

Coated Grades for Exotic Alloys

AC5005S/AC5015S/AC5025S

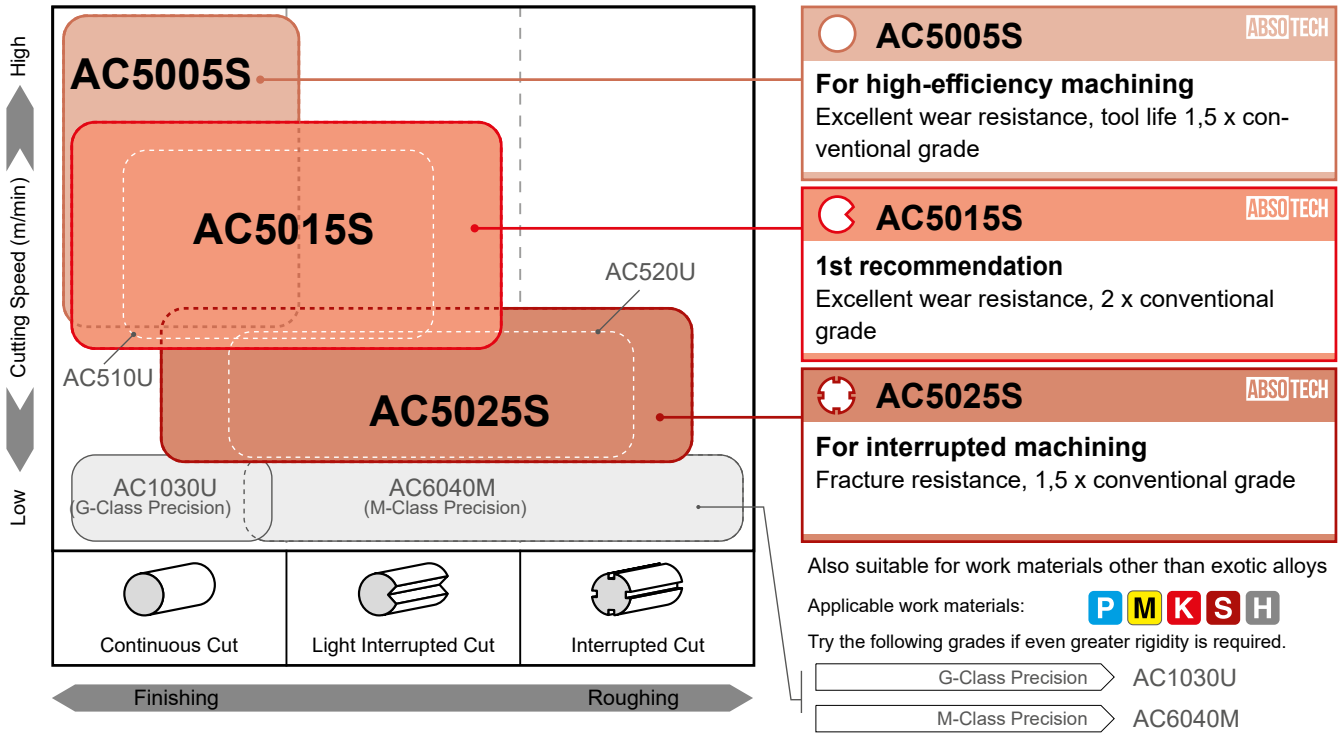
New Grades for Exotic Alloy Turning, Creating „Absolutely Stable Cutting“

Introducing **AC5005S**

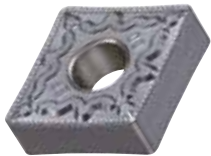
For Exotic Alloy Turning

AC5005S/AC5015S/AC5025S

Application Range

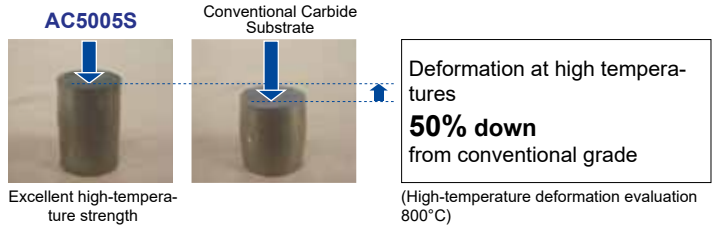


Features of AC5000S Series



Newly developed heat-resistant carbide substrate

High efficiency with a newly developed dedicated substrate with excellent high-temperature hardness/strength. Realises excellent wear resistance and plastic deformation resistance during machining.

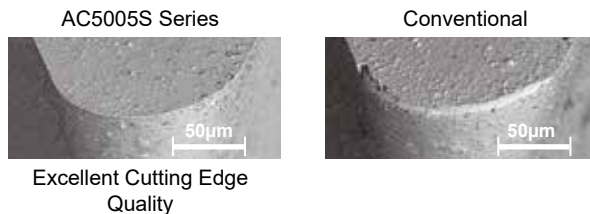


PVD-coating technology **ABSOTECH™**

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

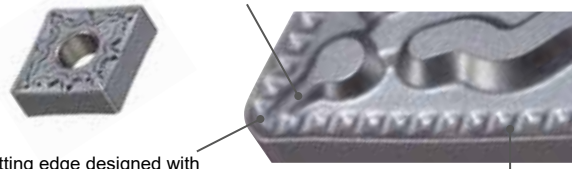
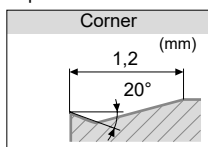
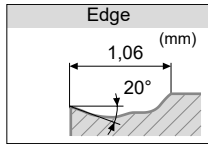
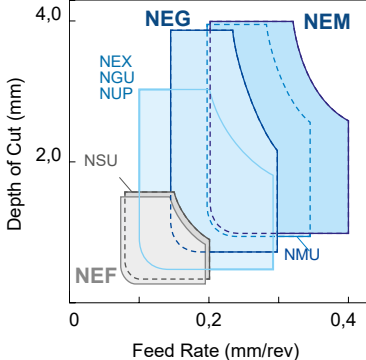
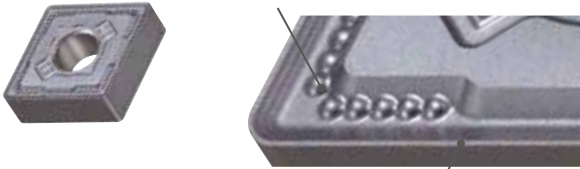
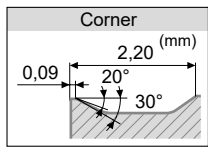
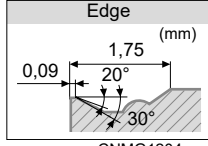
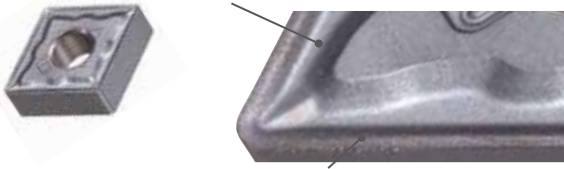
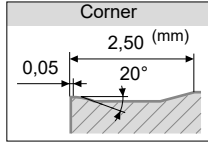
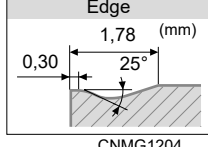
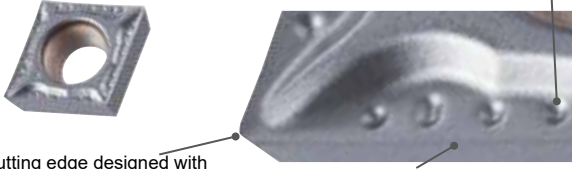
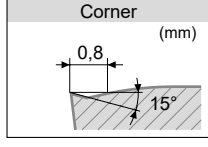
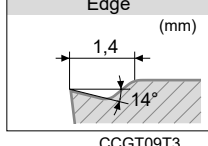
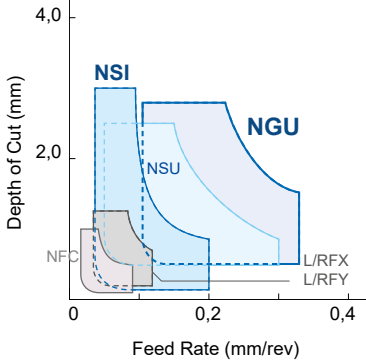

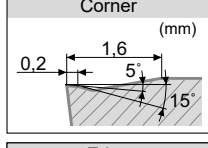
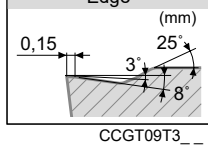
Newly developed tough carbide substrate

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.



