

New

AC8115P/AC8020P/AC8025P/AC8035P



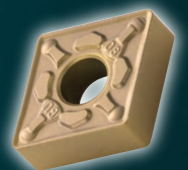
Toward a new era in steel machining
 Grade series for steel turning, creating
 "ABSOLUTELY STABLE CUTTING"



New

Introducing High-speed

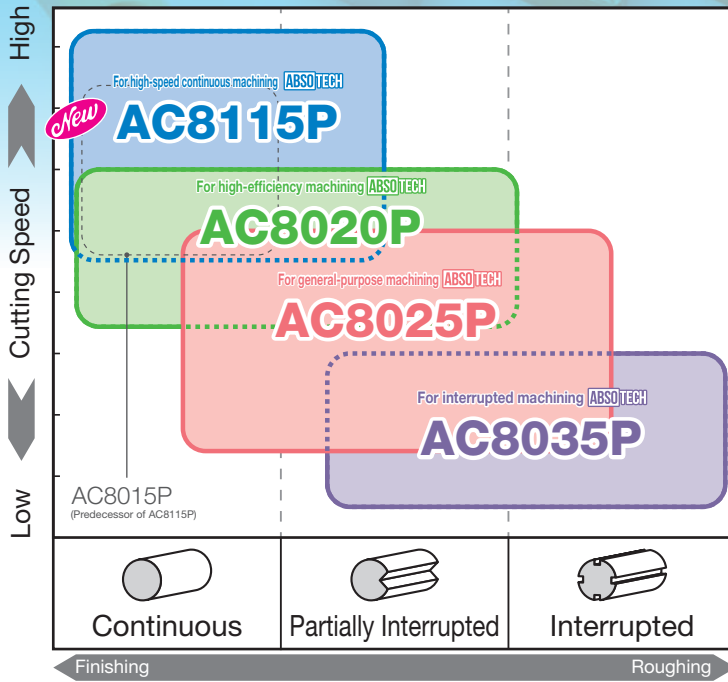
Machining Grade **AC8115P**





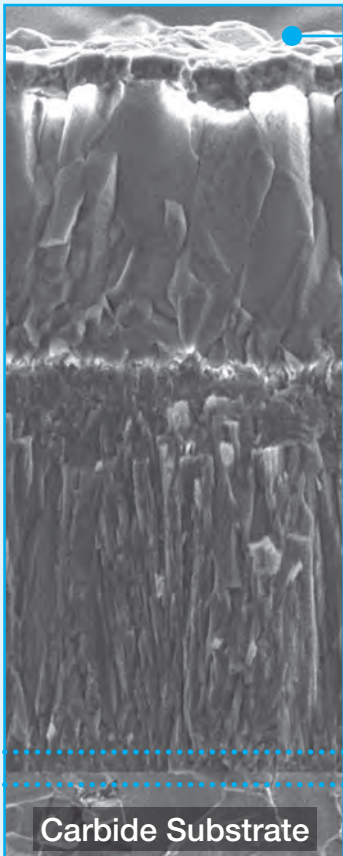
AC8115P/AC8020P/AC8025P/AC8035P

Application Range



| | |
|-------------------------------------|-----------------------------------------------------------------------------------------|
| AC8115P <small>New</small> | CVD ABSOTECH |
| Amazing Wear Resistance | Crater wear resistance 1.5x against conventional tools |
| AC8020P | CVD ABSOTECH |
| Standout Chipping Resistance | Chipping resistance in high-efficiency machining 2.5x against conventional tools |
| AC8025P | CVD ABSOTECH |
| Absolute Reliability | Adhesion resistance/chipping resistance 2x against conventional tools |
| AC8035P | CVD ABSOTECH |
| Exceptional Stability | Fracture resistance in interrupted machining 2x against conventional tools |

Features of AC8020P / AC8025P / AC8035P



Special Surface Treatment

Chipping resistance and adhesion resistance are significantly improved by special surface treatments applied to suit the application

High Strength Alumina Layer

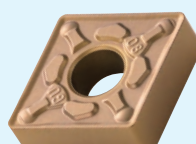
Significantly improves the coating strength by controlling crystal growth direction

High Hardness Fine grained TiCN Layer

Significantly improves the coating hardness by using a fine and uniform crystal structure

