSF		●	1.2	9.525	4.76	3.81
		WNMG080402-TSF		●	0.2	12.7	4.76	5.16
		WNMG080404-TSF		●	0.4	12.7	4.76	5.16
		WNMG080408-TSF		●	0.8	12.7	4.76	5.16
		WNMG080412-TSF		●	1.2	12.7	4.76	5.16
Finishing	PS	WNMG060402E-PS		●	0.2	9.525	4.76	3.81
		WNMG060404E-PS		●	0.4	9.525	4.76	3.81
		WNMG060408E-PS		●	0.8	9.525	4.76	3.81
		WNMG080402-PS		●	0.2	12.7	4.76	5.16
		WNMG080404-PS		●	0.4	12.7	4.76	5.16
		WNMG080408-PS		●	0.8	12.7	4.76	5.16
		WNMG080412-PS		●	1.2	12.7	4.76	5.16
Finishing for mild steel	ZF	WNMG060402E-ZF		●	0.2	9.525	4.76	3.81
		WNMG060404E-ZF		●	0.4	9.525	4.76	3.81
		WNMG060408E-ZF		●	0.8	9.525	4.76	3.81
		WNMG080402-ZF		●	0.2	12.7	4.76	5.16
		WNMG080404-ZF		●	0.4	12.7	4.76	5.16
		WNMG080408-ZF		●	0.8	12.7	4.76	5.16
		WNMG080412-ZF		●	1.2	12.7	4.76	5.16
Finishing	TS	WNMG060402E-TS		●	0.2	9.525	4.76	3.81
		WNMG060404E-TS		●	0.4	9.525	4.76	3.81
		WNMG060408E-TS		●	0.8	9.525	4.76	3.81
		WNMG080402-TS		●	0.2	12.7	4.76	5.16
		WNMG080404-TS		●	0.4	12.7	4.76	5.16
		WNMG080408-TS		●	0.8	12.7	4.76	5.16
		WNMG080412-TS		●	1.2	12.7	4.76	5.16
	HRF	WNMG080404-HRF	●	●	0.4	12.7	4.76	5.16
		WNMG080408-HRF	●	●	0.8	12.7	4.76	5.16

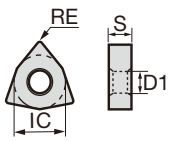
● : Line up

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

WN

Trigon, 80° with hole

P	Steel		
M	Stainless	●	ⓒ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ⓒ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Medium cutting	TM	WNMG060404E-TM		●	0.4	9.525	4.76	3.81
		WNMG060408E-TM		●	0.8	9.525	4.76	3.81
		WNMG060412E-TM		●	1.2	9.525	4.76	3.81
		WNMG080404-TM		●	0.4	12.7	4.76	5.16
		WNMG080408-TM		●	0.8	12.7	4.76	5.16
		WNMG080412-TM		●	1.2	12.7	4.76	5.16
		WNMG080416-TM		●	1.6	12.7	4.76	5.16
	PM	WNMG060404E-PM		●	0.4	9.525	4.76	3.81
		WNMG060408E-PM		●	0.8	9.525	4.76	3.81
		WNMG060412E-PM		●	1.2	9.525	4.76	3.81
		WNMG080404-PM		●	0.4	12.7	4.76	5.16
		WNMG080408-PM		●	0.8	12.7	4.76	5.16
		WNMG080412-PM		●	1.2	12.7	4.76	5.16
		WNMG080416-PM		●	1.6	12.7	4.76	5.16
Medium cutting for mild steel	ZM	WNMG060404E-ZM		●	0.4	9.525	4.76	3.81
		WNMG060408E-ZM		●	0.8	9.525	4.76	3.81
		WNMG060412E-ZM		●	1.2	9.525	4.76	3.81
		WNMG080404-ZM		●	0.4	12.7	4.76	5.16
		WNMG080408-ZM		●	0.8	12.7	4.76	5.16
		WNMG080412-ZM		●	1.2	12.7	4.76	5.16
		WNMG080416-ZM		●	1.6	12.7	4.76	5.16
Medium cutting	DM	WNMG080404-DM		●	0.4	12.7	4.76	5.16
		WNMG080408-DM		●	0.8	12.7	4.76	5.16
		WNMG080412-DM		●	1.2	12.7	4.76	5.16
		WNMG080416-DM		●	1.6	12.7	4.76	5.16
Medium cutting	SM	WNMG080408-SM		●	0.8	12.7	4.76	5.16
		WNMG080412-SM		●	1.2	12.7	4.76	5.16

● : New product
● : Line up

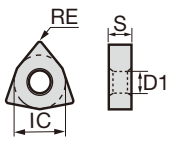
Insert NEGATIVE TYPE

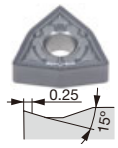
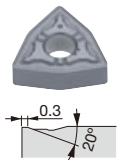
● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

WN

Trigon, 80° with hole

P	Steel	
M	Stainless	● ⓒ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ⓒ
H	Hard material	



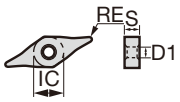
Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Medium cutting	HRM	WNMG080404-HRM	●	●	0.4	12.7	4.76	5.16
		WNMG080408-HRM	●	●	0.8	12.7	4.76	5.16
		WNMG080412-HRM	●	●	1.2	12.7	4.76	5.16
Medium to heavy cutting	TH	WNMG080408-TH		●	0.8	12.7	4.76	5.16
		WNMG080412-TH		●	1.2	12.7	4.76	5.16
		WNMG080416-TH		●	1.6	12.7	4.76	5.16

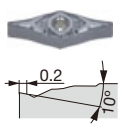
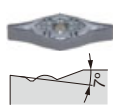
● : Line up

YN

Rhombic, 25° with hole

P	Steel	
M	Stainless	● ⓒ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ⓒ
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing for mild steel	ZF	YNMG160402-ZF		●	0.2	9.525	4.76	3.81
		YNMG160404-ZF		●	0.4	9.525	4.76	3.81
		YNMG160408-ZF		●	0.8	9.525	4.76	3.81
Medium cutting for mild steel	ZM	YNMG160404-ZM		●	0.4	9.525	4.76	3.81
		YNMG160408-ZM		●	0.8	9.525	4.76	3.81