AC5005S/AC5015S/AC5025S

Chipbreaker Selection Guide

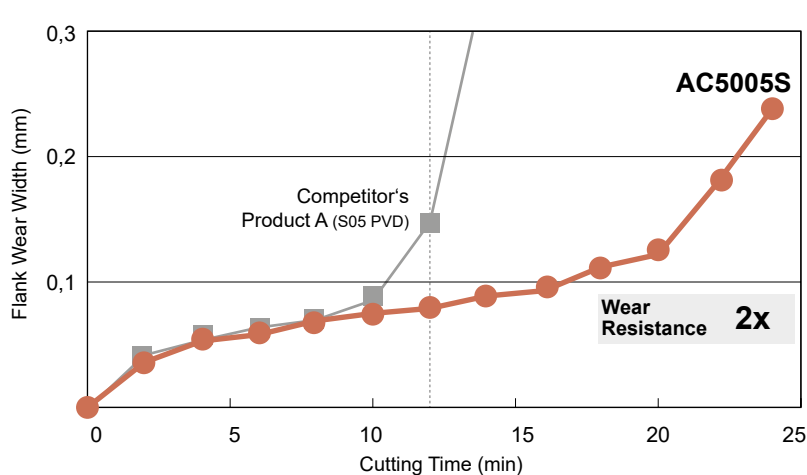
Negative Type Inserts	<p>Finishing</p> <p>NEF</p> <p>Main chipbreaker exhibits excellent chip evacuation performance even with small depth of cut.</p>  <p>Cutting edge designed with an emphasis on sharpness (20° rake angle) to suppress wear.</p> <p>Grooved rake face suppresses heat generation and uneven contact.</p>	<p>Chipbreaker Cross-Section</p> <p>Corner</p>  <p>Edge</p>  <p>CNMG1204_ _</p>	
	<p>Medium to Rough Cutting</p> <p>NEG</p> <p>Spherical protrusions exhibits excellent chip evacuation performance over a wide range of conditions.</p>  <p>Cutting edge shape that retains its strength even after wear progresses.</p>	<p>Chipbreaker Cross-Section</p> <p>Corner</p>  <p>Edge</p>  <p>CNMG1204_ _</p>	
	<p>Rough Cutting</p> <p>NEM</p> <p>Large convex rake face design keeps its cutting edge strength while suppressing crater wear.</p>  <p>Suppresses notch wear by eliminating the change of cutting points on the cutting edge.</p>	<p>Chipbreaker Cross-Section</p> <p>Corner</p>  <p>Edge</p>  <p>CNMG1204_ _</p>	
Positive Type Inserts	<p>Finishing to Light Cutting</p> <p>NSI</p> <p>Dimpled shape suppresses heat generation due to large depths of cut.</p>  <p>Cutting edge designed with an emphasis on sharpness (15° rake angle).</p> <p>Cutting edge shape intended to improve profiling and reduce cutting force.</p>	<p>Chipbreaker Cross-Section</p> <p>Corner</p>  <p>Edge</p>  <p>CCGT09T3_ _</p>	
	<p>Light to Medium Cutting</p> <p>NGU</p> <p>Suppresses chip build-up at high feed rates for ideal chip control.</p>  <p>Protrusion design controls chip flow.</p> <p>Rake face shape with excellent balance of sharpness and strength.</p>	<p>Chipbreaker Cross-Section</p> <p>Corner</p>  <p>Edge</p>  <p>CCGT09T3_ _</p>	

For Exotic Alloy Turning

AC5005S/AC5015S/AC5025S

■ Cutting Performance of AC5005S

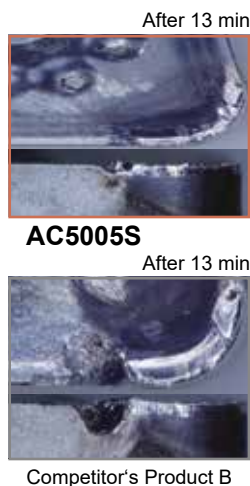
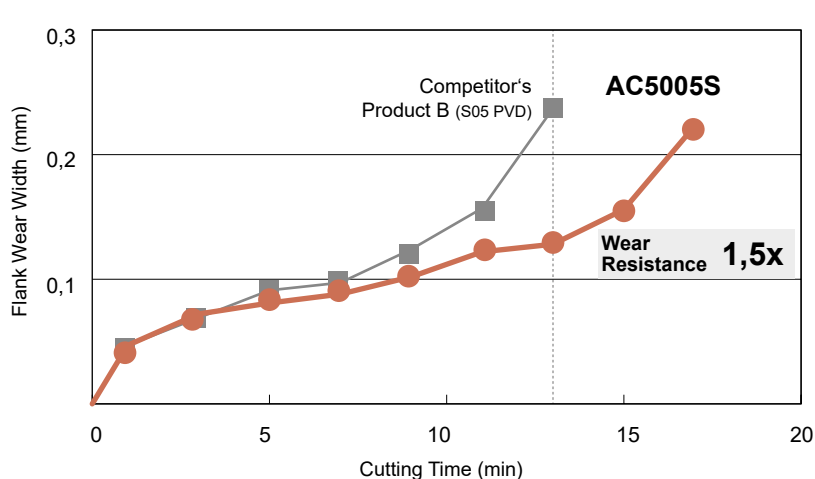
Comparison of Wear Resistance (High-speed)



Newly developed heat-resistant carbide substrate and PVD coating technology ABSOTECH™ suppress wear.

Work Material: Inconel 718 (44HRC) Insert: DNMG150408 Cutting Conditions: $v_c = 100$ m/min, $f = 0,15$ mm/rev, $a_p = 0,50$ mm, wet

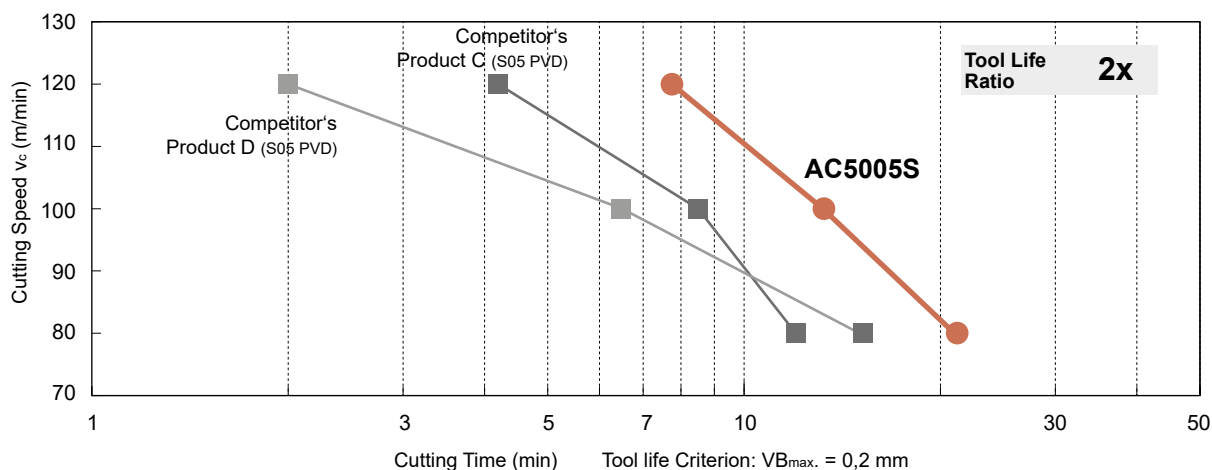
Comparison of Wear Resistance (High-feed)



Newly developed heat-resistant carbide substrate and PVD coating technology ABSOTECH™ suppress wear.

Work Material: Inconel 718 (44HRC) Insert: CNMG120408 Cutting Conditions: $v_c = 50$ m/min, $f = 0,25$ mm/rev, $a_p = 1,50$ mm, wet

Tool Life (V-T Chart, High-feed)



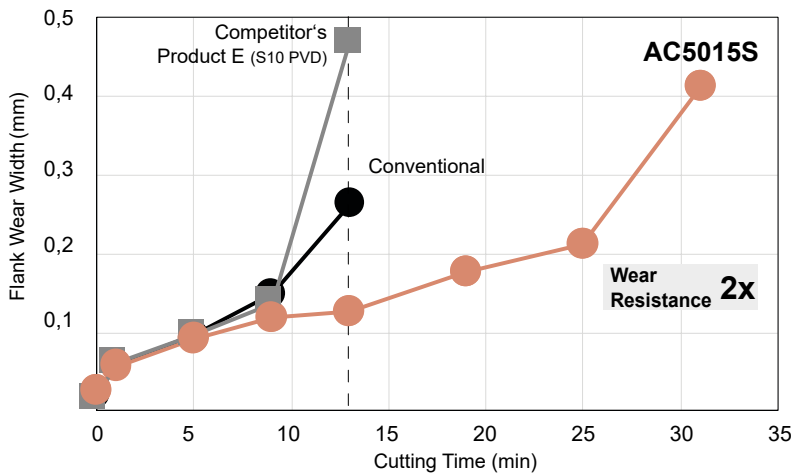
2 x longer tool life in high-speed machining.