High Adhesion Technology

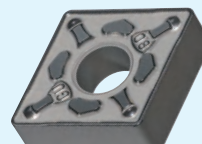
Significantly improves adhesion strength through a smooth interface between the coating and carbide substrate



AC8020P

Prestressed Gold-colored Surface

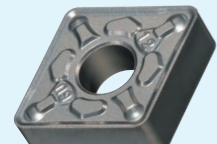
Chipping Suppressed / Visibility Improved



AC8025P

Smoothing

Adhesion / Chipping Suppressed

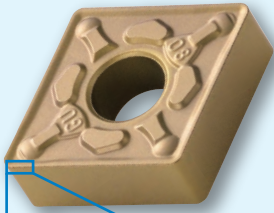


AC8035P

Prestressed

Fracture Suppressed

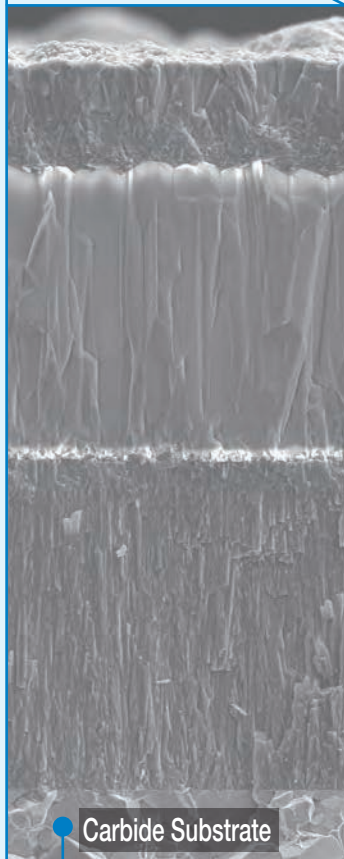
■ Features of AC8115P *New*



AC8115P

CVD ABSOTECH

Thanks to a high-hardness layer, evolving fine crystal orientation control technology, and a new carbide substrate with excellent plastic deformation resistance, superb wear resistance is realised over a wide range of machining, including high-efficiency machining and dry machining

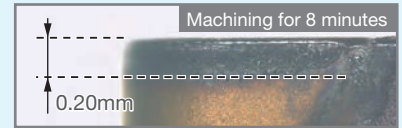


Hard Surface Layer

Initial wear is reduced while also providing both high compression stress and gold colour with excellent visibility for used corners



AC8115P

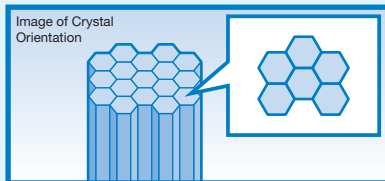


Competitor's Product A

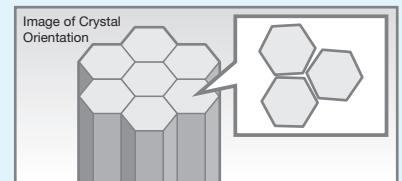
Work Material: SCM435 Cutting Conditions: $v_c=270\text{m/min}$ $f=0.3\text{mm/rev}$ $a_p=1.5\text{mm}$ Wet

Crystal Orientation Control Ultra-fine Alumina Layer

Improved coating strength suppresses wear due to crystal fallout, achieving wear resistance of at least 1.5x against conventional tools



Crystal Orientation Control Ultra-fine Alumina Layer



Conventional Orientation Al_2O_3

High Hardness Fine Grained TiCN Layer

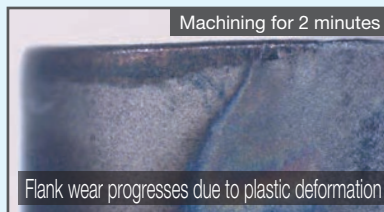
Significantly improves the coating hardness by using a fine and uniform crystal structure

New carbide substrate with excellent plastic deformation resistance

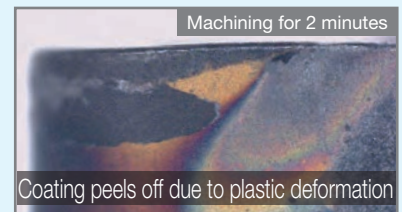
Plastic deformation resistance 2x or more through improved high-temperature properties