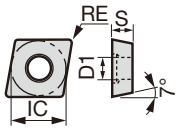
● : Line up

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

CC

Rhombic, 80° with hole Positive 7°

P	Steel	
M	Stainless	● ⓒ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ⓒ
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing	JS	CCGT060201M-JS		●	<0.1	6.35	2.38	2.8
		CCGT060202M-JS		●	<0.2	6.35	2.38	2.8
		CCGT060204M-JS		●	<0.4	6.35	2.38	2.8
		CCGT09T301M-JS		●	<0.1	9.525	3.97	4.4
		CCGT09T302M-JS		●	<0.2	9.525	3.97	4.4
		CCGT09T304M-JS		●	<0.4	9.525	3.97	4.4
	PSF	CCMT060202-PSF		●	0.2	6.35	2.38	2.8
		CCMT060204-PSF	●	●	0.4	6.35	2.38	2.8
		CCMT09T302-PSF		●	0.2	9.525	3.97	4.4
		CCMT09T304-PSF	●	●	0.4	9.525	3.97	4.4
		CCMT09T308-PSF		●	0.8	9.525	3.97	4.4
	TSF	CCMT060202-TSF		●	0.2	6.35	2.38	2.8
		CCMT060204-TSF		●	0.4	6.35	2.38	2.8
		CCMT060208-TSF		●	0.8	6.35	2.38	2.8
		CCMT09T302-TSF		●	0.2	9.525	3.97	4.4
		CCMT09T304-TSF		●	0.4	9.525	3.97	4.4
		CCMT09T308-TSF		●	0.8	9.525	3.97	4.4
Finishing to medium cutting	PSS	CCMT060204-PSS	●	●	0.4	6.35	2.38	2.8
		CCMT060208-PSS	●	●	0.8	6.35	2.38	2.8
		CCMT09T304-PSS	●	●	0.4	9.525	3.97	4.4
		CCMT09T308-PSS	●	●	0.8	9.525	3.97	4.4
	PS	CCMT060202-PS	●	●	0.2	6.35	2.38	2.8
		CCMT060204-PS	●	●	0.4	6.35	2.38	2.8
		CCMT060208-PS	●	●	0.8	6.35	2.38	2.8
		CCMT09T302-PS	●	●	0.2	9.525	3.97	4.4
		CCMT09T304-PS	●	●	0.4	9.525	3.97	4.4
		CCMT09T308-PS	●	●	0.8	9.525	3.97	4.4
		CCMT120404-PS	●	●	0.4	12.7	4.76	5.5
		CCMT120408-PS	●	●	0.8	12.7	4.76	5.5

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New product
● : Line up

Tolerance

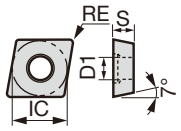
Insert POSITIVE TYPE

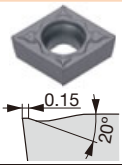
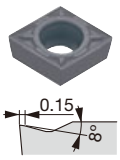
● : Continuous cutting
c : Light interrupted cutting
✣ : Heavy interrupted cutting

CC

Rhombic, 80° with hole Positive 7°

P	Steel	
M	Stainless	● c
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● c
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Finishing to medium cutting	TM	CCMT060202-TM		●	0.2	6.35	2.38	2.8
		CCMT060204-TM		●	0.4	6.35	2.38	2.8
		CCMT060208-TM		●	0.8	6.35	2.38	2.8
		CCMT09T302-TM		●	0.2	9.525	3.97	4.4
		CCMT09T304-TM		●	0.4	9.525	3.97	4.4
		CCMT09T308-TM		●	0.8	9.525	3.97	4.4
Medium cutting	PM	CCMT060204-PM		●	0.4	6.35	2.38	2.8
		CCMT060208-PM		●	0.8	6.35	2.38	2.8
		CCMT09T304-PM		●	0.4	9.525	3.97	4.4
		CCMT09T308-PM		●	0.8	9.525	3.97	4.4
		CCMT09T312-PM		●	1.2	9.525	3.97	4.4
		CCMT120408-PM		●	0.8	12.7	4.76	5.5

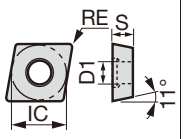
● : New product
● : Line up

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CP

Rhombic, 80° with hole Positive 11°

P	Steel	
M	Stainless	● ɔ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ɔ
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing	PSF	CPMT080202-PSF		●	0.2	7.94	2.38	3.4
		CPMT080204-PSF		●	0.4	7.94	2.38	3.4
		CPMT090302-PSF		●	0.2	9.525	3.18	4.4
		CPMT090304-PSF		●	0.4	9.525	3.18	4.4
	TSF	CPMT060202-TSF		●	0.2	6.35	2.38	2.8
		CPMT060204-TSF		●	0.4	6.35	2.38	2.8
		CPMT060208-TSF		●	0.8	6.35	2.38	2.8
		CPMT09T302-TSF		●	0.2	9.525	3.97	4.4
		CPMT09T304-TSF		●	0.4	9.525	3.97	4.4
		CPMT09T308-TSF		●	0.8	9.525	3.97	4.4
Finishing to medium cutting	PSS	CPMT060204-PSS		●	0.4	6.35	2.38	2.8
		CPMT080204-PSS		●	0.4	7.94	2.38	3.4
		CPMT080208-PSS		●	0.8	7.94	2.38	3.4
		CPMT090304-PSS		●	0.4	9.525	3.18	4.4
		CPMT090308-PSS		●	0.8	9.525	3.18	4.4
		CPMT09T304-PSS		●	0.4	9.525	3.97	4.4
		CPMT09T308-PSS		●	0.8	9.525	3.97	4.4
	PS	CPMT060202-PS	●	●	0.2	6.35	2.38	2.8
		CPMT060204-PS	●	●	0.4	6.35	2.38	2.8
		CPMT060208-PS		●	0.8	6.35	2.38	2.8
		CPMT080202-PS		●	0.2	7.94	2.38	3.4
		CPMT080204-PS		●	0.4	7.94	2.38	3.4
		CPMT080208-PS		●	0.8	7.94	2.38	3.4
		CPMT090304-PS		●	0.4	9.525	3.18	4.4
		CPMT090308-PS		●	0.8	9.525	3.18	4.4
		CPMT09T302-PS	●	●	0.2	9.525	3.97	4.4
		CPMT09T304-PS	●	●	0.4	9.525	3.97	4.4
		CPMT09T308-PS	●	●	0.8	9.525	3.97	4.4
	TM	CPMT060202-TM		●	0.2	6.35	2.38	2.8
		CPMT060204-TM		●	0.4	6.35	2.38	2.8
		CPMT060208-TM		●	0.8	6.35	2.38	2.8
		CPMT09T302-TM		●	0.2	9.525	3.97	4.4
		CPMT09T304-TM		●	0.4	9.525	3.97	4.4
		CPMT09T308-TM		●	0.8	9.525	3.97	4.4