Work Material: Inconel 718 (45HRC) Insert: CNMG120408 Cutting Conditions: $f = 0,15$ mm/rev, $a_p = 0,50$ mm, wet

AC5005S/AC5015S/AC5025S

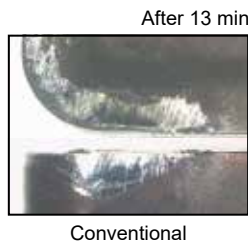
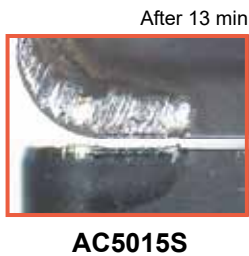
■ Cutting Performance of AC5015S

Wear Resistance

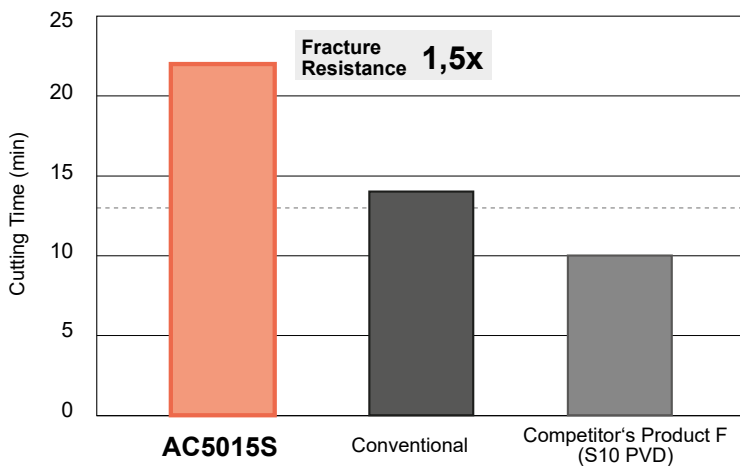


New PVD coating technology ABSOTECH™ reduces wear. **AC5015S** achieves **2x** wear resistance compared to conventional grade.

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

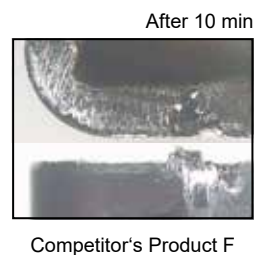
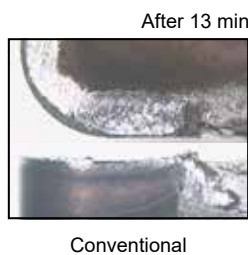


Fracture Resistance



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

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

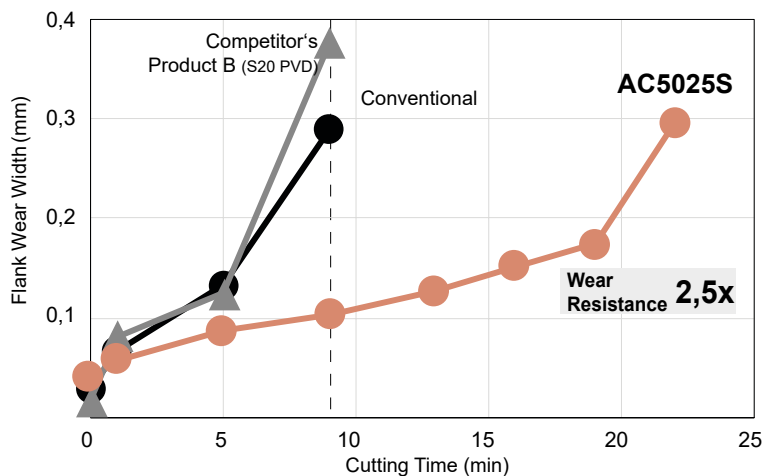


For Exotic Alloy Turning

AC5005S/AC5015S/AC5025S

■ Cutting Performance of AC5025S

Wear Resistance



New PVD coating technology ABSOTECH™ suppresses wear. **AC2025S** achieves **2,5x** wear resistance compared to conventional grade.

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



AC5025S

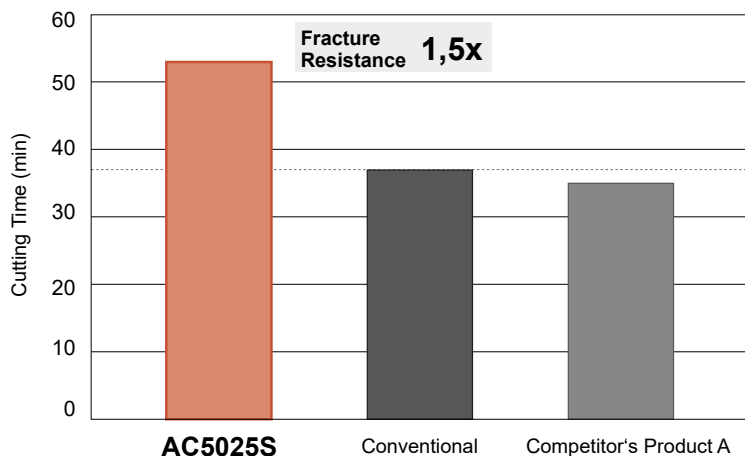


Conventional



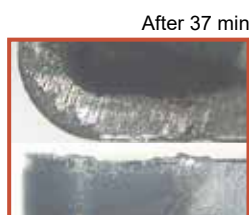
Competitor's Product B

Fracture Resistance

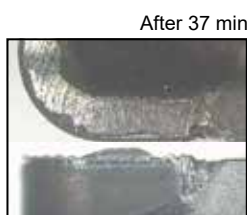


Newly developed hard base material suppresses boundary defects. **AC2025S** achieves **1,5x** fracture resistance compared to conventional grade.

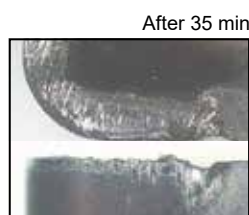
Work Material: Hastelloy (22HRC)
 Insert: CNMG120408
 Cutting Conditions: $v_c = 50$ m/min,
 $f = 0,1$ mm/rev,
 $a_p = 1,5$ mm,
 wet



AC5025S



Conventional

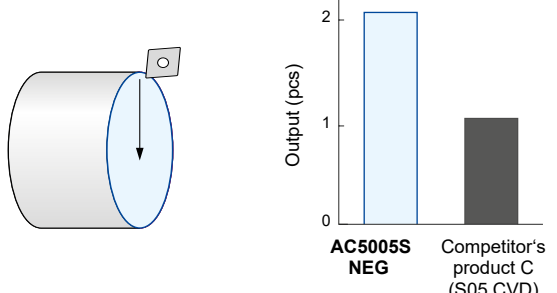


Competitor's Product A

Application Examples of **AC5005S**

Inconel 718, Aerospace Component S

Good wear resistance for 2x longer tool life.




Tool	Output (pcs)
AC5005S NEG	2
Competitor's product C (S05 CVD)	1

Insert: CNMG 190616 NEG
 Cutting Conditions: $v_c = 55$ m/min, $f = 0,3$ mm/rev, $a_p = 3,0$ mm, wet

Inconel 718, Aerospace Component S

Suppresses wear and extends tool life.

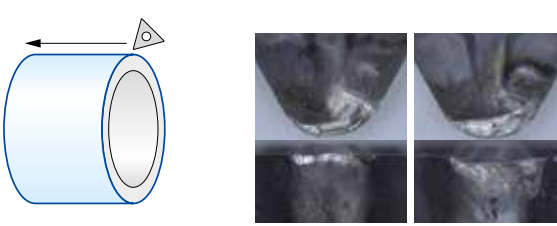


Tool	Output (pcs)
AC5005S NUP (1 pass/C)	1
Comp's D (S05 PVD) (1 pass/C)	1

Insert: CNMG 120408 NUP
 Cutting Conditions: $v_c = 45$ m/min, $f = 0,15$ mm/rev, $a_p = 3,2$ mm, wet

Ni-Based Heat-Resistant Alloy, Industrial Machine Component S

Good wear resistance for at least 5x longer tool life.

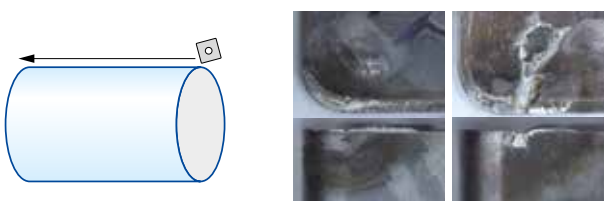


Tool	Output (pcs)
AC5005S NEF (16 passes/C)	16
Conventional (S10 PVD) (3 passes/C)	3

Insert: TNMG 160408 NEF
 Cutting Conditions: $v_c = 30$ m/min, $f = 0,13$ mm/rev, $a_p = 0,8$ mm, wet

Hardened Steel, Industrial Machine Component (50–55HRC) H

Good wear resistance for 13% reduced machining time and extendable tool life.

