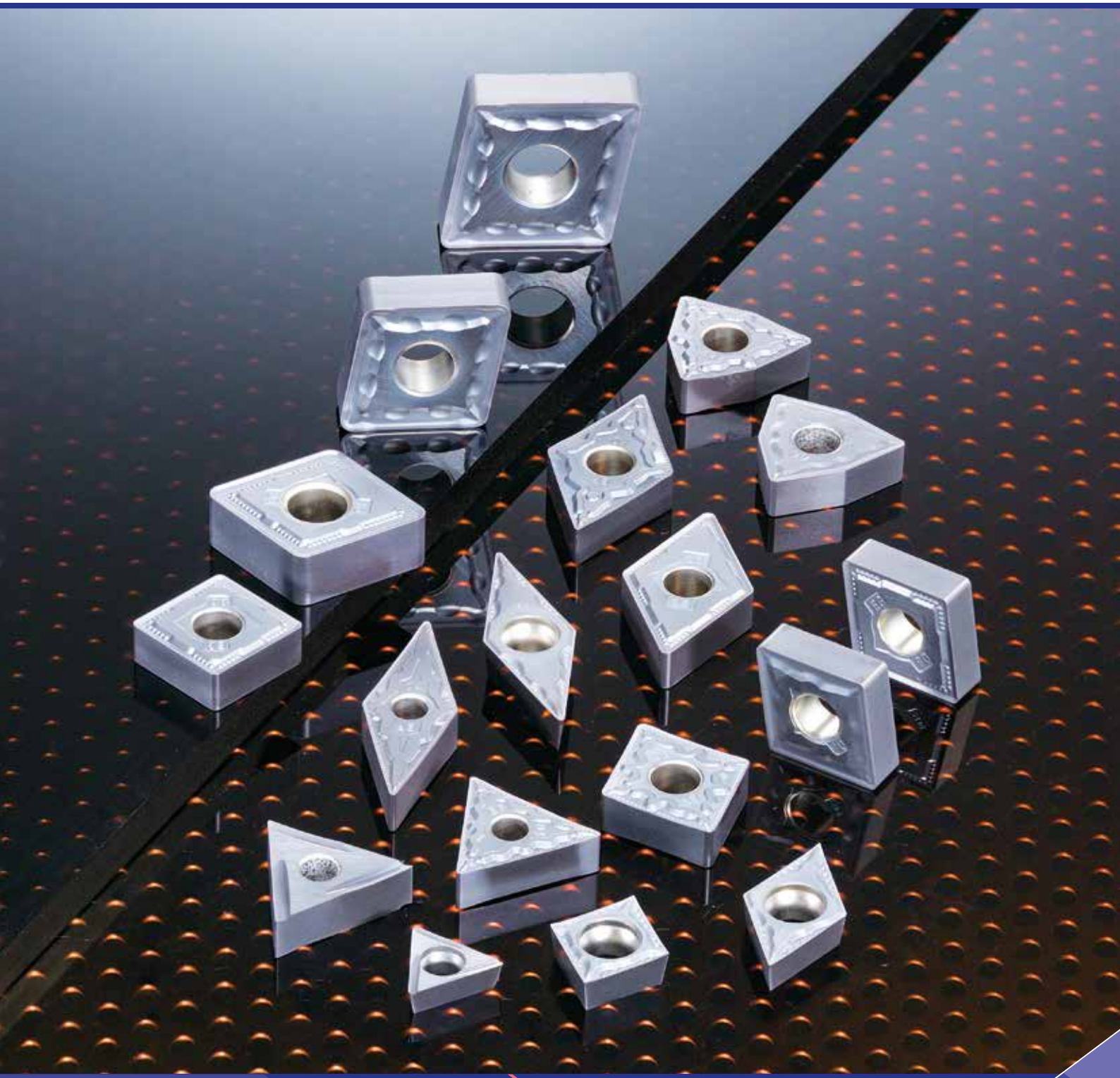
SUMITOMO
CARBIDE - CBN - DIAMOND

Coated Grades for Exotic Alloy

AC5015S / AC5025S

New Grade for Exotic Alloy Turning, Creating Stable Cutting Conditions

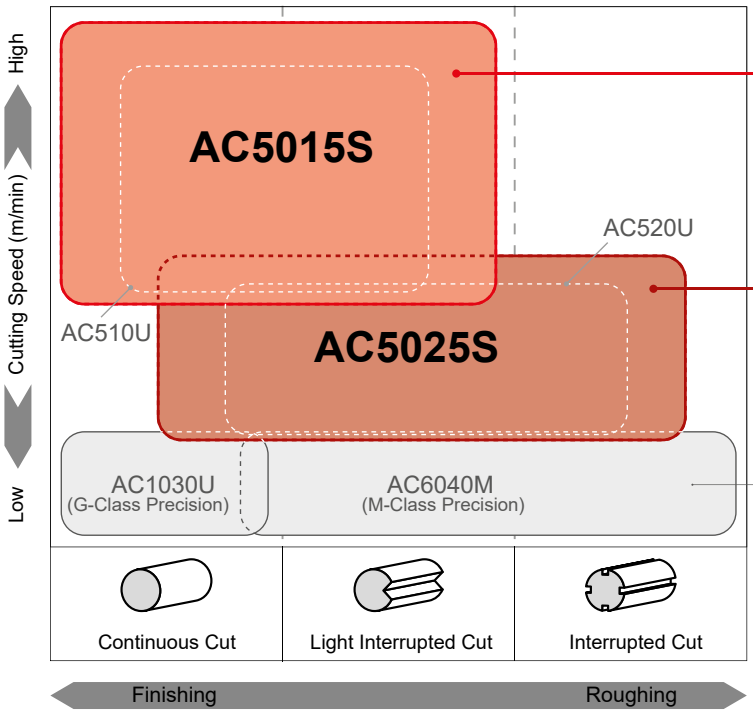


P M K N S H

SUMITOMO ELECTRIC GROUP

AC5015S / AC5025S

Application Range



AC5015S ABSOTECH

1st recommended grade for general turning of nickel and titanium based alloys.
Excellent wear resistance, 2 x conventional types.

AC5025S ABSOTECH

Thanks to improved toughness for rough turning of exotic material.
Fracture resistance, 1,5 x conventional types.

Try the following materials if even greater rigidity is required.

G-Class Precision → AC1030U ABSOTECH

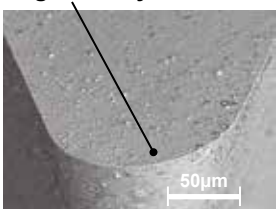
M-Class Precision → AC6040M ABSOTECH

Features

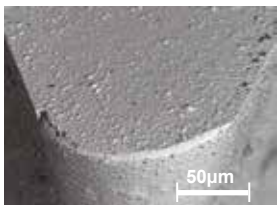
AC5015S / AC5025S

The new PVD coated grades named AC5015S and AC5025S achieve excellent crater and notch wear resistance thanks to tough substrate combined with new adhesion technology.

Excellent Cutting Edge Quality



AC5015S / AC5025S



Conventional

Coating

ABSOTECH New PVD-Coating Technology Absotech®Bronze

Highly heat-resistant ultra-multi-layer thin-film AlTiSiN structure realizes excellent crater wear resistance and flank wear resistance.