● : New product
● : Line up

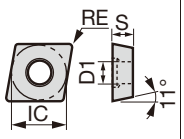
Insert POSITIVE TYPE

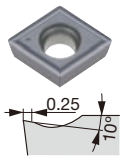
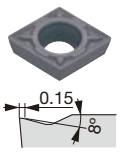
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CP

Rhombic, 80° with hole Positive 11°

P	Steel	
M	Stainless	● ɔ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ɔ
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Finishing to medium cutting	**All-round**	**CPMT120408**	●	●	0.8	12.7	4.76	5.5
								
Medium cutting	**PM**	**CPMT060204-PM**	●		0.4	6.35	2.38	2.8
		CPMT060208-PM	●		0.8	6.35	2.38	2.8
		CPMT090304-PM	●		0.4	9.525	3.18	4.4
		CPMT090308-PM	●		0.8	9.525	3.18	4.4
								

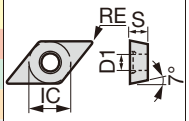
● : New product
● : Line up

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

DC

Rhombic, 55°
with hole
Positive 7°

P	Steel		
M	Stainless	●	ⓒ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ⓒ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing	JS	DCGT070201M-JS		●	<0.1	6.35	2.38	2.8
		DCGT070202M-JS		●	<0.2	6.35	2.38	2.8
		DCGT11T301M-JS		●	<0.1	9.525	3.97	4.4
		DCGT11T302M-JS		●	<0.2	9.525	3.97	4.4
		DCGT11T304M-JS		●	<0.4	9.525	3.97	4.4
	PSF	DCMT070202-PSF		●	0.2	6.35	2.38	2.8
		DCMT070204-PSF		●	0.4	6.35	2.38	2.8
		DCMT11T302-PSF		●	0.2	9.525	3.97	4.4
		DCMT11T304-PSF	●	●	0.4	9.525	3.97	4.4
		DCMT11T308-PSF	●	●	0.8	9.525	3.97	4.4
	TSF	DCMT070202-TSF		●	0.2	6.35	2.38	2.8
		DCMT070204-TSF		●	0.4	6.35	2.38	2.8
		DCMT070208-TSF		●	0.8	6.35	2.38	2.8
		DCMT11T302-TSF		●	0.2	9.525	3.97	4.4
		DCMT11T304-TSF		●	0.4	9.525	3.97	4.4
		DCMT11T308-TSF		●	0.8	9.525	3.97	4.4
Finishing to medium cutting	PSS	DCMT070204-PSS		●	0.4	6.35	2.38	2.8
		DCMT070208-PSS		●	0.8	6.35	2.38	2.8
		DCMT11T304-PSS	●	●	0.4	9.525	3.97	4.4
		DCMT11T308-PSS	●	●	0.8	9.525	3.97	4.4
		DCMT11T312-PSS	●	●	1.2	9.525	3.97	4.4
	PS	DCMT070202-PS	●	●	0.2	6.35	2.38	2.8
		DCMT070204-PS	●	●	0.4	6.35	2.38	2.8
		DCMT070208-PS	●	●	0.8	6.35	2.38	2.8
		DCMT11T302-PS	●	●	0.2	9.525	3.97	4.4
		DCMT11T304-PS	●	●	0.4	9.525	3.97	4.4
		DCMT11T308-PS	●	●	0.8	9.525	3.97	4.4
		DCMT11T312-PS	●	●	1.2	9.525	3.97	4.4
	TM	DCMT070202-TM		●	0.2	6.35	2.38	2.8
		DCMT070204-TM		●	0.4	6.35	2.38	2.8
		DCMT070208-TM		●	0.8	6.35	2.38	2.8
		DCMT11T302-TM		●	0.2	9.525	3.97	4.4
		DCMT11T304-TM		●	0.4	9.525	3.97	4.4
		DCMT11T308-TM		●	0.8	9.525	3.97	4.4
Medium cutting	PM	DCMT070204-PM		●	0.4	6.35	2.38	2.8
		DCMT070208-PM		●	0.8	6.35	2.38	2.8
		DCMT11T304-PM		●	0.4	9.525	3.97	4.4
		DCMT11T308-PM		●	0.8	9.525	3.97	4.4

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New product
● : Line up

Tolerance

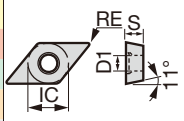
Insert POSITIVE TYPE

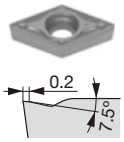
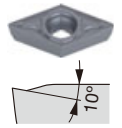
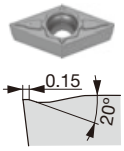
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

DP

Rhombic, 55° with hole Positive 11°

P	Steel	●	ɔ
M	Stainless	●	ɔ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ɔ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Finishing	TSF	DPMT070202-TSF		●	0.2	6.35	2.38	2.8
		DPMT070204-TSF		●	0.4	6.35	2.38	2.8
		DPMT070208-TSF		●	0.8	6.35	2.38	2.8
		DPMT11T302-TSF		●	0.2	9.525	3.97	4.4
		DPMT11T304-TSF		●	0.4	9.525	3.97	4.4
		DPMT11T308-TSF		●	0.8	9.525	3.97	4.4
Finishing to medium cutting	PS	DPMT070202-PS		●	0.2	6.35	2.38	2.8
		DPMT070204-PS		●	0.4	6.35	2.38	2.8
		DPMT070208-PS		●	0.8	6.35	2.38	2.8
		DPMT11T302-PS		●	0.2	9.525	3.97	4.4
		DPMT11T304-PS		●	0.4	9.525	3.97	4.4
		DPMT11T308-PS		●	0.8	9.525	3.97	4.4
	TM	DPMT070202-TM		●	0.2	6.35	2.38	2.8
		DPMT070204-TM		●	0.4	6.35	2.38	2.8
		DPMT070208-TM		●	0.8	6.35	2.38	2.8
		DPMT11T302-TM		●	0.2	9.525	3.97	4.4
		DPMT11T304-TM		●	0.4	9.525	3.97	4.4
		DPMT11T308-TM		●	0.8	9.525	3.97	4.4