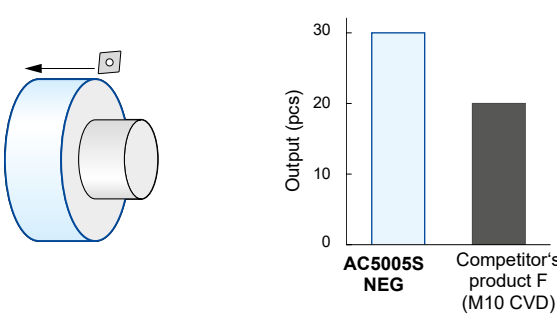


Tool	Output (pcs)
AC5005S NGU (1 pass/C)	1
Comp's E (S05 PVD) (1 pass/C)	1

Insert: SNMG 120412 NGU
 Cutting Conditions: $v_c = 51$ m/min, $f = 0,4$ mm/rev, $a_p = 1,4$ mm, wet

15-5 PH Stainless Steel, Industrial Machine Component M

Good wear resistance for 1,4x longer tool life.

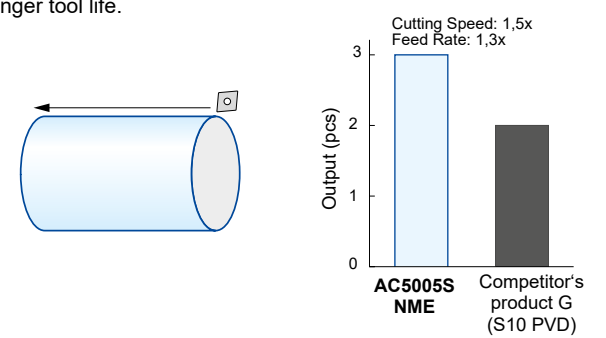


Tool	Output (pcs)
AC5005S NEG	30
Competitor's product F (M10 CVD)	20

Insert: CNMG 120408 NEG
 Cutting Conditions: $v_c = 100$ m/min, $f = 0,2$ mm/rev, $a_p = 0,6$ mm, wet

15-5 PH Stainless Steel, Aerospace Component M

Good wear resistance for 66% reduced machining time and 1,5x longer tool life.



Tool	Output (pcs)
AC5005S NME	3
Competitor's product G (S10 PVD)	2

Insert: CNMG 120412 NME
 Cutting Conditions: $v_c = 55$ m/min, $f = 0,36$ mm/rev, $a_p = 2,5$ mm, wet

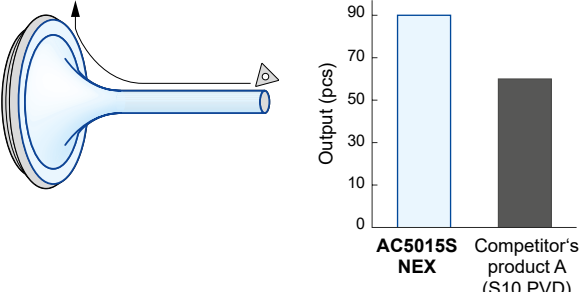
For Exotic Alloy Turning

AC5005S/AC5015S/AC5025S

Application Examples of AC5015S

Ni-Based Heat-Resistant Alloy, Automotive Component S

Good wear resistance for 1,5 times longer tool life.



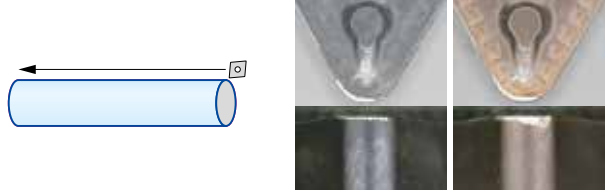
The diagram shows a complex automotive component with a flared end and a long shaft. A bar chart compares the output of AC5015S NEX (90 pcs) and Competitor's product A (S10 PVD) (60 pcs).

Material	Output (pcs)
AC5015S NEX	90
Competitor's product A (S10 PVD)	60

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 S

Suppresses wear and extends tool life.



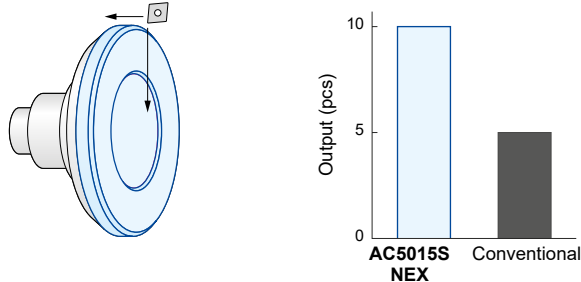
The diagram shows a cylindrical Inconel component. To the right, two images compare the tool wear on AC5015S NEF (left) and a conventional tool (right).

AC5015S NEF (21 pcs/C)
Conventional (21 pcs/C)

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 S

Suppresses wear and shows 2,0 times longer tool life.



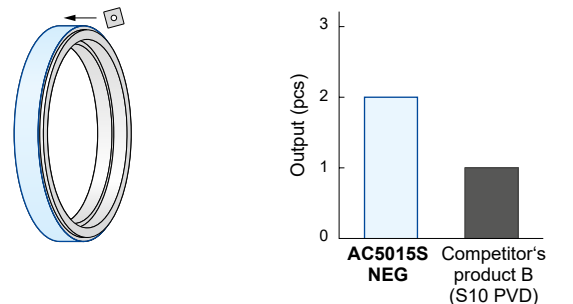
The diagram shows a flange-like automotive component. A bar chart compares the output of AC5015S NEX (10 pcs) and Conventional (5 pcs).

Material	Output (pcs)
AC5015S NEX	10
Conventional	5

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 S

Good wear resistance for 2,0 times longer tool life.



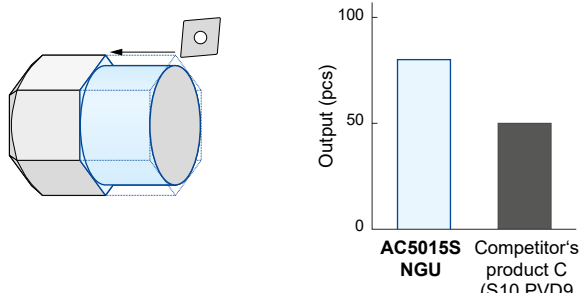
The diagram shows a ring-like aeronautic component. A bar chart compares the output of AC5015S NEG (2 pcs) and Competitor's product B (S10 PVD) (1 pc).

Material	Output (pcs)
AC5015S NEG	2
Competitor's product B (S10 PVD)	1

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

Inconel 625, Aeronpace Component S

Good wear resistance for 1,6 times longer tool life.



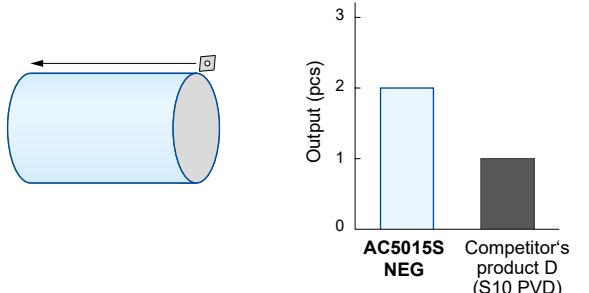
The diagram shows a complex aeronpace component with a hexagonal base. A bar chart compares the output of AC5015S NGU (80 pcs) and Competitor's product C (S10 PVD9) (50 pcs).

Material	Output (pcs)
AC5015S NGU	80
Competitor's product C (S10 PVD9)	50

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

Inconel 718, Aerospace Component S

Good wear resistance for 2,0 times longer tool life.