Newly Developed Highly Adhesive Technology

Greatly improved film coating adhesion realizes excellent boundary defect resistance.

Newly Developed Rich Carbide Parent Material

Introduction of a revolutionary new sintering process enables hardness to be maintained while greatly improving rigidity, whilst attaining a reduction in boundary defects and chipping resistant issues.

Chipbreaker Selection Guide

Negative Type Inserts

Finishing

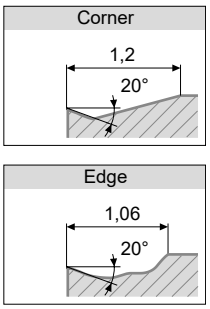
NEF

Main chipbreaker exhibits excellent chip discharging performance even with shallow cuts.

Blade designed with an emphasis on sharpness (20° rake) to suppress wear.

Grooved rake surface shape to suppress heat generation.

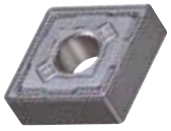
Chipbreaker Cross-Section



Medium to Rough Cutting

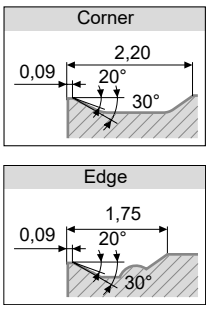
NEG

Protruding ball exhibits excellent chip discharging performance over a wide range of conditions.



Blade shape keeps its strength even as wear progresses.

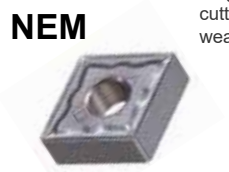
Chipbreaker Cross-Section



Rough Cutting

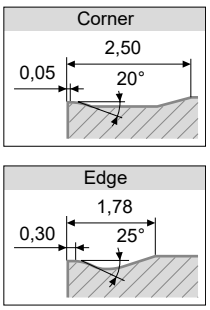
NEM

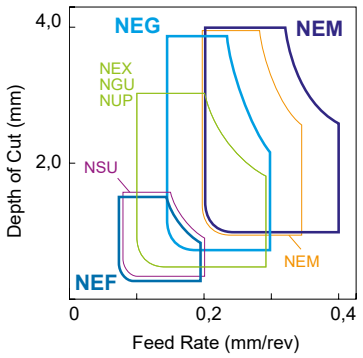
Large, rounded rake surface shapes keeps its cutting edge strength while suppressing crater wear.



Blade ridge has no transition point to suppress boundary defects.

Chipbreaker Cross-Section



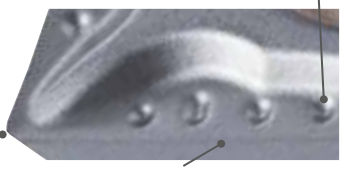


Positive Type Inserts

Finishing to Light Cutting

NSI

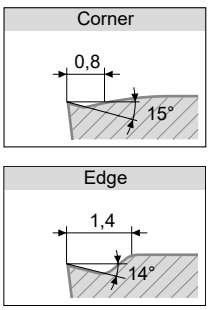
Dimpled shape suppresses heat generation due to large cuts.

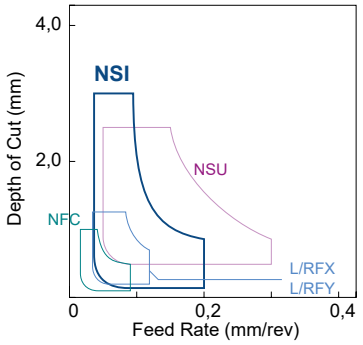


Blade designed with an emphasis on sharpness (15° rake).

Blade shape intended to improve copy machining and reduce cutting resistance.

Chipbreaker Cross-Section





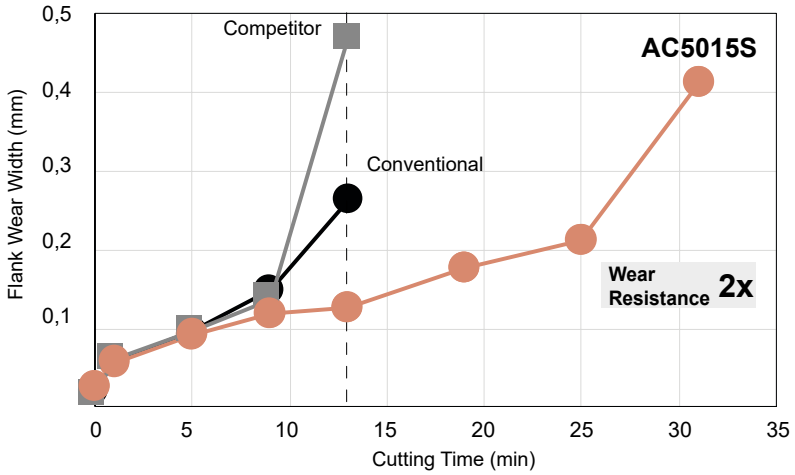
Recommended Cutting Conditions

Min. - **Optimum** - Max.

Work Material	Cutting Process	Chipbreaker	Grades	Cutting Conditions		
				Depth of Cut (mm)	Feed Rate (mm/rev)	Cutting Speed (m/min)
Heat Resistant Alloy (Ni-based Material) (Fe-based Material) (Co-based Material)	Finishing	NEF	**AC5015S**, AC5025S	0,2–**0,5**–1,5	0,10–**0,12**–0,20	50–**70**–110
	Light	NEX	**AC5015S**, AC5025S	0,5–**1,0**–3,0	0,10–**0,20**–0,30	40–**60**–90
	Medium	NEG	**AC5015S**, AC5025S	0,5–**2,0**–4,0	0,15–**0,25**–0,30	40–**60**–90
	Rough	NEM	AC5015S, **AC5025S**	1,0–**2,0**–4,0	0,20–**0,25**–0,40	30–**55**–80

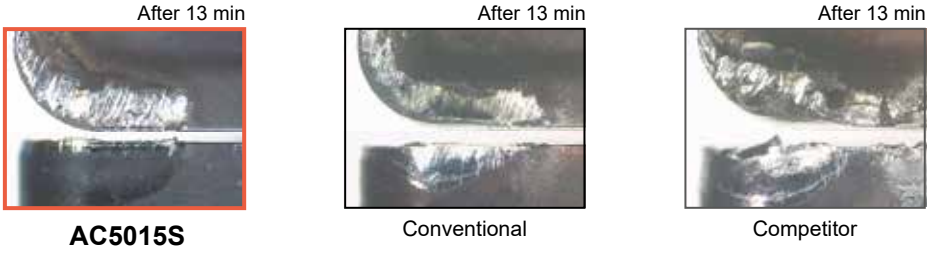
Cutting Performance of AC5015S

Wear Resistance



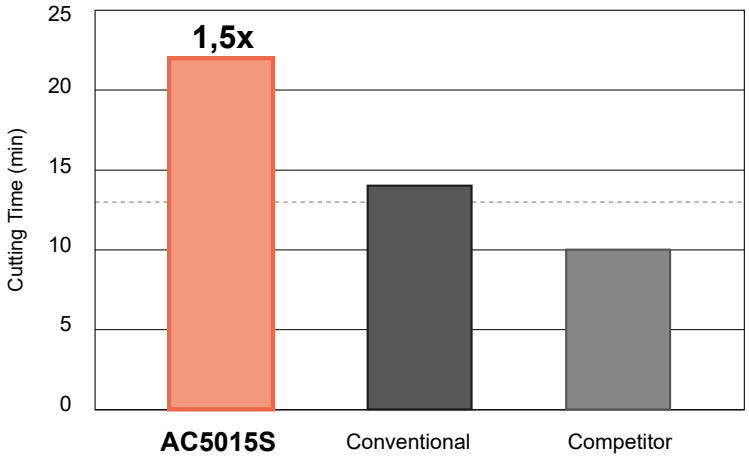
New PVD coating technology Absotech®Bronze reduces wear.
AC5015S achieves **2x** wear resistance compared to conventional PVD.

