Member IMC Group Tungaloy INDUSTRY 4.0

MillLine

Face milling cutter

TRIPLE DOTMILL

Tungaloy Report No. 503S1-US

Face milling cutter that uses three unique inserts in one cutter body — now offers AH3225 grade inserts

TUNGALOY ADDFORCE ACCELERATED LINES

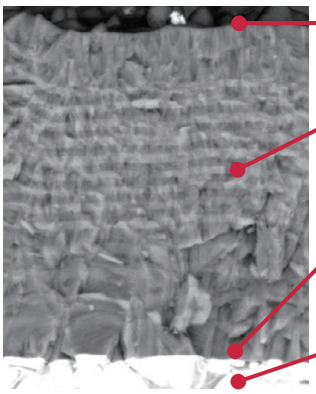
DOTRIPLE MILL

For more information

First choice grade in steel for long tool life and process reliability

New AH3225 P

- Nano multi-layer coating technology with three major properties for optimal cutting edge integrity
- Increased resistance to wear, fracture, oxidation, built-up edge, and delamination



Resistance to built-up edge
The coating surface prevents built-up edge

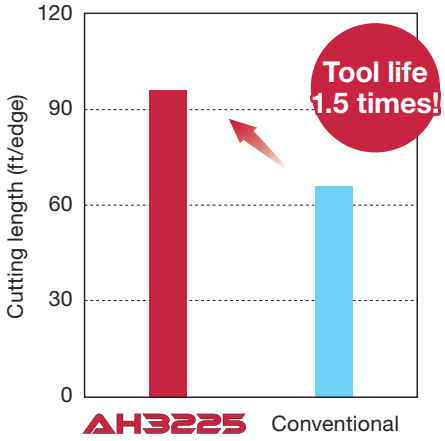
Resistance to wear, oxidation, and fracture
Multi-layered coating is designed to resist wear and oxidation, while preventing micro-cracks from propagating in the coating layer for improved resistance to edge chipping

Strong coating / substrate adhesion
Coating is optimized for strong adhesion property with substrate to maintain strong cutting edge integrity

Carbide substrate
High resistance to fracture

■ Long tool life

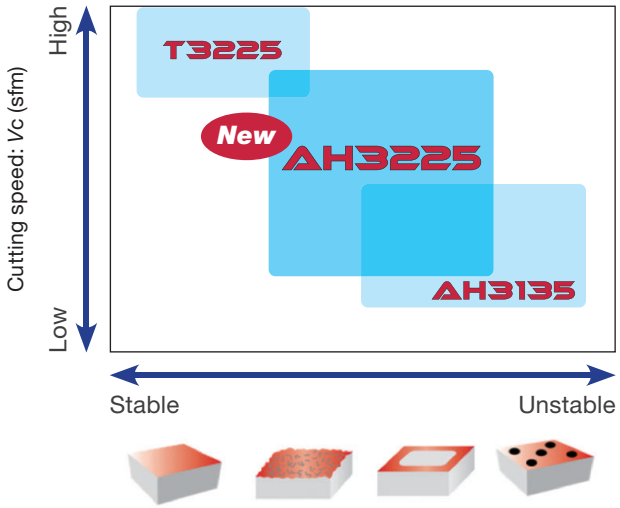
P 1055



Cutter	: TASN13U3.00B1.00R08 (ø3", z = 8)
Insert	: SNMU1307ANEN-MJ AH3225
Cutting speed	: *Vc* = 492 sfm
Feed per tooth	: *fz* = 0.008 ipt
Depth of cut	: *ap* = 0.079"
Width of cut	: *ae* = 1.969"
Coolant	: Dry
Machine	: Vertical M/C, CAT40