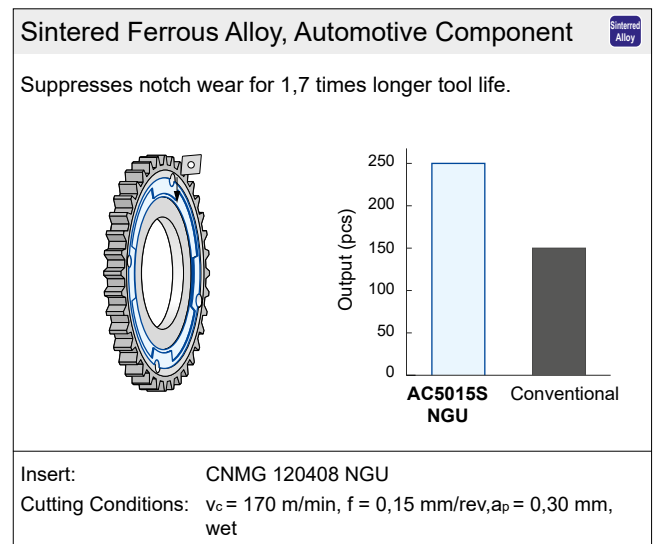
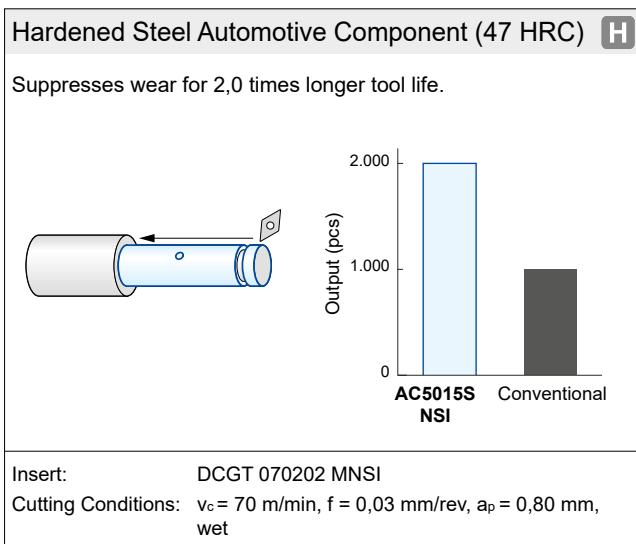
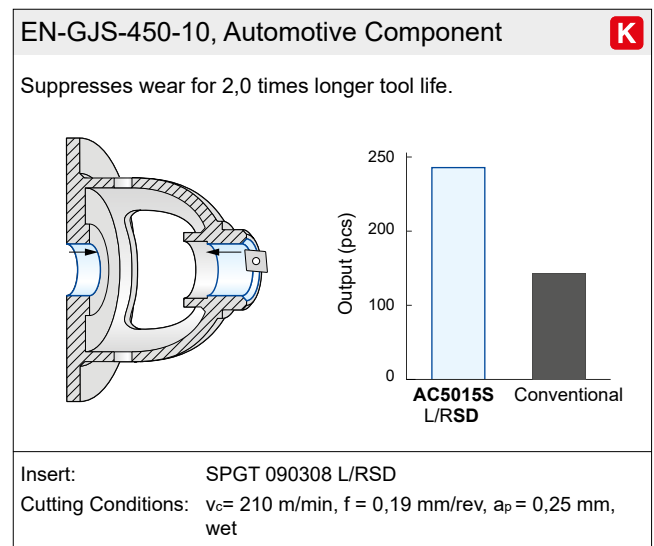
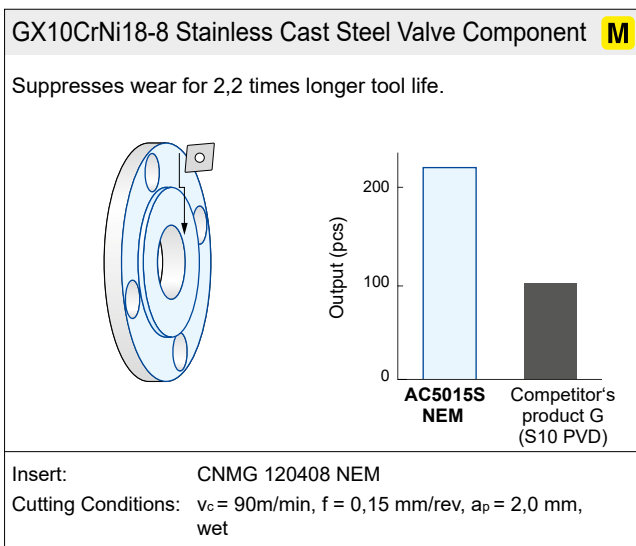
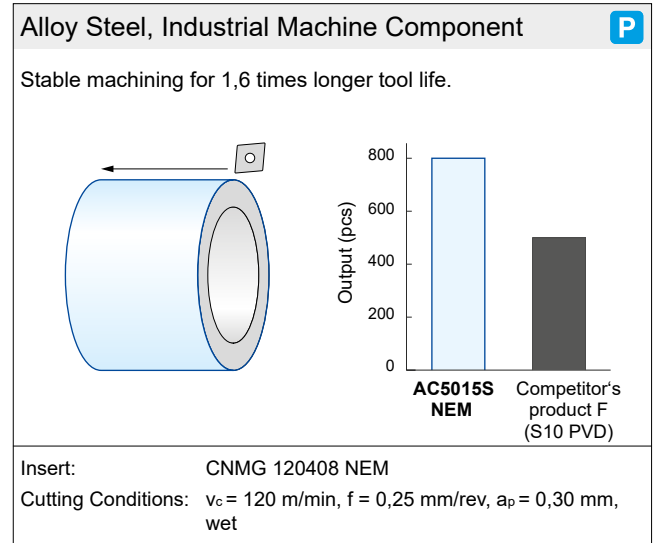
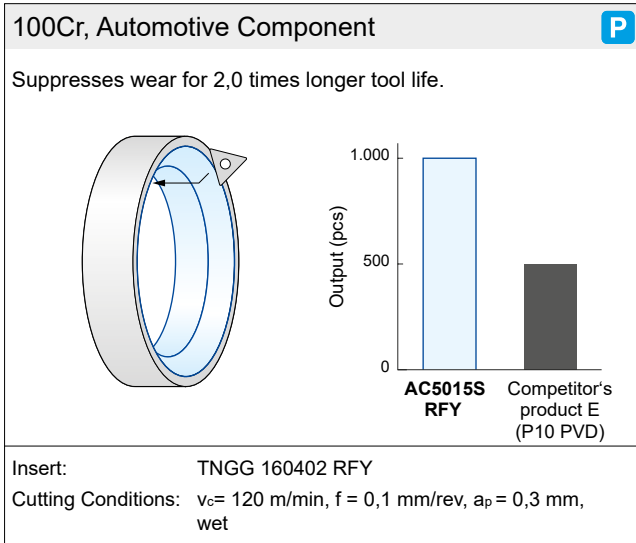


The diagram shows a cylindrical aerospace component. A bar chart compares the output of AC5015S NEG (2 pcs) and Competitor's product D (S10 PVD) (1 pc).

Material	Output (pcs)
AC5015S NEG	2
Competitor's product D (S10 PVD)	1

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

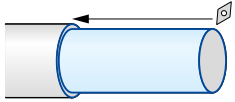
■ Application Examples of **AC5015S**





Application Examples of AC5025S

Inconel 718, Aerospace Component S

Suppresses fracture for 1,7 times longer tool life.



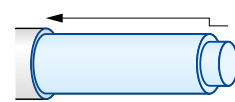





AC5025S NEG (2,5 pcs/C)	Conventional (1,5 pcs/C)
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Insert: DNMG 150608 NEG
Cutting Conditions: $v_c = 35$ m/min, $f = 0,1$ mm/rev, $a_p = 1,6$ mm, wet

Inconel 718, Aerospace Component S

Suppresses wear for 1,5 times longer tool life.



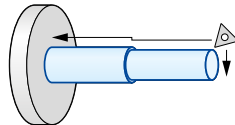





AC5025S RFY (18pcs/C)	Conventional (12 pcs/C)
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Insert: TNGG 160402 RFY
Cutting Conditions: $v_c = 37$ m/min, $f = 0,1$ mm/rev, $a_p = 0,1$ mm, wet

Ni-Based Heat-Resistant Alloy, Automotive Component S

Enables stable machining for 2,0 times longer tool life.



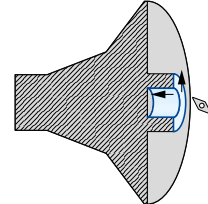





AC5025S NSU (200 pcs/C)	Competitor's product A (100 pcs/C)
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Insert: TNGG 160402 NSU
Cutting Conditions: $v_c = 70$ m/min, $f = 0,1$ mm/rev, $a_p = 0,15$ mm, wet

Inconel, Automotive Component S

Suppresses wear and extends tool life.



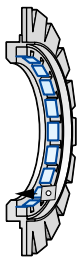



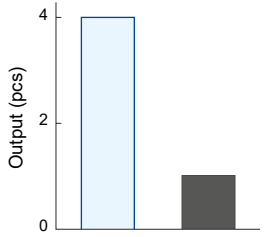
AC5025S NSU (200 pcs/C)	Conventional (200 pcs/C)
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Insert: DCMT 11T308 NSU
Cutting Conditions: $v_c = 49$ m/min, $f = 0,15$ mm/rev, $a_p = 0,5$ mm, wet

Hastelloy, Aerospace Component S

Suppresses wear for 4 times longer tool life.



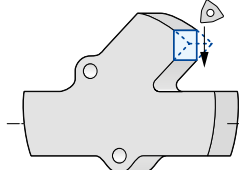


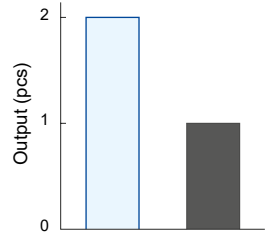
AC5025S NMU	Competitor's product B (S10 PVD)
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Insert: CNMG 120412 NMU
Cutting Conditions: $v_c = 100$ m/min, $f = 0,3$ mm/rev, $a_p = 3,0$ mm, wet

Fe-Based Heat-Resistant Alloy, Valve Component S

Enables stable machining for 2 times longer tool life.