Work Material:	Inconel 718 (44HRC)
Insert:	CNMG120408
Cutting Conditions:	v_c = 40 m/min,
	f = 0,1 mm/rev,
	a_p = 1,5 mm, wet



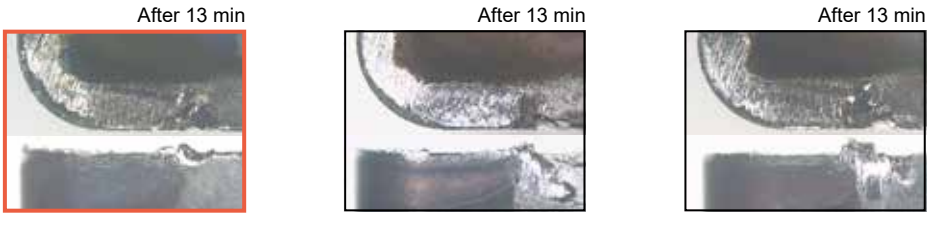
AC5015S | Conventional | Competitor

Fracture Resistance



Newly developed hard base material suppresses boundary defects.
AC5015S achieves **1,5x** fracture resistance compared to conventional PVD.

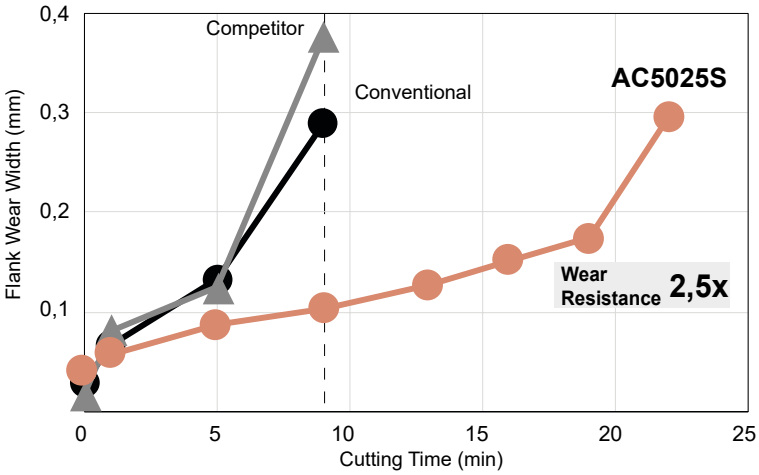
Work Material:	Hastelloy (22HRC)
Insert:	CNMG120408
Cutting Conditions:	v_c = 50 m/min,
	f = 0,1 mm/rev,
	a_p = 1,5 mm, wet



AC5015S | Conventional | Competitor

Cutting Performance of AC5025S

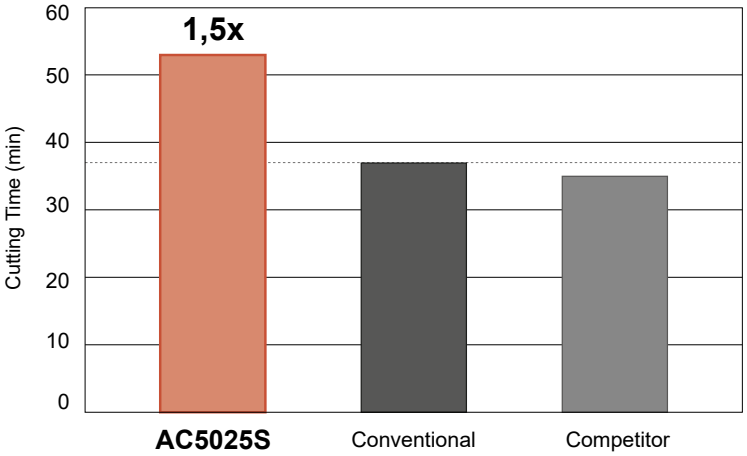
Wear Resistance



New PVD coating technology Absotech®Bronze reduces wear.
AC5025S achieves **2,5x** wear resistance compared to conventional PVD.

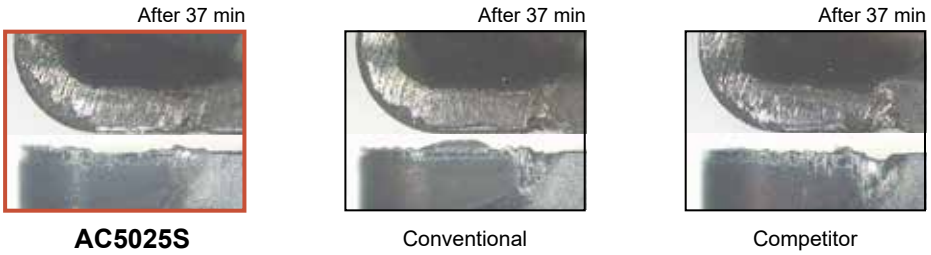
Work Material:	Inconel 718 (44HRC)
Insert:	CNMG120408
Cutting Conditions:	v_c = 40 m/min,
	f = 0,1 mm/rev,
	a_p = 1,5 mm, wet

Fracture Resistance



Newly developed hard base material suppresses boundary defects.
AC5025S achieves **1,5x** fracture resistance compared to conventional PVD.

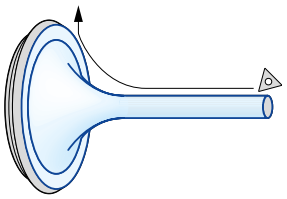
Work Material:	Hastelloy (22HRC)
Insert:	CNMG120408
Cutting Conditions:	v_c = 50 m/min,
	f = 0,1 mm/rev,
	a_p = 1,5 mm, wet

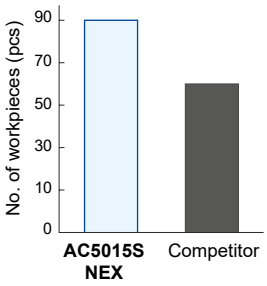


Application Examples of AC5015S

Ni-Based Heat-Resistant Alloy, Automotive Component

AC5015S has good wear resistance and 1,5 times longer tool life.

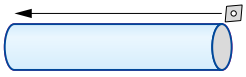




Insert:	TNMG 160404 NEX
Cutting Conditions:	v_c = 82 m/min, f = 0,12 mm/rev, a_p = 0,5 mm, wet

Inconel, Automotive Component

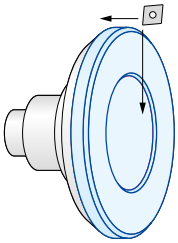
AC5015S reduces wear and extends tool life.