AC8115P



Conventional Tool



Competitor's Product B

Work Material: SK5 Cutting Conditions: $v_c=170\text{m/min}$ $f=0.6\text{mm/rev}$ $a_p=1.5\text{mm}$ Dry

AC8115P/AC8020P/AC8025P/AC8035P

AC8115P Cutting Performance

High-speed
Machining

AC8115P

New

ABSOTECH

Crystal Orientation Control
Ultra-fine Alumina Layer

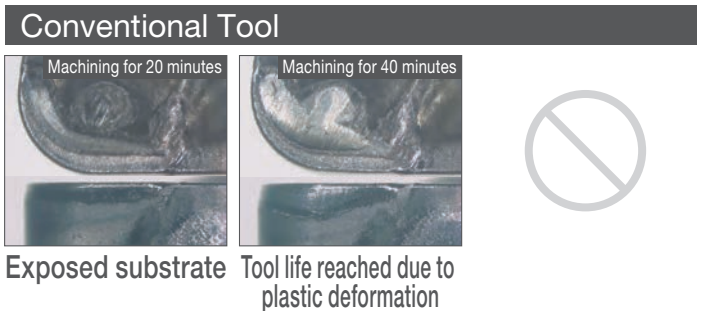
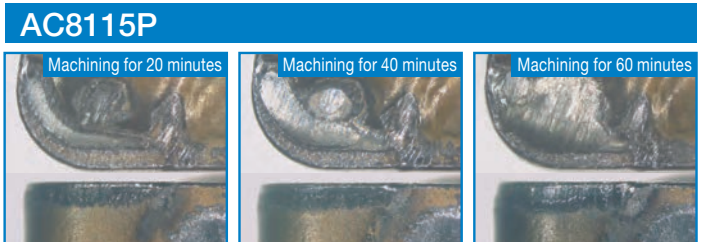
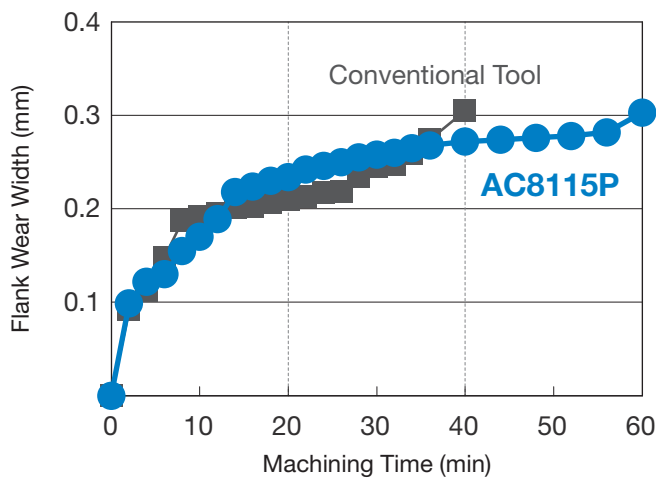
Amazing Wear
Resistance



Crater damage is suppressed and tool life extended through improved alumina layer coating strength and higher carbide substrate plastic deformation resistance

AC8115P Cutting Performance (Conditions Same as Conventional)