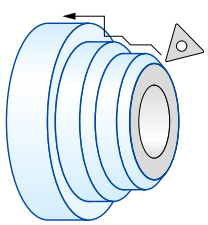
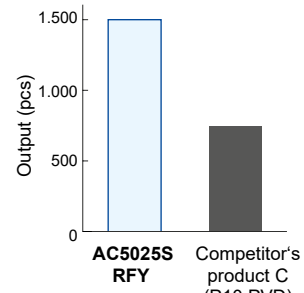
AC5025S NEM	Conventional
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Insert: WNMG 080408 NEM
Cutting Conditions: $v_c = 90$ m/min, $f = 0,15$ mm/rev, $a_p = 1,5$ mm, wet

■ Application Examples of **AC5025S**

100Cr6, Industrial Machine Component P

Good wear resistance for 2,0 times longer tool life.

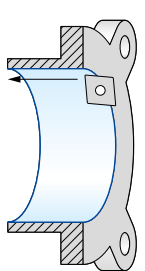
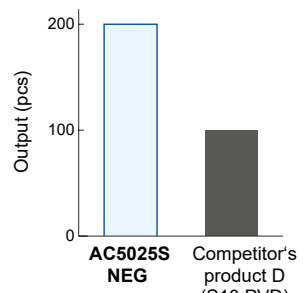



Tool/Condition	Output (pcs)
AC5025S RFY	1500
Competitor's product C (P10 PVD)	750

Insert: TNGG 160402 RFY
 Cutting Conditions: $v_c = 110$ m/min, $f = 0,1$ mm/rev, $a_p = 1,5$ mm, wet

Heat Resistant Stainless Steel, Automotive Component M

Stable machining for 2,0 times longer tool life.

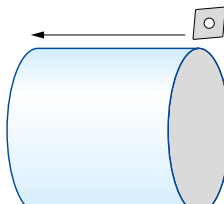
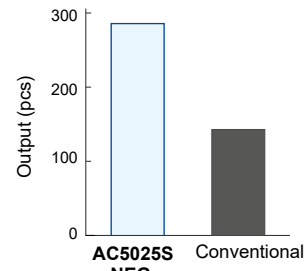



Tool/Condition	Output (pcs)
AC5025S NEG	200
Competitor's product D (S10 PVD)	100

Insert: CNMG 120408 NEG
 Cutting Conditions: $v_c = 80$ m/min, $f = 0,3$ mm/rev, $a_p = 2,0$ mm, wet

X5CrNiMo17-12-2, Industrial Machine Component M

Suppresses wear for 1,5 times longer tool life.

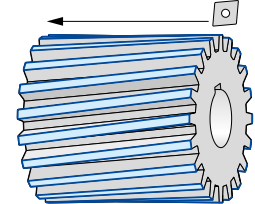
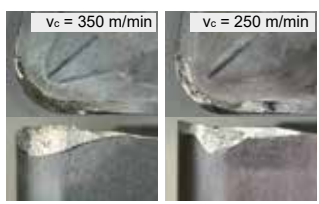



Tool/Condition	Output (pcs)
AC5025S NEG	300
Conventional	150

Insert: CNMG 120408 NEG
 Cutting Conditions: $v_c = 120$ m/min, $f = 0,3$ mm/rev, $a_p = 1,5$ mm, wet

Hardened Steel, Industrial Machine Component (49 HRC) H

Same tool life even at 1,4 times higher cutting speed.

Tool/Condition	Cutting Speed (v_c)	Time
AC5025S NMU	350 m/min	65 min.
Conventional	250 m/min	60 min

Insert: CNMG 120412 NMU
 Cutting Conditions: $v_c = 350$ m/min, $f = 0,16$ mm/rev, $a_p = 1,50$ mm, dry

80° Diamond Type

Shape	Cat. No.	Stock			Dimensions (mm)						
		AC5005S	AC5015S	AC5025S	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	●	●	●	19,05	6,35	7,94	1,2			
	160616 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			

● = Euro stock

○ = Japan stock

55° Diamond Type

Shape	Cat. No.	Stock			Dimensions (mm)				
		AC5005S	AC5015S	AC5025S	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
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
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	









○ Square Type

Shape	Cat. No.	Stock			Dimensions (mm)			
		AC5005S	AC5015S	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	○	○	●				0,4
	120408 NEX	○	○	●	12,7	4,76	5,16	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	○	○	○				0,4
	120408 NGU	○	○	○	12,7	4,76	5,16	0,8
	120412 NGU	○	○	○				1,2
	SNMG 120404 NEG	○	○	○				0,4
	120408 NEG	●	●	●	12,7	4,76	5,16	0,8
	120412 NEG	○	○	○				1,2
	SNMG 150608 NEG	○	○	○				0,8
	150612 NEG	○	○	○	15,875	6,35	6,35	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	●	●	○				0,8
	150612 NMU	●	●	○	15,875	6,35	6,35	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	○	○	○				0,8
	150612 NEM	○	○	○	15,875	6,35	6,35	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	○	○	○				0,8
	120412 NMP	○	○	○	12,7	4,76	5,16	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			Dimensions (mm)			
		AC5005S	AC5015S	AC5025S	Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	TNMG 160402 NSU	○	○	○				0,2
	160404 NSU	●	●	●				0,4
	160408 NSU	●	●	●	9,525	4,76	3,81	0,8
	160412 NSU	○	○	○				1,2
	TNGG 160402 NSU		○	○				0,2
	160404 NSU		○	○	9,525	4,76	3,81	0,4
	160408 NSU		○	○				0,8
	TNMG 160404 NEF	○	○	○	9,525	4,76	3,81	0,4
	160408 NEF	○	○	○				0,8
	TNGG 160402 RFY		○	○				0,2
	160402 LFY		○	○	9,525	4,76	3,81	0,2
	160404 RFY		○	○				0,4
	160404 LFY		○	○				0,4
	TNGG 160402 RFX		○	○				0,2
	160402 LFX		○	○	9,525	4,76	3,81	0,2
	160404 RFX		○	○				0,4
	160404 LFX		○	○				0,4
	TNMG 160404 NEX	○	○	●				0,4
	160408 NEX	●	●	●	9,525	4,76	3,81	0,8
	160412 NEX	●	●	○				1,2
	TNMG 160404 NUP	●	●	○				0,4
	160408 NUP	●	●	○	9,525	4,76	3,81	0,8
	160412 NUP	●	●	○				1,2
	TNMG 220408 NUP	○	○	○	12,7	4,76	5,16	0,8
	TNMG 160404 NGU	○	○	○				0,4
	160408 NGU	○	○	○	9,525	4,76	3,81	0,8
	160412 NGU	○	○	○				1,2
	TNMG 160404 NEG	○	○	○				0,4
	160408 NEG	●	●	●	9,525	4,76	3,81	0,8
	160412 NEG	○	○	○				1,2
	TNMG 160408 NMU	○	○	○				0,8
	160412 NMU	○	○	○	9,525	4,76	3,81	1,2
	TNMG 220408 NMU	○	○	●	12,7	4,76	5,16	0,8
	TNMG 160408 NEM	○	○	○				0,8
	160412 NEM	○	○	○	9,525	4,76	3,81	1,2
	TNMG 330924 NEM	○	○	○	19,05	9,52	7,93	2,4
	TNMG 160404 RHM	○	○	○				0,4
	160404 LHM	○	○	○	9,525	4,76	3,81	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











35° Diamond Type

Shape	Cat. No.	Stock			Dimensions (mm)			
		AC5005S	AC5015S	AC5025S	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			Dimensions (mm)			
		AC5005S	AC5015S	AC5025S	Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	SNMN 120408	○	○	○	12,7	4,76	-	0,8
	120412	○	○	○				1,2
	120416	○	○	○				1,6

Trigon Type

Shape	Cat. No.	Stock			Dimensions (mm)						
		AC5005S	AC5015S	AC5025S	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
	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
	WNMG 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
	WNMG 080412 NEG	○	○	○				1,2			
	WNMG 060408 NMU		●	●	9,525	4,76	3,81	0,8			
	060412 NMU		○	○				1,2			
	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			

● = Euro stock

○ = Japan stock

80° Diamond Type

Shape	Relief Angle	Cat. No.	Stock			Dimensions (mm)			
			AC5005S	AC5015S	AC5025S	Inscribed Circle	Thickness	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 09T302 NSU	○	●	●	9,525	3,97	4,4	0,2
		09T304 NSU	●	●	●				0,4
		09T308 NSU	●	●	●				0,8
	7°	CCMT 120404 NSU	●	●	●	12,7	4,76	5,5	0,4
		120408 NSU	●	○	○				0,8
	7°	CCGT 09T301 M NSI	□	●	●	9,525	3,97	4,4	<0,1
		09T302 M NSI	□	●	●				<0,2
	7°	CCMT 060204 NGU	●	○	○	6,35	2,38	2,8	0,4
		060208 NGU	●	○	○				0,8
	7°	CCMT 09T304 NGU	●	●	●	9,525	3,97	4,4	0,4
		09T308 NGU	●	●	●				0,8
	11°	CPGT 080202 NSD	○	○	○	7,94	2,38	3,4	0,2
		080204 NSD	○	○	○				0,4
		080208 NSD	○	○	○				0,8
	11°	CPGT 090302 NSD	○	○	○	9,525	3,18	4,4	0,2
		090304 NSD	○	○	○				0,4
		090308 NSD	○	○	○				0,8
	11°	CPGT 120402 NSD	○	○	○	12,7	4,76	5,5	0,2
		120404 NSD	○	○	○				0,4
		120408 NSD	○	○	○				0,8
	11°	CPMT 080204 NSU	○	○	○	7,94	2,38	3,4	0,4
		080208 NSU	○	○	○				0,8
	11°	CPMT 090304 NSU	○	○	○	9,525	3,18	4,4	0,4
		090308 NSU	○	○	○				0,8