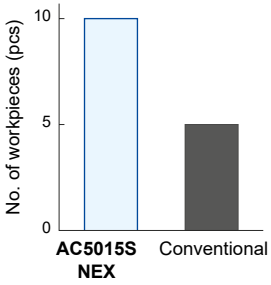


Insert:	TNMG 160408 NEF
Cutting Conditions:	v_c = 30 m/min, f = 0,04 mm/rev, a_p = 0,5 mm, wet

Inconel 713C, Automotive Component

AC5015S reduces wear and shows 2,0 times longer tool life.

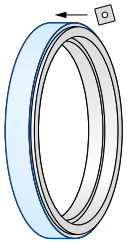


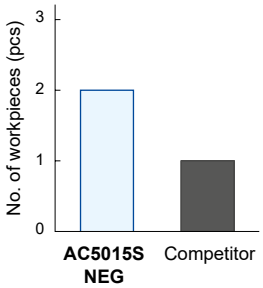


Insert:	CNMG 120408 NEX
Cutting Conditions:	v_c = 100 m/min, f = 0,12 mm/rev, a_p = 0,3 mm, wet

Inconel 718, Aeronautic Component

AC5015S achieves good wear resistance and 2,0 times longer tool life.

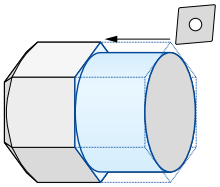


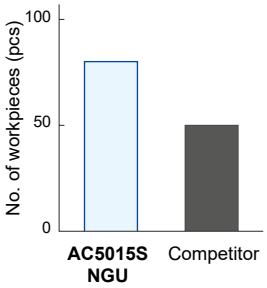


Insert:	SNMG 120408 NEG
Cutting Conditions:	v_c = 50 m/min, f = 0,15 mm/rev, a_p = 2,0 mm, wet

Inconel 625, Aeronautic Component

AC5015S shows good wear resistance and 1,6 times longer tool life.

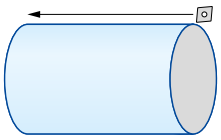


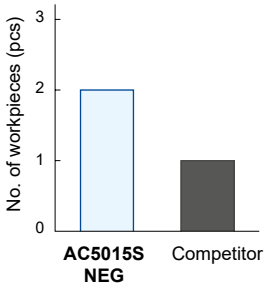


Insert:	CNMG 120408 NGU
Cutting Conditions:	v_c = 50 m/min, f = 0,3 mm/rev, a_p = 0,5 mm, wet

Inconel 718, Aeronautic Component

AC5015S has good wear resistance and 2,0 times longer tool life.



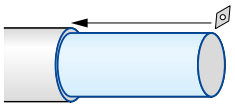


Insert:	CNMG 120408 NEG
Cutting Conditions:	v_c = 37 m/min, f = 0,2 mm/rev, a_p = 1,4 mm, wet

Application Examples of AC5025S

Inconel 718, Aeronautic Component

AC5025S reduces wear and achieves 1,7 times longer tool life.

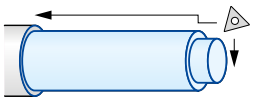


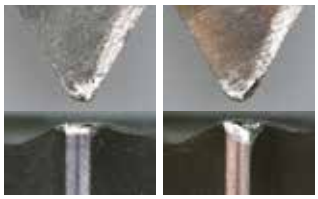
AC5025S NEG (2,5 pcs) | Conventional (1,5 pcs)

Insert:	DNMG 150608 NEG
Cutting Conditions:	v_c = 35 m/min, f = 0,1 mm/rev, a_p = 1,6 mm, wet

Inconel 718, Aeronautic Component

AC5025S reduces wear and achieves 1,5 times longer tool life.



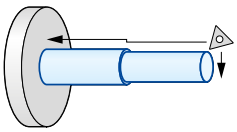


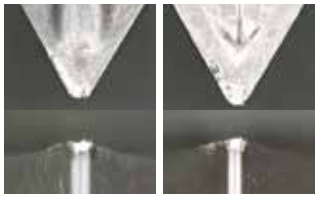
AC5025S RFY (18pcs) | Conventional (12 pcs)

Insert:	TNGG 160402 RFY
Cutting Conditions:	v_c = 37 m/min, f = 0,1 mm/rev, a_p = 0,1 mm, wet

Ni-Based Heat-Resistant Alloy, Automotive Component

AC5025S enables stable machining for 2,0 times longer tool life.



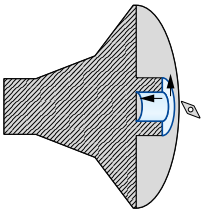


AC5025S NSU (200 pcs) | Competitor (100 psc)

Insert:	TNGG 160402 NSU
Cutting Conditions:	v_c = 70m/min, f = 0,1 mm/rev, a_p = 0,15 mm, wet

Inconel, Automotive Component

AC5025S reduces wear and extends tool life.

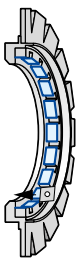


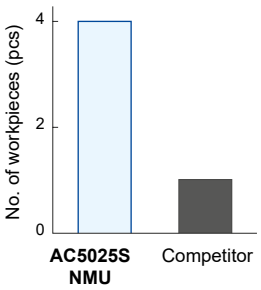
AC5025S NSU (200 pcs) | Conventional (200 pcs)

Insert:	DCMT 11T308 NSU
Cutting Conditions:	v_c = 49 m/min, f = 0,15 mm/rev, a_p = 0,5 mm, wet

Hastelloy, Aeronautic Component

AC5025S reduces wear and achieves 4 times longer tool life.

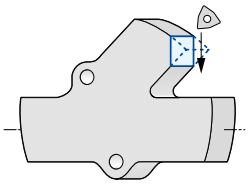


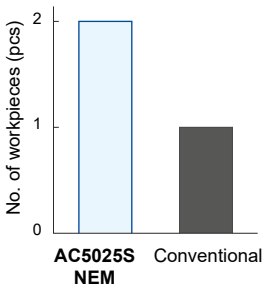


Insert:	CNMG 120412 NMU
Cutting Conditions:	v_c = 100 m/min, f = 0,3 mm/rev, a_p = 3,0 mm, wet

Fe-Based Heat-Resistant Alloy, Valve Component

AC5025S enables stable machining for 2 times longer tool life.