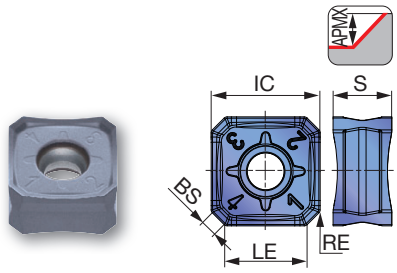
■ Application area

P Steel

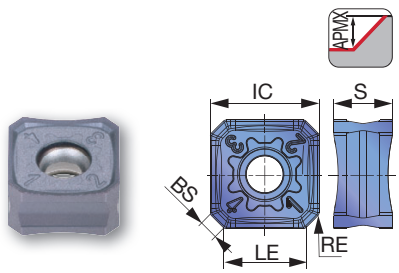


INSERTS

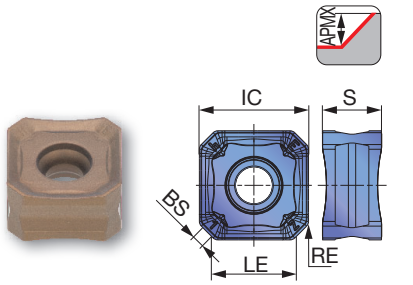
SNMU-MJ



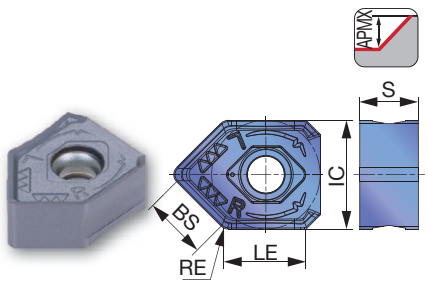
SNGU-MJ



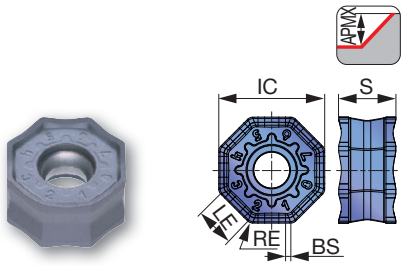
SNGU-MH



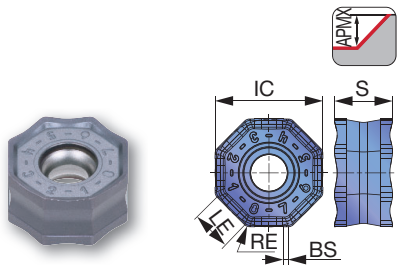
SNGU-W



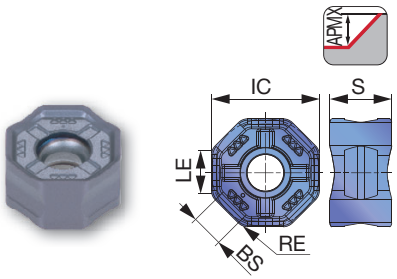
ONMU-MJ



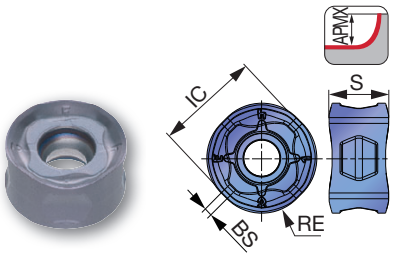
ONGU-MJ



ONGU-W



RNMU-MJ



P	Steel	☆	★	☆	★		
M	Stainless		☆	★	★		
K	Cast iron	★	☆			★	
N	Non-ferrous						
S	Superalloys	★		☆			
H	Hard materials						

★ : First choice
☆ : Second choice

Designation	RE	APMX	Coated					LE	IC	S	BS
			AH120	AH3225	AH3135	T3225	T1215				
SNMU1307ANEN-MJ	0.020	0.236	●	●	●	●	●	0.370	0.512	0.276	0.079
SNGU1307ANEN-MJ	0.020	0.236	●	●	●	●	●	0.370	0.512	0.276	0.079
SNGU1307ANEN-MH	0.031	0.236				●		0.354	0.512	0.276	0.079
SNGU1307ANEN-W	0.047	0.236	●	●	●			0.378	0.512	0.276	0.295
ONMU0507ANEN-MJ	0.031	0.134	●	●	●	●	●	0.193	0.512	0.276	0.028
ONGU0507ANEN-MJ	0.031	0.134	●	●	●	●	●	0.193	0.512	0.276	0.028
ONGU0507ANEN-W	0.063	0.134	●	●	●			0.197	0.512	0.293	0.154
RNMU1307ZNER-MJ	0.236	0.236	●	●	●	●	●	-	0.512	0.286	0.039