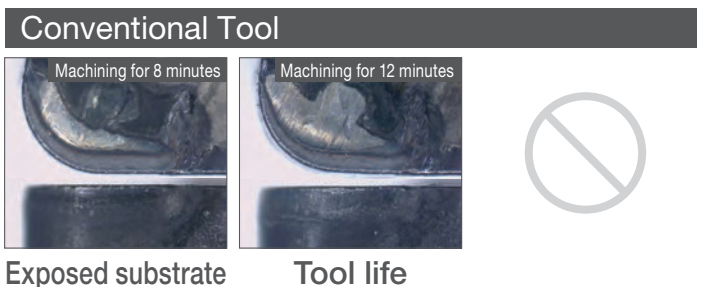
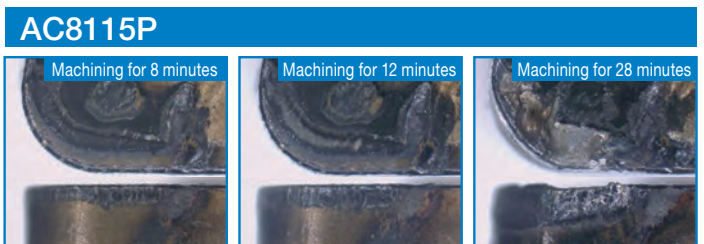
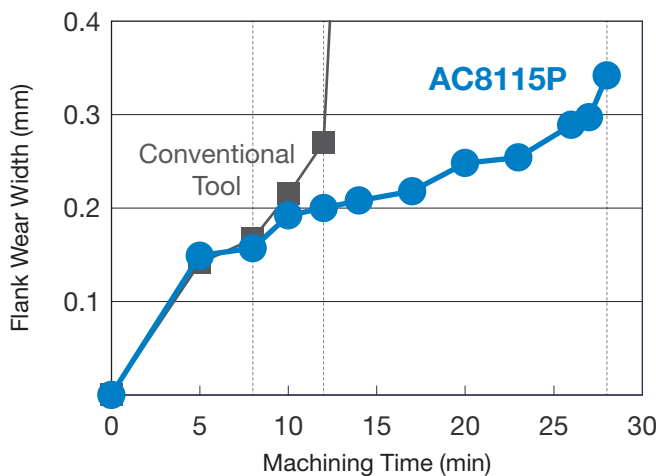
Wear resistance **1.5x** through improved plastic deformation resistance



Work Material: SCM435 Round Bar (External Turning) Insert: CNMG120408N-GE (AC8115P) Cutting Conditions: $V_c=270\text{m/min}$ $f=0.3\text{mm/rev}$ $a_p=1.5\text{mm}$ Wet

AC8115P Cutting Performance (High-speed Machining)

Wear resistance **2x** or more through improved alumina layer wear resistance

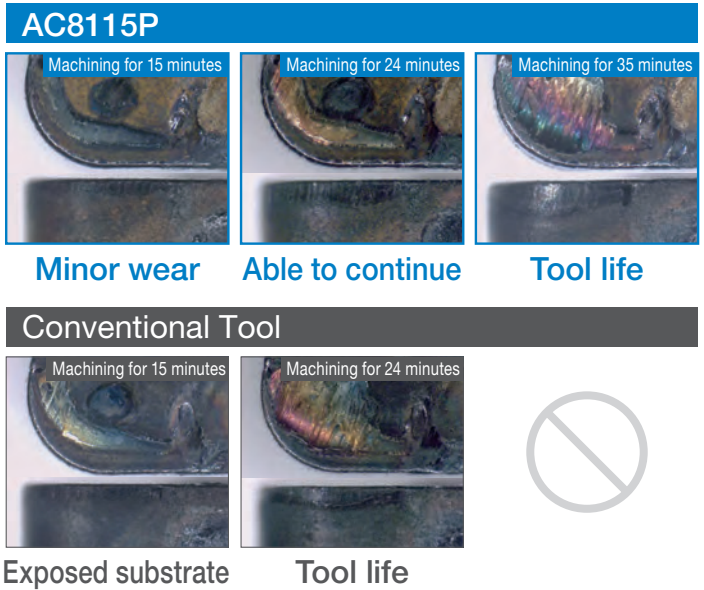
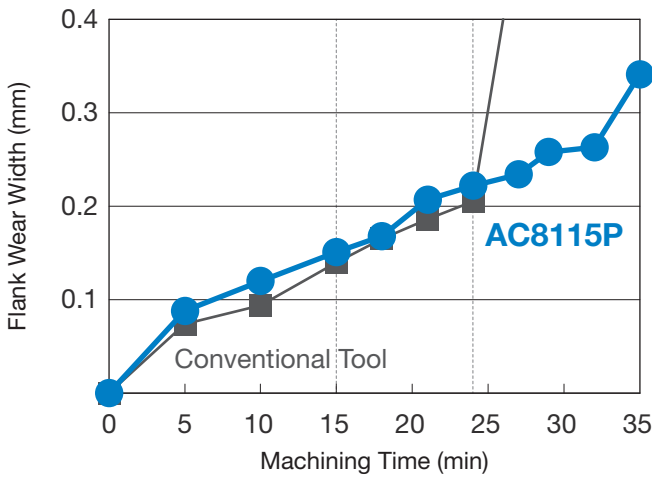