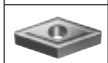
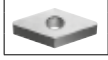


Insert:	WNMG 080408 NEM
Cutting Conditions:	v_c = 90 m/min, f = 0,15 mm/rev,a_p = 1,5 mm, wet

80° Diamond Type

Shape	Cat. No.	Stock AC5015S	Stock AC5025S	Dimensions (mm) Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	CNMG 120404 NFL	❍	❍	12,7	4,76	5,16	0,4
	120408 NFL	❍	❍				0,8
	CNMG 120402 NSU	●	●	12,7	4,76	5,16	0,2
	120404 NSU	●	●				0,4
	120408 NSU	●	●				0,8
	120412 NSU	●	●				1,2
	CNGG 120402 NSU	❍	❍	12,7	4,76	5,16	0,2
	120404 NSU	❍	❍				0,4
	120408 NSU	❍	❍				0,8
	CNMG 090404 NEF	❍	❍	9,525	4,76	3,81	0,4
	090408 NEF	❍	❍				0,8
	CNMG 120404 NEF	●	●	12,7	4,76	5,16	0,4
	120408 NEF	●	●				0,8
	120412 NEF	●	●				1,2
	CNGG 120402 NEF	❍	❍	12,7	4,76	5,16	0,2
	120404 NEF	❍	❍				0,4
	120408 NEF	❍	❍				0,8
	CNMG 120404 NEX	●	●	12,7	4,76	5,16	0,4
	120408 NEX	●	●				0,8
	120412 NEX	●	●				1,2
	CNMG 160612 NEX	❍	●	15,875	6,35	6,35	1,2
	CNMG 190612 NEX	●	●	19,05	6,35	7,94	1,2
	CNMG 120404 NUP	●	●	12,7	4,76	5,16	0,4
	120408 NUP	●	●				0,8
	120412 NUP	❍	●				1,2
	CNMG 120404 NGU	❍	●	12,7	4,76	5,16	0,4
	120408 NGU	❍	●				0,8
	120412 NGU	❍	❍				1,2
	CNMG 090408 NEG	❍	❍	9,525	4,76	3,81	0,8
	090412 NEG	❍	❍				1,2
	CNMG 120404 NEG	❍	❍	12,7	4,76	5,16	0,4
	120408 NEG	●	●				0,8
	120412 NEG	●	●				1,2
	CNMG 160608 NEG	❍	❍	15,875	6,35	6,35	0,8
	160612 NEG	❍	●				1,2
	160616 NEG	❍	❍				1,6
	CNMG 190612 NEG	❍	❍	19,05	6,35	7,94	1,2
	190616 NEG	●	❍				1,6
	CNMG 120408 NMU	●	●	12,7	4,76	5,16	0,8
	120412 NMU	●	●				1,2
	120416 NMU	❍	●				1,6
	CNMG 160608 NMU	❍	❍	15,875	6,35	6,35	0,8
	160612 NMU	●	●				1,2
	160616 NMU	●	●				1,6
	CNMG 190612 NMU	❍	●	19,05	6,35	7,94	1,2
	190616 NMU	●	●				1,6
	190624 NMU	❍	❍				2,4
	CNMG 250924 NMU	❍	❍	25,4	9,52	9,12	2,4
	CNMG 120408 NEM	❍	❍	12,7	4,76	5,16	0,8
	120412 NEM	❍	❍				1,2
	120416 NEM	❍	❍				1,6
	CNMG 160608 NEM	❍	❍	15,875	6,35	6,35	0,8
	160612 NEM	❍	❍				1,2
	160616 NEM	❍	❍				1,6
	CNMG 190612 NEM	❍	❍	19,05	6,35	7,94	1,2
	190616 NEM	❍	❍				1,6
	190624 NEM	❍	❍				2,4
	CNMG 250924 NEM	❍	❍	25,4	9,52	9,12	2,4
	CNMG 120408 NUZ	❍	❍	12,7	4,76	5,16	0,8
	120412 NUZ	❍	❍				1,2
	CNMM 120408 NMP	❍	❍	12,7	4,76	5,16	0,8
	120412 NMP	❍	❍				1,2
	120416 NMP	❍	❍				1,6
	CNMM 160608 NMP	❍	❍	15,875	6,35	6,35	0,8
	160612 NMP	●	❍				1,2
	160616 NMP	❍	❍				1,6
	CNMM 190608 NMP	❍	❍	19,05	6,35	7,94	0,8
	190612 NMP	❍	❍				1,2
	190616 NMP	❍	❍				1,6
	190624 NMP	❍	❍				2,4
	CNMA 120408	❍	❍	12,7	4,76	5,16	0,8

55° Diamond Type

Shape	Cat. No.	Stock AC5015S	Stock AC5025S	Dimensions (mm) Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	DNMG 110404 NSU	●	●	9,525	4,76	3,81	0,4
	110408 NSU	●	●				0,8
	DNMG 150402 NSU	❍	●	12,7	4,76	5,16	0,2
	150404 NSU	❍	❍				0,4
	150408 NSU	❍	❍				0,8
	DNMG 150604 NSU	●	●	12,7	6,35	5,16	0,4
	150608 NSU	●	●				0,8
	150612 NSU	●	●				1,2
	DNGG 150402 NSU	❍	❍	12,7	4,76	5,16	0,2
	150404 NSU	❍	❍				0,4
	150408 NSU	❍	❍				0,8
	DNMG 110404 NEF	❍	❍	9,525	4,76	3,81	0,4
	110408 NEF	❍	❍				0,8
	110412 NEF	❍	❍				1,2
	DNMG 150404 NEF	❍	❍	12,7	4,76	5,16	0,4
	150408 NEF	❍	❍				0,8
	150412 NEF	❍	❍				1,2
	DNMG 150604 NEF	●	●	12,7	6,35	5,16	0,4
	150608 NEF	●	●				0,8
	150612 NEF	●	●				1,2
	DNGG 150404 NEF	❍	❍	12,7	4,76	5,16	0,4
	150408 NEF	❍	❍				0,8
	DNMG 110404 NEX	●	●	9,525	4,76	3,81	0,4
	110408 NEX	●	●				0,8
	DNMG 150404 NEX	❍	❍	12,7	4,76	5,16	0,4
	150408 NEX	❍	❍				0,8
	150412 NEX	❍	❍				1,2
	DNMG 150604 NEX	●	●	12,7	6,35	5,16	0,4
	150608 NEX	●	●				0,8
	150612 NEX	●	●				1,2
	DNMG 150404 NUP	❍	❍	12,7	4,76	5,16	0,4
	150408 NUP	●	❍				0,8
	150412 NUP	❍	❍				1,2
	DNMG 150604 NUP	●	●	12,7	6,35	5,16	0,4
	150608 NUP	●	●				0,8
	150612 NUP	●	●				1,2
	DNMG 150404 NGU	❍	❍	12,7	4,76	5,16	0,4
	150408 NGU	❍	❍				0,8
	150412 NGU	❍	❍				1,2
	DNMG 110408 NEG	❍	❍	9,525	4,76	3,81	0,8
	110412 NEG	❍	❍				1,2
	DNMG 150404 NEG	❍	❍	12,7	4,76	5,16	0,4
	150408 NEG	❍	❍				0,8
	150412 NEG	❍	❍				1,2
	DNMG 150604 NEG	❍	❍	12,7	6,35	5,16	0,4
	150608 NEG	●	●				0,8
	150612 NEG	●	●				1,2
	DNMG 150408 NMU	❍	❍	12,7	4,76	5,16	0,8
	150412 NMU	❍	❍				1,2
	150416 NMU	❍	❍				1,6
	DNMG 150408 NEM	❍	❍	12,7	4,76	5,16	0,8
	150412 NEM	❍	❍				1,2
	150416 NEM	❍	❍				1,6
	DNMG 150608 NEM	❍	❍	12,7	6,35	5,16	0,8
	150612 NEM	❍	❍				1,2
	DNMG 150408 NUZ	❍	❍	12,7	4,76	5,16	0,8
	150412 NUZ	❍	❍				1,2
	DNGA 150404	❍	❍	12,7	4,76	5,16	0,4