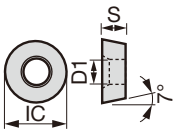
● : Line up

● : Continuous cutting
c : Light interrupted cutting
✣ : Heavy interrupted cutting

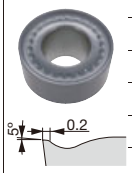
RC

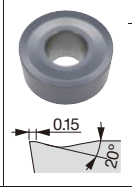
Round, with hole
Positive 7°

P	Steel		
M	Stainless	●	c
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	c
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Finishing	RS	RCMT0602M0-RS	●	●	-	6	2.38	2.8
		RCMT0803M0-RS	●	●	-	8	3.18	3.4
		RCMT10T3M0-RS	●	●	-	10	3.97	4.4
		RCMT1204M0-RS	●	●	-	12	4.76	4.4
		RCMT1606M0-RS	●	●	-	16	6.35	5.5
		RCMT2006M0-RS	●	●	-	20	6.35	6.5
		RCMT2507M0-RS	●	●	-	25	7.94	7.6
Heavy cutting	61	RCMM1003M0-61	●	●	-	10	3.18	3.6
		RCMM1204M0-61	●	●	-	12	4.76	4.2





● : Line up

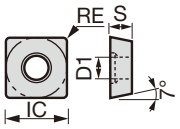
Insert POSITIVE TYPE

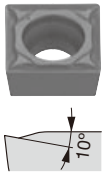
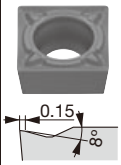
● : Continuous cutting
c : Light interrupted cutting
✣ : Heavy interrupted cutting

SC

Square with hole Positive 7°

P	Steel	
M	Stainless	● c
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● c
H	Hard material	



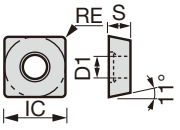
Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing to medium cutting	PS	SCMT09T304-PS		●	0.4	9.525	3.97	4.4
		SCMT09T308-PS		●	0.8	9.525	3.97	4.4
		SCMT120404-PS		●	0.4	12.7	4.76	5.5
		SCMT120408-PS		●	0.8	12.7	4.76	5.5
Medium cutting	PM	SCMT09T304-PM		●	0.4	9.525	3.97	4.4
		SCMT09T308-PM		●	0.8	9.525	3.97	4.4
		SCMT120408-PM		●	0.8	12.7	4.76	5.5
		SCMT120412-PM		●	1.2	12.7	4.76	5.5

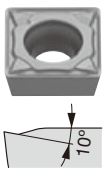
● : New product

SP

Square with hole Positive 11°

P	Steel	
M	Stainless	● c
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● c
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing to medium cutting	PS	SPMT090304-PS		●	0.4	9.525	3.18	4.4
		SPMT090308-PS		●	0.8	9.525	3.18	4.4
		SPMT120404-PS		●	0.4	12.7	4.76	5.5
		SPMT120408-PS		●	0.8	12.7	4.76	5.5

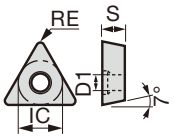
● : New product

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

TC

Triangular with hole Positive 7°

P	Steel		
M	Stainless	●	ⓒ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ⓒ
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing	JS	TCGT110201M-JS		●	<0.1	6.35	2.38	2.8
		TCGT110202M-JS		●	<0.2	6.35	2.38	2.8
		TCGT110204M-JS		●	<0.4	6.35	2.38	2.8
	PSF	TCMT090202-PSF		●	0.2	5.56	2.38	2.5
		TCMT090204-PSF		●	0.4	5.56	2.38	2.5
		TCMT110202-PSF		●	0.2	6.35	2.38	2.8
		TCMT110204-PSF		●	0.4	6.35	2.38	2.8
		TCMT110302-PSF		●	0.2	6.35	3.18	2.8
		TCMT110304-PSF		●	0.4	6.35	3.18	2.8
		TCMT16T304-PSF		●	0.4	9.525	3.97	4.4
	TSF	TCMT110204-TSF		●	0.4	6.35	2.38	2.8
		TCMT110208-TSF		●	0.8	6.35	2.38	2.8
		TCMT110302-TSF		●	0.2	6.35	3.18	2.8
		TCMT110304-TSF		●	0.4	6.35	3.18	2.8
		TCMT110308-TSF		●	0.8	6.35	3.18	2.8
		TCMT16T304-TSF		●	0.4	9.525	3.97	4.4
		TCMT16T308-TSF		●	0.8	9.525	3.97	4.4
	PSS	TCMT090204-PSS		●	0.4	5.56	2.38	2.5
		TCMT090208-PSS		●	0.8	5.56	2.38	2.5
		TCMT110204-PSS		●	0.4	6.35	2.38	2.8
		TCMT110208-PSS		●	0.8	6.35	2.38	2.8
		TCMT110304-PSS		●	0.4	6.35	3.18	2.8
		TCMT110308-PSS		●	0.8	6.35	3.18	2.8
		TCMT16T304-PSS		●	0.4	9.525	3.97	4.4
		TCMT16T308-PSS		●	0.8	9.525	3.97	4.4
	PS	TCMT090204-PS		●	0.4	5.56	2.38	2.5
		TCMT090208-PS		●	0.8	5.56	2.38	2.5
		TCMT110202-PS		●	0.2	6.35	2.38	2.8
		TCMT110204-PS		●	0.4	6.35	2.38	2.8
		TCMT110208-PS		●	0.8	6.35	2.38	2.8
		TCMT110302-PS		●	0.2	6.35	3.18	2.8
		TCMT110304-PS		●	0.4	6.35	3.18	2.8
		TCMT110308-PS		●	0.8	6.35	3.18	2.8
		TCMT16T302-PS		●	0.2	9.525	3.97	4.4
		TCMT16T304-PS		●	0.4	9.525	3.97	4.4
		TCMT16T308-PS		●	0.8	9.525	3.97	4.4

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New product
● : Line up

Tolerance

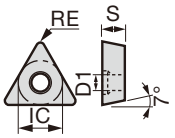
Insert POSITIVE TYPE

● : Continuous cutting
c : Light interrupted cutting
✣ : Heavy interrupted cutting