55° Diamond Type




Shape	Relief Angle	Cat. No.	Stock			Dimensions (mm)						
			AC5005S	AC5015S	AC5025S	Inscribed Circle	Thickness	Screw Hole Ø	Nose Radius			
	7°	DCMT 070202 NSU	●	●	●	6,35	2,38	2,8	0,2			
		070204 NSU	●	●	●				0,4			
		070208 NSU	●	○	○				0,8			
	7°	DCMT 11T302 NSU	●	●	○	9,525	3,97	4,4	0,2			
		11T304 NSU	●	●	●				0,4			
		11T308 NSU	●	●	●				0,8			
	7°	DCMT 11T304 NGU	●	●	●	9,525	3,97	4,4	0,4			
		11T308 NGU	●	●	●				0,8			
	7°	DCGT 070201 M NFC	○	○	○	6,35	2,38	2,8	<0,1			
		070202 M NFC	□	○	○				<0,2			
		070204 M NFC	□	○	○				<0,4			
	7°	DCGT 11T301 M NFC	□	○	○	9,525	3,97	4,4	<0,1			
		11T302 M NFC	□	○	○				<0,2			
		11T304 M NFC	□	○	○				<0,4			
	7°	DCGT 0702003 RFX	□	○	○	6,35	2,38	2,8	0,03			
		0702003 LFX	○	○	○				0,03			
		070201 RFX	○	○	○				0,1			
	7°	070201 LFX	○	○	○	9,525	3,97	4,4	0,1			
		070202 RFX	□	○	○				0,2			
		070202 LFX	○	○	○				0,2			
	7°	DCGT 11T3003 RFX	○	○	○	9,525	3,97	4,4	0,03			
		11T3003 LFX	○	○	○				0,03			
		11T301 RFX	○	○	○				0,1			
	7°	11T301 LFX	○	○	○	9,525	3,97	4,4	0,1			
		11T302 RFX	○	○	○				0,2			
		11T302 LFX	○	○	○				0,2			
	7°	DCGT 0702003 RFY	○	○	○	6,35	2,38	2,8	0,03			
		0702003 LFY	○	○	○				0,03			
		070201 RFY	○	○	○				0,1			
	7°	070201 LFY	○	○	○	9,525	3,97	4,4	0,1			
		070202 RFY	○	○	○				0,2			
		070202 LFY	○	○	○				0,2			
	7°	070204 RFY	○	○	○	9,525	3,97	4,4	0,4			
		070204 LFY	○	○	○				0,4			
		DCGT 11T3003 RFY	○	○	○				0,03			
	7°	11T3003 LFY	○	○	○	9,525	3,97	4,4	0,03			
		11T301 RFY	○	○	○				0,1			
		11T301 LFY	○	○	○				0,1			
	7°	11T302 RFY	○	○	○	9,525	3,97	4,4	0,2			
		11T302 LFY	○	○	○				0,2			
		11T304 RFY	○	○	○				0,4			
	7°	11T304 LFY	○	○	○	9,525	3,97	4,4	0,4			
		DCGT 070201 M NSI	□	●	●				6,35	2,38	2,8	0,1
		070202 M NSI	□	●	●							0,2
070204 M NSI	□	●	●	0,4								
	7°	DCGT 11T301 M NSI	□	●	●	9,525	3,97	4,4	<0,1			
		11T302 M NSI	□	●	●				<0,2			
		11T304 M NSI	□	●	●				<0,4			
	7°	11T308 M NSI	□	●	●	9,525	3,97	4,4	<0,8			

● = Euro stock



○ = Japan stock

□ = On request













○ Round Type

Shape	Relief Angle	Cat. No.	Stock			Dimensions (mm)			
			AC5005S	AC5015S	AC5025S	Inscribed Circle	Thickness	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	-

□ Square Type

Shape	Relief Angle	Cat. No.	Stock			Dimensions (mm)			
			AC5005S	AC5015S	AC5025S	Inscribed Circle	Thickness	Screw Hole Ø	Nose Radius
	7°	SCMT 09T304 NSU	●	●	●	9,525	3,97	4,4	0,4
		09T308 NSU	●	●	●				0,8
	7°	SCMT 09T304 NGU			●	9,525	3,97	4,4	0,4
		09T308 NGU			●				0,8

△ Triangular Type

Shape	Relief Angle	Cat. No.	Stock			Dimensions (mm)			
			AC5005S	AC5015S	AC5025S	Inscribed Circle	Thickness	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°	TCMT 16T304 NSU	○			9,525	3,97	4,3	0,4
		16T308 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		○	○	4,76	2,38	2,4	0,2
		080202 LFX		○	○				0,2
		080204 RFX		○	○				0,4
		080204 LFX		○	○				0,4
	11°	TPGT 110202 RFX		○	○	6,35	2,38	2,8	0,2
		110202 LFX		○	○				0,2
		110204 RFX		○	○				0,4
		110204 LFX		○	○				0,4
		110208 RFX		○	○				0,8
		110208 LFX		○	○				0,8
	11°	TPGT 110302 RFX		○	○	6,35	3,18	3,4	0,2
		110302 LFX		○	○				0,2
		110304 RFX		○	○				0,4
		110304 LFX		○	○				0,4
		110308 RFX		○	○				0,8
		110308 LFX		○	○				0,8
	11°	TPGT 0802003 RFY		○	○	4,76	2,38	2,4	0,03
		0802003 LFY		○	○				0,03
		080201 RFY		○	○				0,1
		080201 LFY		○	○				0,1
		080202 RFY		○	○				0,2
		080202 LFY		○	○				0,2
		080204 RFY		○	○				0,4
		080204 LFY		○	○				0,4
	11°	TPGT 1103003 RFY		○	○	6,35	3,18	3,4	0,03
		1103003 LFY		○	○				0,03
		110301 RFY		○	○				0,1
		110301 LFY		○	○				0,1
		110302 RFY		○	○				0,2
		110302 LFY		○	○				0,2
		110304 RFY		○	○				0,4
		110304 LFY		○	○				0,4
	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			Dimensions (mm)						
			AC5005S	AC5015S	AC5025S	Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius			
	5°	VBMT 110302 NSU	○			6,35	3,18	2,8	0,2			
		110304 NSU	○						0,4			
		110308 NSU	○						0,8			
	5°	VBMT 160404 NSU	●	●	●	9,525	4,76	4,4	0,4			
		160408 NSU	●	●	●				0,8			
		VBMT 160404 NSK	●	●	●				0,4			
	5°	160408 NSK	●	●	●	0,8						
	5°	VBMT 160404 NGU		●	●	9,525	4,76	4,4	0,4			
		160408 NGU		●	●				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			
	5°	160404 M NSI	□	●	●	<0,4						
	5°	160408 M NSI	□	●	●	<0,8						
	7°	VCGT 080204 M NFC	□	○	○	4,76	2,38	2,3	<0,4			
		VCGT 110301 M NFC	□	○	○				<0,1			
	7°	110302 M NFC	□	○	○	6,35	3,18	2,8	<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			
		VCGT 110301 NSU	□	○	○				0,2			
	7°	VCMT 080204 NSU	○			4,76	2,38	2,3	0,4			
		VCMT 110302 NSU	○						0,2			
		110304 NSU	○						6,35	3,18	2,8	0,4
		110308 NSU	○						0,8			
		VCMT 160404 NSU	○	●	●				9,525	4,76	4,4	0,4
	7°	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			
	7°	160404 M NSI	□	●	●	<0,4						
	7°	160408 M NSI	□	●	●	<0,8						
	7°	VCGT 160404 NMU		●	○	9,525	4,76	4,4	0,4			
		160408 NMU		○	○				0,8			

Trigon Type

Shape	Relief Angle	Cat. No.	Stock			Dimensions (mm)			
			AC5005S	AC5015S	AC5025S	Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	5°	WBGT 060102 RFX		○		3,97	1,59	2,2	0,2
		060102 LFX		○	○				0,2
		060104 LFX		○	○				0,4

□ Square Type (without Insert Hole)

Shape	Relief Angle	Cat. No.	Stock			Dimensions (mm)			
			AC5005S	AC5015S	AC5025S	Inscribed Circle	Thick-ness	Screw Hole Ø	Nose Radius
	11°	SPMN 120308	○	○	○	12,7	3,18	-	0,8
		120312	○	○	○				1,2
		SPMN 150408	○						15,875
	11°	SPGN 090308		○	○	9,525	3,18	-	0,8