● Euro stock, available from October 2018 ❍ Japan stock, available from 2019

● Euro stock, available from 2019

Square Type

Shape	Cat. No.	Stock AC5015S	Stock AC5025S	Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	SNMG 120408 NSU	●	●	12,7	4,76	5,16	0,8
	120412 NSU		●				1,2
	SNMG 120404 NEF	❍	❍	12,7	4,76	5,16	0,4
	120408 NEF	❍	❍				0,8
	SNMG 120404 NEX	●	●	12,7	4,76	5,16	0,4
	120408 NEX	●	●				0,8
	120412 NEX	❍	●				1,2
	SNMG 150612 NEX	❍	❍	15,875	6,35	6,35	1,2
	SNMG 190612 NEX	❍	●	19,05	6,35	7,94	1,2
	190616 NEX		●				1,6
	SNMG 120404 NUP	●	●	12,7	4,76	5,16	0,4
	120408 NUP	●	●				0,8
	120412 NUP	❍	●				1,2
	SNMG 120404 NGU	❍	❍	12,7	4,76	5,16	0,4
	120408 NGU	❍	❍				0,8
	120412 NGU	❍	❍				1,2
	SNMG 120404 NEG	❍	❍	12,7	4,76	5,16	0,4
	120408 NEG	●	●				0,8
	120412 NEG	❍	●				1,2
	SNMG 150608 NEG	❍	❍	15,875	6,35	6,35	0,8
	150612 NEG	❍	❍				1,2
	160616 NEG	❍	❍				1,6
	SNMG 190612 NEG	●	❍	19,05	6,35	7,94	1,2
	190616 NEG	❍	❍				1,6
	SNGG 120408 RUM	❍	❍	12,7	4,76	5,16	0,8
	120408 LUM	❍	❍				0,8
	SNMG 120408 NMU	●	●	12,7	4,76	5,16	0,8
	120412 NMU	●	●				1,2
	SNMG 150608 NMU	❍	❍	15,875	6,35	6,35	0,8
	150612 NMU	●	❍				1,2
	150616 NMU	❍	❍				1,6
	SNMG 190612 NMU	❍	●	19,05	6,35	7,94	1,2
	190616 NMU	❍	●				1,6
	190624 NMU	❍	❍				2,4
	SNMG 250924 NMU	❍	❍	25,4	9,52	9,12	2,4
	SNMG 120408 NEM	❍	❍	12,7	4,76	5,16	0,8
	120412 NEM	❍	❍				1,2
	SNMG 150608 NEM	❍	❍	15,875	6,35	6,35	0,8
	150612 NEM	❍	❍				1,2
	150616 NEM	❍	❍				1,6
	SNMG 190612 NEM	❍	❍	19,05	6,35	7,94	1,2
	190616 NEM	❍	❍				1,6
	190624 NEM	❍	❍				2,4
	SNMG 250924 NEM	❍	❍				2,4
	SNMG 120408 NUZ	❍	❍	12,7	4,76	5,16	0,8
	120412 NUZ	❍	❍				1,2
	SNMM 120408 NMP	❍	❍	12,7	4,76	5,16	0,8
	120412 NMP	❍	❍				1,2
	120416 NMP	❍	❍				1,6
	SNMM 190612 NMP	❍	❍	19,05	6,35	7,94	1,2
	190616 NMP	❍	❍				1,6

Triangular Type

Shape	Cat. No.	Stock AC5015S	Stock AC5025S	Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	TNMG 160402 NSU	❍	❍	9,525	4,76	3,81	0,2
	160404 NSU	●	●				0,4
	160408 NSU	●	●				0,8
	160412 NSU	❍	❍				1,2
	TNGG 160402 NSU	❍	❍	9,525	4,76	3,81	0,2
	160404 NSU	❍	❍				0,4
	160408 NSU	❍	❍				0,8
	TNMG 160404 NEF	❍	❍	9,525	4,76	3,81	0,4
	160408 NEF	❍	❍				0,8
	TNGG 160402 RFY	❍	❍	9,525	4,76	3,81	0,2
	160402 LFY	❍	❍				0,2
	160404 RFY	❍	❍				0,4
	160404 LFY	❍	❍				0,4
	TNGG 160402 RFX	❍	❍	9,525	4,76	3,81	0,2
	160402 LFX	❍	❍				0,2
	160404 RFX	❍	❍				0,4
	160404 LFX	❍	❍				0,4
	TNMG 160404 NEX	●	●	9,525	4,76	3,81	0,4
	160408 NEX	●	●				0,8
	160412 NEX	●	❍				1,2
	TNMG 160404 NUP	●	●	9,525	4,76	3,81	0,4
	160408 NUP	●	❍				0,8
	160412 NUP	●	❍				1,2
	TNMG 220408 NUP	❍	❍	12,7	4,76	5,16	0,8
	TNMG 160404 NGU	❍	❍	9,525	4,76	3,81	0,4
	160408 NGU	❍	❍				0,8
	160412 NGU	❍	❍				1,2
	TNMG 160404 NEG	❍	❍	9,525	4,76	3,81	0,4
	160408 NEG	●	●				0,8
	160412 NEG	❍	❍				1,2
	TNMG 160408 NMU	❍	❍	9,525	4,76	3,81	0,8
	160412 NMU	❍	❍				1,2
	TNMG 220408 NMU	❍	●	12,7	4,76	5,16	0,8
	TNMG 160408 NEM	❍	❍	9,525	4,76	3,81	0,8
	160412 NEM	❍	❍				1,2
	TNMG 330924 NEM	❍	❍	19,05	9,52	7,93	2,4
	TNMG 160404 RHM	❍	❍	9,525	4,76	3,81	0,4
	160404 LHM	❍	❍				0,4
	160408 RHM	❍	❍				0,8
	160408 LHM	❍	❍				0,8
	TNMA 160404	❍	❍	9,525	4,76	3,81	0,4
	160408	❍	❍				0,8
	TNGA 160404	❍	❍	9,525	4,76	3,81	0,4

● Euro stock, available from October 2018 ❍ Japan stock, available from 2019

● Euro stock, available from 2019

35° Diamond Type

Shape	Cat. No.	Stock AC5015S	Stock AC5025S	Dimensions (mm) Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	VNMG 160402 NSU	❍	❍	9,525	4,76	3,81	0,2
	160404 NSU	❍	❍				0,4
	160408 NSU	●	❍				0,8
	VNMG 160402 NEF	❍	❍	9,525	4,76	3,81	0,2
	160404 NEF	❍	●				0,4
	160408 NEF	●	❍				0,8
	VNGG 160402 NEF	❍	❍	9,525	4,76	3,81	0,2
	160404 NEF	❍	❍				0,4
	VNMG 160404 NEX	●	❍	9,525	4,76	3,81	0,4
	160408 NEX	●	●				0,8
	VNMG 160404 NUP	●		9,525	4,76	3,81	0,4
	160408 NUP	●	●				0,8
	VNMG 160404 NGU	❍	❍	9,525	4,76	3,81	0,4
	160408 NGU	❍	❍				0,8
	160412 NGU	❍	❍				1,2
	VNMG 160404 NEG	❍	❍	9,525	4,76	3,81	0,4
	160408 NEG	❍	❍				0,8
	160412 NEG	❍	❍				1,2
	VNMG 160404 NUZ	❍	❍	9,525	4,76	3,81	0,4
	160408 NUZ	❍	❍				0,8