Work Material: SCM435 Round Bar (External Turning) Insert: CNMG120408N-GE (AC8115P) Cutting Conditions: $V_c=350\text{m/min}$ $f=0.3\text{mm/rev}$ $a_p=1.5\text{mm}$ Wet

AC8115P/AC8020P/AC8025P/AC8035P

AC8115P Cutting Performance (Dry Machining)

Wear resistance 1.5x through improved alumina layer wear resistance and plastic deformation resistance



Work Material: SCM435 Round Bar (External Turning) Insert: CNMG120408N-GE (AC8115P) Cutting Conditions: $V_c=270\text{m/min}$ $f=0.3\text{mm/rev}$ $a_p=1.5\text{mm}$ **Dry**

AC8115P Recommended Cutting Conditions

Min. - Optimum - Max.

| Insert Shape / Cutting Edge Length | Chipbreaker | Mild Steel (SS400, etc.) Low Carbon Steel (S10C, etc.) Low-alloy Steel (SCM415, etc.) 180HB or less | | | High Carbon Steel (S45C, etc.) High-alloy Steel (SCM435, etc.) 180HB or more | | |
|-------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------|------------------------|-----------------------------|------------------------------------------------------------------------------|------------------------|-----------------------------|
| | | Depth of Cut a_p (mm) | Feed Rate f (mm/rev) | Cutting Speed V_c (m/min) | Depth of Cut a_p (mm) | Feed Rate f (mm/rev) | Cutting Speed V_c (m/min) |
| CNM□12 TNM□16 DNM□15 TNM□22 SNM□12 WNM□08 | FE | 0.1-0.4-1.2 | 0.10-0.20-0.40 | 190-310-500 | 0.1-0.4-1.2 | 0.10-0.20-0.40 | 140-260-450 |
| | LU/SU/SE | 0.5-1.5-2.0 | 0.10-0.20-0.40 | 170-310-500 | 0.5-1.5-2.0 | 0.10-0.20-0.40 | 130-260-450 |
| | SEW | 0.5-1.5-2.5 | 0.10-0.40-0.60 | 170-310-500 | 0.5-1.5-2.5 | 0.10-0.40-0.60 | 130-260-450 |
| | GU/GE/UX | 0.8-2.2-5.0 | 0.10-0.30-0.45 | 170-310-500 | 0.8-2.2-5.0 | 0.10-0.30-0.45 | 130-260-450 |
| | MU | 1.8-3.0-6.0 | 0.20-0.35-0.60 | 140-280-440 | 1.8-3.0-6.0 | 0.20-0.35-0.60 | 110-240-380 |
| | ME | 1.0-3.0-6.0 | 0.20-0.45-0.70 | 140-280-440 | 1.0-3.0-6.0 | 0.20-0.45-0.70 | 110-240-380 |
| CNM□16 SNM□15 | HG | 3.0-4.5-8.0 | 0.35-0.50-0.80 | 140-280-440 | 3.0-4.5-8.0 | 0.35-0.50-0.80 | 110-240-380 |
| | GU/GE/UX | 0.8-3.5-5.0 | 0.15-0.30-0.45 | 140-280-400 | 0.8-3.5-5.0 | 0.15-0.30-0.45 | 110-240-380 |
| | MU | 1.8-4.5-6.0 | 0.20-0.40-0.60 | 140-240-360 | 1.8-4.5-6.0 | 0.20-0.40-0.60 | 110-200-300 |
| | ME | 1.5-4.5-7.0 | 0.20-0.50-0.70 | 140-240-360 | 1.5-4.5-7.0 | 0.20-0.50-0.70 | 110-200-300 |
| CNM□19 SNM□19 CNM□25 SNM□25 DNM□19 TNM□27 | HG | 3.0-5.0-8.0 | 0.35-0.60-0.80 | 120-210-330 | 3.0-5.0-8.0 | 0.35-0.60-0.80 | 90-170-270 |
| | MU | 1.8-5.0-6.0 | 0.20-0.40-0.60 | 140-240-360 | 1.8-5.0-6.0 | 0.20-0.40-0.60 | 110-200-300 |
| | ME | 2.0-5.0-8.0 | 0.20-0.50-0.70 | 140-240-360 | 2.0-5.0-8.0 | 0.20-0.50-0.70 | 110-200-300 |
| CNM□19 SNM□19 CNM□25 SNM□25 DNM□19 TNM□27 | HG | 3.0-6.5-9.0 | 0.35-0.60-0.80 | 120-210-330 | 3.0-6.5-9.0 | 0.35-0.60-0.80 | 90-170-270 |