TC

Triangular with hole Positive 7°

P	Steel					c✣	c	●c	●c	●c		●c				●c	●c			●									
M	Stainless	●	c			●c	c	●c	●c	●c										●									
K	Cast iron						c					●c				●c	●c			●									
N	Non-ferrous																			●									
S	Superalloy	●	c				●		●c																				
H	Hard material																												



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Finishing	TM	TCMT110204-TM		●	0.4	6.35	2.38	2.8
		TCMT11020**8-TM**		●	0.8	6.35	2.38	2.8
		TCMT110302-TM		●	0.2	6.35	3.18	2.8
		TCMT11030**4-TM**		●	0.4	6.35	3.18	2.8
		TCMT11030**8-TM**		●	0.8	6.35	3.18	2.8
		TCMT16T304-TM		●	0.4	9.525	3.97	4.4
		TCMT16T3**08-TM**		●	0.8	9.525	3.97	4.4
Medium cutting	PM	TCMT110202-PM		●	0.2	6.35	2.38	2.8
		TCMT11020**4-PM**		●	0.4	6.35	2.38	2.8
		TCMT11020**8-PM**		●	0.8	6.35	2.38	2.8
		TCMT16T304-PM		●	0.4	9.525	3.97	4.4
		TCMT16T3**08-PM**		●	0.8	9.525	3.97	4.4
		TCMT16T3**12-PM**		●	1.2	9.525	3.97	4.4

● : New product
● : Line up

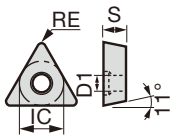
Insert POSITIVE TYPE

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

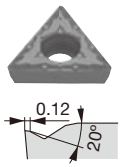
TP

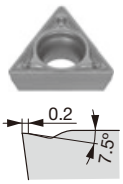
Triangular with hole Positive 11°

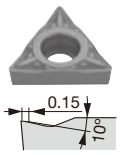
P	Steel		
M	Stainless	●	ɔ
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	ɔ
H	Hard material		

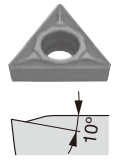


Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
					Dimension (mm)			
Finishing	PSF	TPMT090202-PSF		●	0.2	5.56	2.38	2.5
		TPMT090204-PSF		●	0.4	5.56	2.38	2.5
		TPMT110202-PSF		●	0.2	6.35	2.38	2.8
		TPMT110204-PSF		●	0.4	6.35	2.38	2.8
		TPMT110302-PSF		●	0.2	6.35	3.18	3.4
		TPMT110304-PSF		●	0.4	6.35	3.18	3.4
		TPMT130304-PSF		●	0.4	7.94	3.18	3.4
		TPMT16T304-PSF		●	0.4	9.525	3.97	4.4
	TSF	TPMT110302-TSF		●	0.2	6.35	3.18	3.4
		TPMT110304-TSF		●	0.4	6.35	3.18	3.4
		TPMT110308-TSF		●	0.8	6.35	3.18	3.4
Finishing to medium cutting	PSS	TPMT090204-PSS		●	0.4	5.56	2.38	2.5
		TPMT090208-PSS		●	0.8	5.56	2.38	2.5
		TPMT110204-PSS		●	0.4	6.35	2.38	2.8
		TPMT110208-PSS		●	0.8	6.35	2.38	2.8
		TPMT110304-PSS		●	0.4	6.35	3.18	3.4
		TPMT110308-PSS		●	0.8	6.35	3.18	3.4
		TPMT130304-PSS		●	0.4	7.94	3.18	3.4
		TPMT130308-PSS		●	0.8	7.94	3.18	3.4
		TPMT16T304-PSS		●	0.4	9.525	3.97	4.4
		TPMT16T308-PSS		●	0.8	9.525	3.97	4.4
	PS	TPMT090202-PS		●	0.2	5.56	2.38	2.5
		TPMT090204-PS		●	0.4	5.56	2.38	2.5
		TPMT090208-PS		●	0.8	5.56	2.38	2.5
		TPMT110202-PS		●	0.2	6.35	2.38	2.8
		TPMT110204-PS		●	0.4	6.35	2.38	2.8
		TPMT110208-PS		●	0.8	6.35	2.38	2.8
		TPMT110302-PS		●	0.2	6.35	3.18	3.4
		TPMT110304-PS		●	0.4	6.35	3.18	3.4
		TPMT110308-PS	●	●	0.8	6.35	3.18	3.4
		TPMT130302-PS		●	0.2	7.94	3.18	3.4
		TPMT130304-PS		●	0.4	7.94	3.18	3.4
		TPMT130308-PS		●	0.8	7.94	3.18	3.4
		TPMT16T304-PS		●	0.4	9.525	3.97	4.4
		TPMT16T308-PS		●	0.8	9.525	3.97	4.4









*Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New product
● : Line up

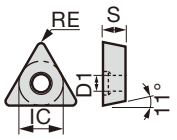
Insert POSITIVE TYPE

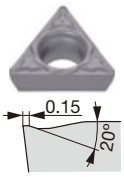
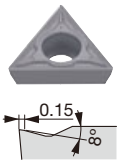
● : Continuous cutting
c : Light interrupted cutting
✣ : Heavy interrupted cutting

TP

Triangular with hole Positive 11°

P	Steel		
M	Stainless	●	c
K	Cast iron		
N	Non-ferrous		
S	Superalloy	●	c
H	Hard material		



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	Dimension (mm) RE	IC	S	D1
Finishing to medium cutting	TM	TPMT110302-TM		●	0.2	6.35	3.18	3.4
		TPMT110304-TM		●	0.4	6.35	3.18	3.4
		TPMT110308-TM		●	0.8	6.35	3.18	3.4
Medium cutting	PM	TPMT090204-PM		●	0.4	5.56	2.38	2.5
		TPMT090208-PM		●	0.8	5.56	2.38	2.5
		TPMT110204-PM		●	0.4	6.35	2.38	2.8
		TPMT110208-PM		●	0.8	6.35	2.38	2.8
		TPMT110304-PM		●	0.4	6.35	3.18	3.4
		TPMT110308-PM		●	0.8	6.35	3.18	3.4
		TPMT130304-PM		●	0.4	7.94	3.18	3.4
		TPMT130308-PM		●	0.8	7.94	3.18	3.4
		TPMT16T304-PM		●	0.4	9.525	3.97	4.4
		TPMT16T308-PM		●	0.8	9.525	3.97	4.4