Square Type (without Insert Hole)

Shape	Cat. No.	Stock AC5015S	Stock AC5025S	Dimensions (mm) Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	SNMN 120408	❍	❍	12,7	4,76	–	0,8
	120412	❍	❍				1,2
	120416	❍	❍				1,6

● Euro stock, available from October 2018 ❍ Japan stock, available from 2019

● Euro stock, available from 2019

Trigon Type

Shape	Cat. No.	Stock AC5015S	Stock AC5025S	Dimensions (mm) Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	WNMG 060404 NSU	●	●	9,525	4,76	3,81	0,4
	060408 NSU	●	●				0,8
	WNMG 080404 NSU	❍	●	12,7	4,76	5,16	0,4
	080408 NSU	●	●				0,8
	080412 NSU	❍	❍				1,2
	WNMG 060404 NEF	❍	❍	9,525	4,76	3,81	0,4
	060408 NEF	❍	❍				0,8
	WNMG 080404 NEF	❍	❍	12,7	4,76	5,16	0,4
	080408 NEF	●	●				0,8
	WNMG 060404 NEX	●	●	9,525	4,76	3,81	0,4
	060408 NEX	●	●				0,8
	WNMG 080404 NEX	●	●	12,7	4,76	5,16	0,4
	080408 NEX	●	●				0,8
	080412 NEX	●	●				1,2
	WNMG 080408 NUP	●	●	12,7	4,76	5,16	0,8
	080412 NUP	❍	❍				1,2
	WNMG 080404 NGU	❍	❍	12,7	4,76	5,16	0,4
	080408 NGU	❍	●				0,8
	080412 NGU	❍	❍				1,2
	WNMG 060408 NEG	❍	❍	9,525	4,76	3,81	0,8
	060412 NEG	❍	❍				1,2
	WNMG 080404 NEG	❍	❍	12,7	4,76	5,16	0,4
	080408 NEG	●	●				0,8
	080412 NEG	❍	●				1,2
	WNMG 060408 NMU	●	●	9,525	4,76	3,81	0,8
	WNMG 080408 NMU	●	●	12,7	4,76	5,16	0,8
	080412 NMU	❍	●				1,2
	WNMG 080408 NEM	❍	❍	12,7	4,76	5,16	0,8
	080412 NEM	❍	❍				1,2
	WNMG 080404 NUZ	❍	❍	12,7	4,76	5,16	0,4
	080408 NUZ	❍	❍				0,8
	080412 NUZ	❍	❍				1,2

80° Diamond Type

Shape	Relief Angle	Cat. No.	Stock AC5015S	Stock AC5025S	Dimensions (mm) Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	7°	CCMT 060202 NSU	●	●	6,35	2,38	2,8	0,2
		060204 NSU	●	●				0,4
		060208 NSU	❍	❍				0,8
	7°	CCMT 09T304 NSU	●	●	9,525	3,97	4,4	0,4
		09T308 NSU	●	●				0,8
	7°	CCMT 120404 NSU	●	●	12,7	4,76	5,5	0,4
	7°	CCGT 09T301 M NSI	●	●				<0,1
		09T302 M NSI	●	●	9,525	3,97	4,4	<0,2
		09T304 M NSI	●	●				<0,4
	11°	CPGT 080202 NSD	❍	❍				0,2
		080204 NSD	❍	❍	7,94	2,38	3,4	0,4
		080208 NSD	❍	❍				0,8
	11°	CPGT 090302 NSD	❍	❍				0,2
		090304 NSD	❍	❍	9,525	3,18	4,4	0,4
		090308 NSD	❍	❍				0,8
	11°	CPGT 120402 NSD	❍	❍				0,2
		120404 NSD	❍	❍	12,7	4,76	5,5	0,4
		120408 NSD	❍	❍				0,8

55° Diamond Type

Shape	Relief Angle	Cat. No.	Stock AC5015S	Stock AC5025S	Dimensions (mm) Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	7°	DCMT 070202 NSU	●	●	6,35	2,38	2,8	0,2
		070204 NSU	●	●				0,4
	7°	DCMT 11T302 NSU	●					0,2
		11T304 NSU	●	●	9,525	3,97	4,4	0,4
		11T308 NSU	●	●				0,8
	7°	DCGT 070201 M NFC	❍	❍				<0,1
		070202 M NFC	❍	❍	6,35	2,38	2,8	<0,2
		070204 M NFC	❍	❍				<0,4
	7°	DCGT 11T301 M NFC	❍	❍				<0,1
		11T302 M NFC	❍	❍	9,525	3,97	4,4	<0,2
		11T304 M NFC	❍	❍				<0,4
	7°	DCGT 0702003 RFX	❍	❍				0,03
		0702003 LFX	❍	❍				0,03
		070201 RFX	❍	❍	6,35	2,38	2,8	0,1
		070201 LFX	❍	❍				0,1
		070202 RFX	❍	❍				0,2
		070202 LFX	❍	❍				0,2
	7°	DCGT 11T3003 RFX	❍	❍				0,03
		11T3003 LFX	❍	❍				0,03
		11T301 RFX	❍	❍	9,525	3,97	4,4	0,1
		11T301 LFX	❍	❍				0,1
		11T302 RFX	❍	●				0,2
		11T302 LFX	❍	❍				0,2
	7°	DCGT 0702003 RFY	❍	❍				0,03
		0702003 LFY	❍	❍				0,03
		070201 RFY	❍	❍				0,1
		070201 LFY	❍	❍	6,35	2,38	2,8	0,1
		070202 RFY	❍	❍				0,2
		070202 LFY	❍	❍				0,2
		070204 RFY	❍	❍				0,4
		070204 LFY	❍	❍				0,4
	7°	DCGT 11T3003 RFY	❍	❍				0,03
		11T3003 LFY	❍	❍				0,03
		11T301 RFY	❍	❍				0,1
		11T301 LFY	❍	❍	9,525	3,97	4,4	0,1
		11T302 RFY	❍	❍				0,2
		11T302 LFY	❍	❍				0,2
		11T304 RFY	❍	❍				0,4
		11T304 LFY	❍	❍				0,4
	7°	DCGT 070201 M NSI	●	●				0,1
		070202 M NSI	●	●	6,35	2,38	2,8	0,2
		070204 M NSI	●	●				0,4
	7°	DCGT 11T301 M NSI	●	●				<0,1
		11T302 M NSI	●	●				<0,2
		11T304 M NSI	●	●	9,525	3,97	4,4	<0,4
		11T308 M NSI	●	●				<0,8

● Euro stock, available from October 2018 ❍ Japan stock, available from 2019

● Euro stock, available from 2019

Round Type

Shape	Relief Angle	Cat. No.	Stock AC5015S	Stock AC5025S	Dimensions (mm) Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	7°	RCMX 1204 M0NRP	❍	❍	12,0	4,76	4,2	–
		RCMX 2006 M0NRP	❍	❍	20,0	6,35	6,5	–
	7°	RCMT 1204 M0NRX		●	12,0	4,76	4,2	–
		RCMT 1606 M0NRX		●	16,0	6,35	5,2	–
		RCMT 2006 M0NRX		●	20,0	6,35	6,5	–
	11°	RPGW 0803 M0	❍	❍	8,0	3,18	3,3	–
		RPGW 1004 M0	❍	❍	10,0	4,76	3,8	–
		RPGW 1204 M0	❍	❍	12,0	4,76	4,3	–