△ Triangular Type (without Insert Hole)

Shape	Relief Angle	Cat. No.	Stock			Dimensions (mm)			
			AC5005S	AC5015S	AC5025S	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
		160304		○	○				0,4
		160308		○	○				9,525

Inserts for Grooving Tools GND Series (for Grooving / Cut-off)

Fig. 1

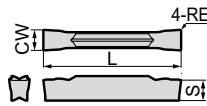


Fig. 2

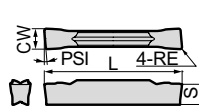
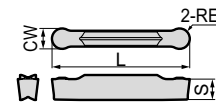


Fig. 3



Grooving/Traverse Cutting

Dimensions (mm)

Cat. No.	Stock		Width of Cut CW		Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack.	Fig.
	AC5015S	AC5025S	Width of Cut	Tolerance					
	GCM N3002 MG N3004 MG	●	●	3,0	±0,03	0,2	21,1	3,8	1
GCM N4002 MG N4004 MG N4008 MG	●	●	4,0	±0,03	0,2	26,4	4,0		
GCM N5004 MG N5008 MG	●	●	5,0	±0,03	0,4	26,4	4,1	5	1
GCM N6004 MG N6008 MG	●	●	6,0	±0,03	0,4	26,4	4,5		
GCM N7004 MG N7008 MG	●	●	7,0	±0,04	0,4	28,8	5,5	1	1
GCM N8004 MG N8008 MG	●	●	8,0	±0,04	0,4	28,8	6,0		
GCM N2002 ML N3002 ML N3004 ML	●	●	2,0	±0,03	0,2	21,1	3,6	1	1
GCM N4002 ML N4004 ML N4008 ML	●	●	4,0	±0,03	0,2	26,4	4,0		
GCM N5004 ML N5008 ML	●	●	5,0	±0,03	0,4	26,4	4,1	5	1
GCM N6004 ML N6008 ML	●	●	6,0	±0,03	0,4	26,4	4,5		
GCM N7004 ML N7008 ML	●	●	7,0	±0,04	0,4	28,8	5,5	1	1
GCM N8004 ML N8008 ML	●	●	8,0	±0,04	0,4	28,8	6,0		

Cut-off (Handed Edge)

Dimensions (mm)

Cat. No.	Stock		Lead Angle PSI	Width of Cut CW		Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack.	Fig.
	AC5015S	AC5025S		Width of Cut	Tolerance					
	GCM R2002 CG 05 L2002 CG 05	●	●	5°	2,0	±0,03	0,2	21,1	3,6	2
GCM R3002 CG 05 L3002 CG 05	●	●	5°	3,0	±0,03	0,2	21,3	3,8		
GCM R4002 CG 05 L4002 CG 05	●	●	5°	4,0	±0,04	0,2	26,7	4,0	2	2
GCM R20003 CF 10 L20003 CF 10	●	●	10°	2,0	±0,08	0,03	22,4	3,6		
GCM R30003 CF 10 L30003 CF 10	●	●	10°	3,0	±0,08	0,03	22,4	3,8	5	2
GCM R20003 CF 15 L20003 CF 15	●	●	15°	2,0	±0,08	0,03	22,4	3,6		
GCM R30003 CF 15 L30003 CF 15	●	○	15°	3,0	±0,08	0,03	22,4	3,8	2	2

GCMR: right-handed, GCM L: left handed

External Profiling/External Radius Grooving

Dimensions (mm)

Cat. No.	Stock		Width of Cut CW		Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack.	Fig.
	AC5015S	AC5025S	Width of Cut	Tolerance					
	GCM N3015 RG N4020 RG	●	●	3,0	±0,03	1,5	21,1	3,8	5
GCM N5025 RG N6030 RG	●	●	4,0	±0,03	2,0	26,4	4,0		
GCM N7035 RG N8040 RG	●	●	5,0	±0,03	2,5	27,2	4,1	3	3
	●	●	6,0	±0,03	3,0	27,5	4,5		
	●	●	7,0	±0,04	3,5	29,1	5,5	3	3
	●	●	8,0	±0,04	4,0	29,3	6,0		

Grooving/Cut-off

Dimensions (mm)

GCM N2002 GG N3002 GG N3004 GG	●	●	2,0	±0,03	0,2	21,1	3,6	1	1
GCM N4002 GG N4004 GG	●	●	3,0	±0,03	0,4	21,1	3,8		
GCM N5002 GG N5004 GG	●	●	4,0	±0,03	0,2	26,4	4,0	5	1
GCM N6002 GG N6004 GG	●	●	4,0	±0,03	0,4	26,4	4,1		
GCM N7004 GG N8004 GG	●	●	5,0	±0,03	0,2	26,4	4,5	1	1
GCM N2002 GL N2004 GL	●	●	6,0	±0,03	0,2	26,4	4,5		
GCM N3002 GL N3004 GL	●	●	7,0	±0,04	0,4	28,8	5,5	1	1
GCM N4002 GL N4004 GL	●	●	8,0	±0,04	0,4	28,8	6,0		
GCM N5002 GL N5004 GL	●	●	2,0	±0,03	0,2	21,1	3,6	1	1
GCM N6002 GL N6004 GL	●	●	2,0	±0,03	0,4	21,1	3,6		
GCM N7004 GL N8004 GL	●	●	3,0	±0,03	0,2	21,1	3,8	5	1
GCM N2002 GF N2004 GF	●	●	3,0	±0,03	0,4	21,1	3,8		
GCM N3002 GF N3004 GF	●	●	4,0	±0,03	0,2	26,4	4,0	1	1
GCM N4002 GF N4004 GF	●	●	4,0	±0,03	0,4	26,4	4,0		
GCM N5002 GF N5004 GF	●	●	5,0	±0,03	0,2	26,4	4,1	5	1
GCM N6002 GF N6004 GF	●	●	5,0	±0,03	0,4	26,4	4,1		
GCM N7002 GF N7004 GF	●	●	6,0	±0,03	0,2	26,4	4,5	1	1
GCM N8002 GF	●	●	6,0	±0,03	0,4	26,4	4,5		
	●	●	7,0	±0,04	0,2	28,8	5,5	1	1
	●	●	7,0	±0,04	0,4	28,8	5,5		
	●	●	8,0	±0,04	0,2	28,8	6,0	1	1
	●	●	8,0	±0,04	0,4	28,8	6,0		

Profiling/Radius Grooving/Necking

Dimensions (mm)

Cat. No.	Stock		Width of Cut CW		Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack.	Fig.
	AC5015S	AC5025S	Width of Cut	Tolerance					
	GCM N2010 RN N3015 RN	●	●	2,0	±0,03	1,0	21,7	3,6	3
GCM N4020 RN N5025 RN	●	●	3,0	±0,03	1,5	22,6	3,8		
GCM N6030 RN	●	●	4,0	±0,03	2,0	28,2	4,0	5	3
	●	●	5,0	±0,03	2,5	28,3	4,1		
	●	●	6,0	±0,04	3,0	28,3	4,5	3	3

Note: The values in blue have been changed from the 2020-2021 General Catalogue.

Select holders and inserts with matching width of cut (CW). Not usable with GNDIS type holders.

Part Number Suffix Code (Chipbreakers)

Type	Symbol	Applications
Grooving/traverse cutting	MG	Multi-functional/general purpose
	ML	Multi-functional/low-feed
Grooving/cut-off	GG	Grooving/general purpose
	GL	Grooving/low-feed
	GF	Grooving/Low cutting force
Cut-off (Handed edge)	GG	Cut-off/general purpose
	CF	Cut-off/low cutting force
External profiling/external radius grooving	RG	Profiling/general purpose
Profiling/radius grooving/necking	RN	Facing/necking/general purpose

● = Euro stock

○ = Japan stock

AC5005S/AC5015S/AC5025S**Recommended Cutting Conditions**

(Blue text indicates 1st recommendation)

Work Material	Application	Chipbreaker	Grade	Cutting Conditions (Min.–Optimum–Max.)		
				Depth of Cut a_p (mm)	Feed Rate f (mm/rev)	Cutting Speed v_c (m/min)
Heat Resistance Alloy Ni-based material Fe-based material Co-based material	Finishing	NEF	AC5005S AC5015S AC5025S	0,2– 0,5 –1,5	0,10– 0,12 –0,20	50– 70 –110
	Light	NEX	AC5005S AC5015S AC5025S	0,5– 1,0 –3,0	0,10– 0,20 –0,30	40– 60 –90
	Medium	NEG	AC5005S AC5015S AC5025S	0,5– 2,0 –4,0	0,15– 0,25 –0,30	40– 60 –90
	Roughing	NMU, NME	AC5015S AC5025S	1,0– 2,0 –4,0	0,20– 0,25 –0,40	30– 55 –80

For Exotic Alloy Turning

AC5005S/AC5015S/AC5025S



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