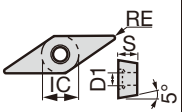
● : New product
● : Line up

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

VB

Rhombic, 35° with hole Positive 5°

P	Steel	
M	Stainless	● ⓒ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ⓒ
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing	JS	VBGT110301M-JS		●	<0.1	6.35	3.18	2.8
		VBGT110302M-JS		●	<0.2	6.35	3.18	2.8
		VBGT110304M-JS		●	<0.4	6.35	3.18	2.8
	PSF	VBMT110302-PSF		●	0.2	6.35	3.18	2.8
		VBMT110304-PSF		●	0.4	6.35	3.18	2.8
		VBMT160402-PSF		●	0.2	9.525	4.76	4.4
		VBMT160404-PSF		●	0.4	9.525	4.76	4.4
	TSF	VBMT110302-TSF		●	0.2	6.35	3.18	2.8
		VBMT110304-TSF		●	0.4	6.35	3.18	2.8
		VBMT110308-TSF		●	0.8	6.35	3.18	2.8
		VBMT160402-TSF		●	0.2	9.525	4.76	4.4
		VBMT160404-TSF		●	0.4	9.525	4.76	4.4
		VBMT160408-TSF		●	0.8	9.525	4.76	4.4
Finishing to medium cutting	PSS	VBMT110304-PSS		●	0.4	6.35	3.18	2.8
		VBMT110308-PSS		●	0.8	6.35	3.18	2.8
		VBMT160404-PSS		●	0.4	9.525	4.76	4.4
		VBMT160408-PSS		●	0.8	9.525	4.76	4.4
		VBMT160412-PSS		●	1.2	9.525	4.76	4.4
	PS	VBMT110302-PS	●	●	0.2	6.35	3.18	2.8
		VBMT110304-PS	●	●	0.4	6.35	3.18	2.8
		VBMT110308-PS	●	●	0.8	6.35	3.18	2.8
		VBMT160402-PS	●	●	0.2	9.525	4.76	4.4
		VBMT160404-PS	●	●	0.4	9.525	4.76	4.4
		VBMT160408-PS	●	●	0.8	9.525	4.76	4.4
	TM	VBMT110302-TM		●	0.2	6.35	3.18	2.8
		VBMT110304-TM		●	0.4	6.35	3.18	2.8
		VBMT110308-TM		●	0.8	6.35	3.18	2.8
		VBMT160402-TM		●	0.2	9.525	4.76	4.4
		VBMT160404-TM		●	0.4	9.525	4.76	4.4
		VBMT160408-TM		●	0.8	9.525	4.76	4.4

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New product
● : Line up

Tolerance

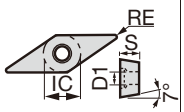
Insert POSITIVE TYPE

● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

VC

Rhombic, 35° with hole Positive 7°

P	Steel	
M	Stainless	● ⓒ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ⓒ
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing	PSF	VCMT080202-PSF		●	0.2	4.76	2.38	2.3
		VCMT080204-PSF		●	0.4	4.76	2.38	2.3
		VCMT110302-PSF		●	0.2	6.35	3.18	2.8
		VCMT110304-PSF		●	0.4	6.35	3.18	2.8
		VCMT160404-PSF		●	0.4	9.525	4.76	4.4
		VCMT160408-PSF		●	0.8	9.525	4.76	4.4
	TSF	VCMT110302-TSF		●	0.2	6.35	3.18	2.8
		VCMT110304-TSF		●	0.4	6.35	3.18	2.8
		VCMT110308-TSF		●	0.8	6.35	3.18	2.8
		VCMT160402-TSF		●	0.2	9.525	4.76	4.4
		VCMT160404-TSF		●	0.4	9.525	4.76	4.4
		VCMT160408-TSF		●	0.8	9.525	4.76	4.4
Finishing to medium cutting	PSS	VCMT110304-PSS		●	0.4	6.35	3.18	2.8
		VCMT110308-PSS		●	0.8	6.35	3.18	2.8
		VCMT160404-PSS	●	●	0.4	9.525	4.76	4.4
		VCMT160408-PSS	●	●	0.8	9.525	4.76	4.4
	PS	VCMT110302-PS	●	●	0.2	6.35	3.18	2.8
		VCMT110304-PS	●	●	0.4	6.35	3.18	2.8
		VCMT110308-PS	●	●	0.8	6.35	3.18	2.8
		VCMT160402-PS		●	0.2	9.525	4.76	4.4
		VCMT160404-PS	●	●	0.4	9.525	4.76	4.4
		VCMT160408-PS	●	●	0.8	9.525	4.76	4.4
	TM	VCMT110302-TM		●	0.2	6.35	3.18	2.8
		VCMT110304-TM		●	0.4	6.35	3.18	2.8
		VCMT110308-TM		●	0.8	6.35	3.18	2.8
		VCMT160402-TM		●	0.2	9.525	4.76	4.4
		VCMT160404-TM		●	0.4	9.525	4.76	4.4
		VCMT160408-TM		●	0.8	9.525	4.76	4.4
Finishing to medium cutting	All-round	VCMT160404	●	●	0.4	9.525	4.76	4.4
		VCMT160408	●	●	0.8	9.525	4.76	4.4
		VCMT160412	●	●	1.2	9.525	4.76	4.4

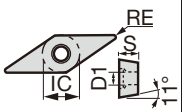
● : New product
● : Line up

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

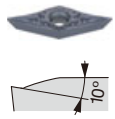
VP

Rhombic, 35° with hole Positive 11°

P	Steel	
M	Stainless	● ɔ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ɔ
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing	JS	VPGT110301M-JS		●	<0.1	6.35	3.18	2.8
		VPGT110302M-JS		●	<0.2	6.35	3.18	2.8
		VPGT110304M-JS		●	<0.4	6.35	3.18	2.8



Corner radius (RE) with a sign of inequality (<) means minus tolerance.