Square Type

Shape	Relief Angle	Cat. No.	Stock AC5015S	Stock AC5025S	Dimensions (mm) Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	7°	SCMT 09T304 NSU	●	●	9,525	3,97	4,4	0,4
		09T308 NSU	●	●				0,8

Triangular Type

Shape	Relief Angle	Cat. No.	Stock AC5015S	Stock AC5025S	Dimensions (mm) Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	5°	TBGT 060102 RFX	❍	❍	3,97	1,59	2,2	0,2
		060102 LFX	❍	❍				0,2
		060104 RFX	❍	❍				0,4
		060104 LFX	❍	❍				0,4
	7°	TCMT 110204 NSU	❍	❍	6,35	2,38	2,8	0,4
		110208 NSU	❍	❍				0,8
	7°	TCGT 110204 M NSI	●	●	6,35	2,38	2,8	<0,4
	11°	TPGT 110302 M NFC	❍	❍	6,35	3,18	3,4	<0,2
		110304 M NFC	❍	❍				<0,4
	11°	TPGT 080202 RFX	❍	❍				0,2
		080202 LFX	❍	❍	4,76	2,38	2,4	0,2
		080204 RFX	❍	❍				0,4
		080204 LFX	❍	❍				0,4
	11°	TPGT 110202 RFX	❍	❍				0,2
		110202 LFX	❍	❍				0,2
		110204 RFX	❍	❍	6,35	2,38	2,8	0,4
		110204 LFX	❍	❍				0,4
		110208 RFX	❍	❍				0,8
		110208 LFX	❍	❍				0,8
	11°	TPGT 110302 RFX	❍	❍				0,2
		110302 LFX	❍	❍				0,2
		110304 RFX	❍	❍	6,35	3,18	3,4	0,4
		110304 LFX	❍	❍				0,4
		110308 RFX	❍	❍				0,8
		110308 LFX	❍	❍				0,8
	11°	TPGT 0802003 RFY	❍	❍				0,03
		0802003 LFY	❍	❍				0,03
		080201 RFY	❍	❍				0,1
		080201 LFY	❍	❍	4,76	2,38	2,4	0,1
		080202 RFY	❍	❍				0,2
		080202 LFY	❍	❍				0,2
		080204 RFY	❍	❍				0,4
		080204 LFY	❍	❍				0,4
	11°	TPGT 1103003 RFY	❍	❍				0,03
		1103003 LFY	❍	❍				0,03
		110301 RFY	❍	❍				0,1
		110301 LFY	❍	❍				0,1
		110302 RFY	❍	❍	6,35	3,18	3,4	0,2
		110302 LFY	❍	❍				0,2
		110304 RFY	❍	❍				0,4
		110304 LFY	❍	❍				0,4
		110308 RFY	❍	❍				0,8
		110308 LFY	❍	❍				0,8
	11°	TPGT 110304 LSD	❍	❍	6,35	3,18	3,4	0,4
		TPGT 160404 LSD	❍	❍	9,525	4,76	4,4	0,4
	11°	TPGW 110304	●	❍	6,35	3,18	3,4	0,4
		TPGW 160404	❍	❍	9,525	4,76	4,4	0,4

35° Diamond Type

Shape	Relief Angle	Cat. No.	Stock AC5015S	Stock AC5025S	Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	5°	VBMT 160404 NSU	●	●	9,525	4,76	4,4	0,4
		160408 NSU	●	●				0,8
	5°	VBMT 160404 NSK	●	●	9,525	4,76	4,4	0,4
		160408 NSK	●	●				0,8
	5°	VBGT 110301 M NSI	●	●	6,35	3,18	2,8	<0,1
		110302 M NSI	●	●				<0,2
		110304 M NSI	●	●				<0,4
		110308 M NSI	●	●				<0,8
	5°	VBGT 160401 M NSI	●	●	9,525	4,76	4,4	<0,1
		160402 M NSI	●	●				<0,2
		160404 M NSI	●	●				<0,4
		160408 M NSI	●	●				<0,8
	7°	VCGT 080204 M NFC	❍	❍	4,76	2,38	2,3	<0,4
	7°	VCGT 110301 M NFC	❍	❍	6,35	3,18	2,8	<0,1
		110302 M NFC	❍	❍				<0,2
		110304 M NFC	❍	❍				<0,4
	7°	VCGT 110301 RFX	❍	❍	6,35	3,18	2,8	0,1
		110301 LFX	❍	❍				0,1
		110302 RFX	❍	❍				0,2
		110302 LFX	❍	❍				0,2
	7°	VCGT 110301 RFY	❍	❍	6,35	3,18	2,8	0,1
		110301 LFY	❍	❍				0,1
		110302 RFY	❍	❍				0,2
		110302 LFY	❍	❍				0,2
	7°	VCMT 160404 NSU	●	●	9,525	4,76	4,4	0,4
		160408 NSU	❍	●				0,8
	7°	VCMT 160404 NSK		●	9,525	4,76	4,4	0,4
		160408 NSK	●	●				0,8
	7°	VCGT 110301 M NSI	●	●	6,35	3,18	2,8	<0,1
		110302 M NSI	●	●				<0,2
		110304 M NSI	●	●				<0,4
		110308 M NSI	●	●				<0,8
	7°	VCGT 160401 M NSI	●	●	9,525	4,76	4,4	<0,1
		160402 M NSI	●	●				<0,2
		160404 M NSI	●	●				<0,4
		160408 M NSI	●	●				<0,8

Trigon Type

Shape	Relief Angle	Cat. No.	Stock AC5015S	Stock AC5025S	Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	5°	WBGT 060102 LFX	❍	❍	3,97	1,59	2,2	0,2
		060104 LFX	❍	❍				0,4

Square Type (without Insert Hole)

Shape	Relief Angle	Cat. No.	Stock AC5015S	Stock AC5025S	Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	11°	SPMN 120308	❍	❍	12,7	3,18	–	0,8
		120312	❍	❍				1,2
	11°	SPMN 150408	❍	❍	15,875	4,76	–	0,8
	11°	SPGN 090308	●	❍	9,525	3,18	–	0,8
	11°	SPGN 120304	❍	❍	12,7	3,18	–	0,4
		120308	❍	❍				0,8

Triangular Type (without Insert Hole)

Shape	Relief Angle	Cat. No.	Stock		Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	11°	TPMN 110304	❍	❍	6,35	3,18	–	0,4
		110308	❍	❍				0,8
	11°	TPMN 160304	❍	❍	9,525	3,18	–	0,4
		160308	❍	❍				0,8
	11°	TPMN 220408	❍	❍	12,7	4,76	–	0,8
		220412	❍	❍				1,2
	11°	TPGN 110304	❍	❍	6,35	3,18	–	0,4
	11°	TPGN 160304	❍	❍	9,525	3,18	–	0,4
		160308	❍	❍				0,8
	11°	TPGN 220408	❍	❍	12,7	4,76	–	0,8

● Euro stock, available from October 2018 ❍ Japan stock, available from 2019

● Euro stock, available from 2019

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