● : New product
● : Line up

STANDARD CUTTING CONDITIONS

SNMU / SNGU / ONMU / ONGU

ISO	Workpiece materials		Hardness	Priority	Grades	Chip-breaker	Cutting speed *Vc* (sfm)	Feed per tooth *fz* (ipt)
P	Low carbon steel 1015, 1020, etc.		200 - 300HB	First choice	AH3225	MJ	330 - 820	0.004 - 0.020
				For wear resistance	T3225	MJ	660 - 1150	0.004 - 0.016
	High carbon and alloy steel 1055, 4140, etc.		150 - 300HB	First choice	AH3225	MJ	330 - 820	0.004 - 0.016
				For wear resistance	T3225	MJ	590 - 980	0.004 - 0.016
	Prehardened steel NAK80, PX5, etc.		30 - 40HRC	First choice	AH3225	MJ	330 - 660	0.004 - 0.016
				For wear resistance	T3225	MJ	490 - 820	0.004 - 0.016
M	Stainless steel 304SS, 316SS, etc.		- 200HB	First choice	AH3135	MJ	330 - 660	0.004 - 0.014
				For wear resistance	T3225	MJ	330 - 820	0.004 - 0.012
	Cast stainless steel 1.4849, etc.		-	First choice	T3225	MH	200 - 390	0.004 - 0.012
				For low cutting force	AH3135	MJ	200 - 390	0.004 - 0.012
K	Gray cast iron Class 25, Class 30, etc.		150 - 250HB	First choice	T1215	MJ	330 - 980	0.004 - 0.016
					AH120	MJ	330 - 820	0.004 - 0.020
	Ductile cast iron 60-40-18, 80-55-06, etc.		150 - 250HB	First choice	T1215	MJ	330 - 980	0.004 - 0.016
					AH120	MJ	260 - 660	0.004 - 0.020
S	Titanium alloys Ti-6Al-4V, etc.		- 40HRC	First choice	AH3135	MJ	100 - 200	0.004 - 0.012
	Heat-resistant alloys Inconel718, etc.		- 40HRC	First choice	AH120	MJ	30 - 130	0.002 - 0.006
H	Hardened steel	H13, etc.	40 - 50HRC	First choice	AH3225	MJ	260 - 430	0.004 - 0.008
		D2, etc.	50 - 60HRC	First choice	AH120	MJ	160 - 230	0.001 - 0.004

RNMU

ISO	Workpiece materials		Hardness	Priority	Grades	Chip-breaker	Cutting speed *Vc* (sfm)	Feed per tooth *fz* (ipt)
P	Low carbon steel 1015, 1020, etc.		200 - 300HB	First choice	AH3225	MJ	330 - 820	
				For wear resistance	T3225	MJ	660 - 1150	
	High carbon and alloy steel 1055, 4140, etc.		150 - 300HB	First choice	AH3225	MJ	330 - 820	*ap = 0.236": 0.004 - 0.012 *ap = 0.078": 0.016 - 0.031 *ap = 0.039": 0.031 - 0.059
				For wear resistance	T3225	MJ	590 - 980	
	Prehardened steel NAK80, PX5, etc.		30 - 40HRC	First choice	AH3225	MJ	330 - 660	
				For wear resistance	T3225	MJ	490 - 820	
M	Stainless steel 304SS, 316SS, etc.		- 200HB	First choice	AH3135	MJ	330 - 660	*ap = 0.236": 0.004 - 0.010 *ap = 0.078": 0.012 - 0.027 *ap = 0.039": 0.024 - 0.051
				For wear resistance	T3225	MJ	330 - 820	
	Cast stainless steel 1.4849, etc.		-	First choice	T3225	MJ	200 - 390	*ap = 0.078": 0.008 - 0.016 *ap = 0.039": 0.012 - 0.031
				For fracture resistance	AH3135	MJ	200 - 390	
K	Gray cast iron Class 25, Class 30, etc.		150 - 250HB	First choice	AH120	MJ	330 - 980	
					T1215	MJ	330 - 820	*ap = 0.236": 0.004 - 0.012 *ap = 0.078": 0.016 - 0.031 *ap = 0.039": 0.031 - 0.059
	Ductile cast iron 60-40-18, 80-55-06, etc.		150 - 250HB	First choice	AH120	MJ	330 - 980	
					T1215	MJ	260 - 660	
S	Titanium alloys Ti-6Al-4V, etc.		- 40HRC	First choice	AH3135	MJ	100 - 200	*ap = 0.039": 0.006 - 0.031
	Heat-resistant alloys Inconel718, etc.		- 40HRC	First choice	AH120	MJ	30 - 130	*ap = 0.039": 0.002 - 0.012
H	Hardened steel	H13, etc.	40 - 50HRC	First choice	AH3225	MJ	260 - 430	*ap = 0.039": 0.004 - 0.010
		D2, etc.	50 - 60HRC	First choice	AH120	MJ	160 - 230	*ap = 0.020": 0.001 - 0.004

* When using T3225 or T1215, decrease the feed per tooth (*fz*) to 80% of the above mentioned value.

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Jun. 2022 (TJ)