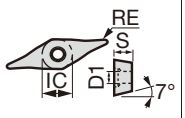
● : Line up

Tolerance

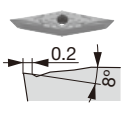
YW

Rhombic, 25° with hole Positive 7°

P	Steel	
M	Stainless	● ɔ
K	Cast iron	
N	Non-ferrous	
S	Superalloy	● ɔ
H	Hard material	



Application	Chipbreaker	Designation	Coated AH8005	Coated AH8015	RE	IC	S	D1
Finishing to medium cutting	ZF	YWMT11T202-ZF		●	0.2	4.679	2.78	2.3
		YWMT11T204-ZF		●	0.4	4.679	2.78	2.3
		YWMT16T302-ZF		●	0.2	7.018	3.97	2.86
		YWMT16T304-ZF		●	0.4	7.018	3.97	2.86
		YWMT16T308-ZF		●	0.8	7.018	3.97	2.86
	ZM	YWMT11T202-ZM		●	0.2	4.679	2.78	2.3
		YWMT11T204-ZM		●	0.4	4.679	2.78	2.3
		YWMT16T302-ZM		●	0.2	7.018	3.97	2.86
		YWMT16T304-ZM		●	0.4	7.018	3.97	2.86
		YWMT16T308-ZM		●	0.8	7.018	3.97	2.86



● : Line up

AH8000 SERIES

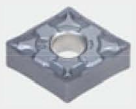
STANDARD CUTTING CONDITIONS

Chipbreakers for negative inserts

- For finishing (*ap* = 0.2 - 1.5 mm)

The 1st recommendation

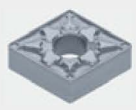
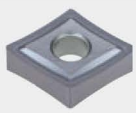
AH8015 HRF

Wear	AH8005 HRF	
Fracture	AH8015 HRM	
Chip control	AH8015 TSF, PS, ZF	

- For finishing to medium cutting (*ap* = 0.5 - 4 mm)

The 1st recommendation

AH8015 HRM

Wear	AH8005 HRM	
Fracture	AH8015 SDM	
Chip control	AH8015 TM, PM, ZM	
Low cutting force	AH8015 28	

NEW PRODUCT NEWS

Tungaloy Report No. 437-G

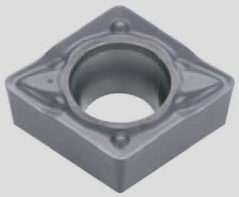
MEGA TECH METALWORK

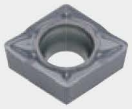
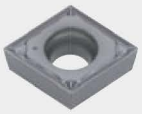
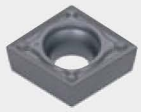
Chipbreakers for positive inserts

- For finishing (*ap* = 0.3 - 2 mm)

The 1st recommendation

AH8015 PSS

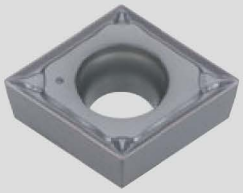


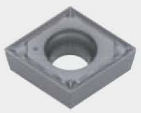
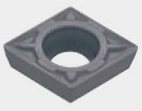
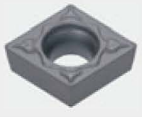
Wear	AH8005 PSS	
Fracture	AH8015 PS	
Chip control	AH8015 PSF, TSF	
High precision	AH8015 JS	

- For finishing to medium cutting (*ap* = 0.5 - 2.5 mm)

The 1st recommendation

AH8015 PS



Wear	AH8005 PS	
Fracture	AH8015 PM	
Chip control	AH8015 PSS, TM	
High precision	AH8015 JS	

NEW PRODUCT NEWS

Tungaloy Report No. 437-G

MEGA TECH METALWORK

AH8000 SERIES

Other

TUNGTHREAD

Effective threading tools for CNC lathes, Swiss-type lathes, and multitasking machines

ADDMULTITURN

6-corner inserts for high versatility, economy and productivity

MINIFORCETURN

Economical double-sided positive insert

TURNTENFEED

Innovative tool for machining efficiency and tool economy

ISOECOTURN

Cost effective: Identical cutting performance, only smaller

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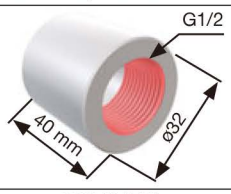
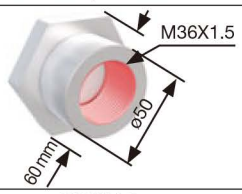
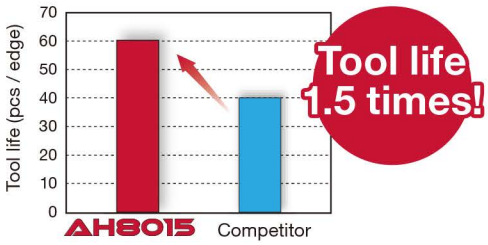
TUNGALOY ADDFORCE ACCELERATED LINES

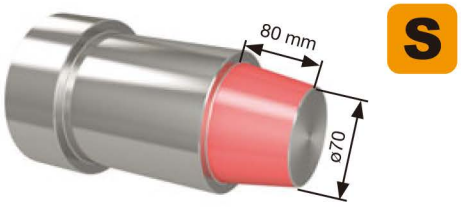
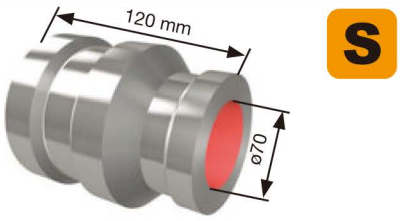
NEW PRODUCT NEWS

Tungaloy Report No. 437-G

MEGA TECH METALWORK

PRACTICAL EXAMPLES

Workpiece type		Pipe	End cover
Insert		16IR14W-M	16IR15ISO-M
Grade		AH8015	AH8015
Workpiece material		SUS304, X5CrNi18-9	SCM440, 42CrMo4
			
Thread shape	Thread	G1/2 (14TPI)	M36X1.5
	Thread depth : (mm)	16	19
Cutting conditions	Cutting speed : *Vc* (m/min)	80	110
	Pass number	8	6
	Infeed method	Radial infeed	Radial infeed
	Coolant	Wet	Wet
Results			
		AH8015 has high wear resistance and high chipping resistance extends tool life by 3 times.	**AH8015** offers high wear resistance, extending tool life by up to 1.5 times, even when machining alloy steel.

Workpiece type		Valve parts	Aircraft parts
Insert		CNMG120408-HRM	CNMG120408-HRM
Grade		AH8015	AH8015
Workpiece material		Inconel 625	Inconel 718
			
Cutting conditions	Cutting speed: *Vc* (m/min)	30	40
	Feed : *f* (mm/rev)	0.2	0.22
	Depth of cut : *ap* (mm)	1.5	2
	Coolant	Wet	Wet
Results			
		AH8015 with HRM chipbreaker greatly reduces notch wear and extends tool life by 1.5 times.	**AH8015**, with its well-balanced wear and fracture resistance, doubled tool life.

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TUNGALOY ADDFORCE ACCELERATED LINES

NEW PRODUCT NEWS

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mgt MEGA TECH METALWORK

AH8000 SERIES

PRACTICAL EXAMPLES

Workpiece type		Shaft parts	Valve parts
Insert		CNMG120408-HRM	CNMG120408-HRM
Grade		AH8005	AH8005
Workpiece material		Inconel 718	Inconel 718
Cutting conditions	Cutting speed: *Vc* (m/min)	50	80
	Feed : *f* (mm/rev)	0.28	0.2
	Depth of cut : *ap* (mm)	3.5	1 - 1.5
	Coolant	Wet	Wet
Results		Tool life 1.5 times!	Tool life 1.2 times!
		AH8005 with high wear resistance extends tool life by 1.5 times.	Due to outstanding wear resistance, **AH8005** extends tool life by 1.2 times.

Workpiece type		Tube parts	Aircraft parts
Insert		CNMG120408-HRF	CNMG120412-HRF
Grade		AH8015	AH8015
Workpiece material		Hastelloy 276	Inconel 909
Cutting conditions	Cutting speed: *Vc* (m/min)	80	55
	Feed : *f* (mm/rev)	0.1	0.3
	Depth of cut : *ap* (mm)	1.5 mm x 8 pass	0.5
	Coolant	Wet	Wet
Results		Tool life 4 times!	Tool life 1.5 times!
		AH8015 has good balance between wear and fracture resistance, increasing tool life by 4 times.	**AH8015** provides better surface finish and extends tool life by 1.5 times.

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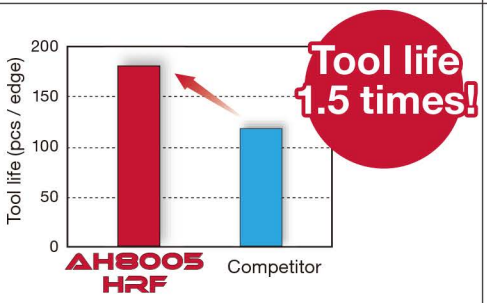
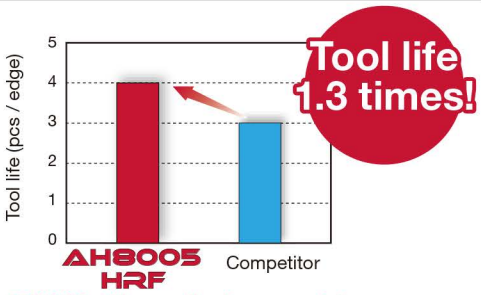
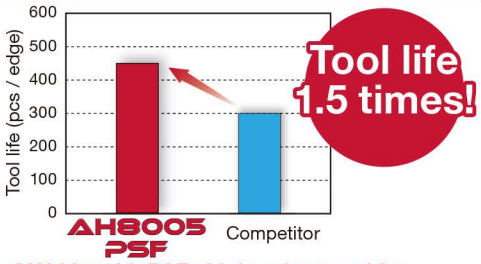
TUNGALOY ADDFORCE ACCELERATED LINES

NEW PRODUCT NEWS

Tungaloy Report No. 437-G

MEGA TECH METALWORK

Workpiece type		Valve parts	Aircraft parts
Insert		CNMG120408-HRF	CNMG120408-HRF
Grade		AH8005	AH8005
Workpiece material		Inconel 718	Inconel 718
Cutting conditions	Cutting speed: *Vc* (m/min)	100	70
	Feed : *f* (mm/rev)	0.11 - 0.14	0.17
	Depth of cut : *ap* (mm)	0.3	0.5
	Coolant	Wet	Wet
Results		 AH8005 delivers outstanding wear resistance, increasing tool life by 1.5 times.	 AH8005 with excellent wear resistance provides good surface quality and extends tool life by 1.3 times.

Workpiece type		Seal pin	Turbine parts
Insert		VCMT160408-PS	CCMT09T304-PSF
Grade		AH8005	AH8005
Workpiece material		Inconel 718	Inconel 718
Cutting conditions	Cutting speed: *Vc* (m/min)	45	100
	Feed : *f* (mm/rev)	0.2	0.12
	Depth of cut : *ap* (mm)	0.5	0.07
	Machining	External turning and facing	External turning
	Coolant	Wet	Wet
Results		 AH8005 with PS chipbreaker improves productivity by 1.3 times due to increased feed rate and speed, doubling tool life.	 AH8005 with PSF chipbreaker provides excellent chip control and wear resistance, extending tool life by 1.5 times.

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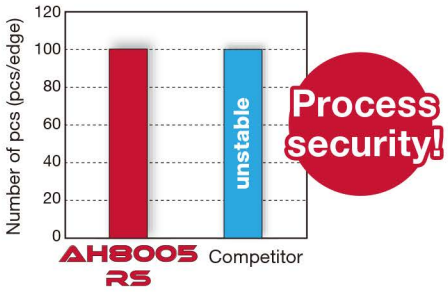
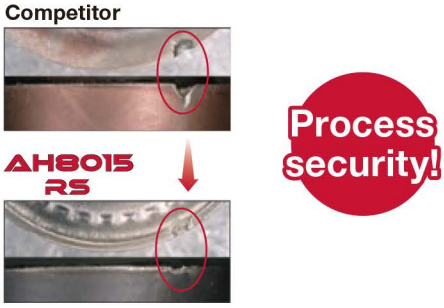
TUNGALOY ADDFORCE ACCELERATED LINES

AH8000 SERIES

PRACTICAL EXAMPLES

Workpiece type		Flange	Disk
Insert		RCMT10T3M0-RS	RCMT1606M0-RS
Grade		AH8005	AH8015
Workpiece material		Inconel 718	Ti-6Al-4V
		 S	 S
Cutting conditions	Cutting speed : *Vc* (m/min)	85	30
	Feed : *f* (mm/rev)	0.25	0.5
	Depth of cut : *ap* (mm)	1.25	3
	Coolant	Wet	Wet
Results		 A combination of **AH8005** and - RS chipbreaker eliminated premature failure.	Competitor  A combination of **AH8015** and -RS chipbreaker significantly reduced notch wear.

mgt

MEGA TECH METALWORK

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