AC8115P/AC8020P/AC8025P/AC8035P

■ **AC8020P** Cutting Performance Balance of high wear resistance and stability. Chipping resistance **2.5x or more**

High Efficiency

AC8020P

ABSOTECH

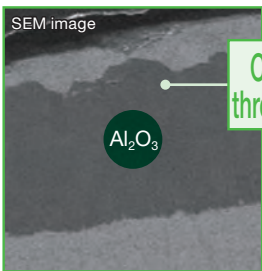
High Strength Alumina Layer

Standout Chipping Resistance

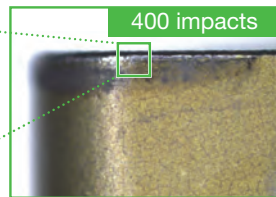


Alumina layer with even higher strength suppresses chipping

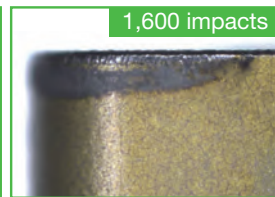
AC8020P



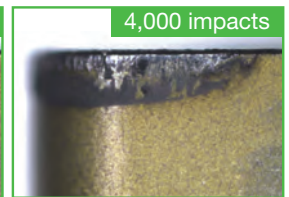
Cracks suppressed through higher strength



Minor damage

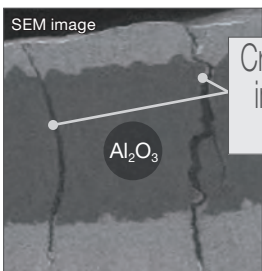


Minor damage

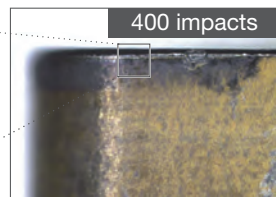


Minimal chipping

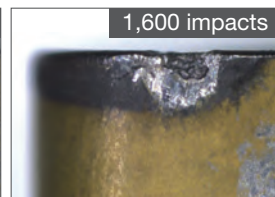
Conventional Tool



Cracks occur due to insufficient impact resistance



Minimal chipping



Tool life



Work Material: SCM435 (Forged Part With Interrupted Sections) Insert: CNMG120408N-GU (AC8020P)
Cutting Conditions: $v_c=250\text{m/min}$ $f=0.3\text{mm/rev}$ $a_p=1.5\text{mm}$ Wet

■ AC8020P Recommended Cutting Conditions

Min. - Optimum - Max.

| Insert Shape / Cutting Edge Length | Chipbreaker | Mild Steel (SS400, etc.) Low Carbon Steel (S10C, etc.) Low-alloy Steel (SCM415, etc.) 180HB or less | | | High Carbon Steel (S45C, etc.) High-alloy Steel (SCM435, etc.) 180HB or more | | |
|-------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------|------------------------|-----------------------------|------------------------------------------------------------------------------|------------------------|-----------------------------|
| | | Depth of Cut a_p (mm) | Feed Rate f (mm/rev) | Cutting Speed V_c (m/min) | Depth of Cut a_p (mm) | Feed Rate f (mm/rev) | Cutting Speed V_c (m/min) |
| CNM□12 TNM□16 DNM□15 TNM□22 SNM□12 WNM□08 | FE | 0.1-0.4-1.2 | 0.10-0.20-0.40 | 180-290-450 | 0.1-0.4-1.2 | 0.10-0.20-0.40 | 130-240-400 |
| | LU/SU/SE | 0.5-1.5-2.0 | 0.10-0.20-0.40 | 160-290-420 | 0.5-1.5-2.0 | 0.10-0.20-0.40 | 120-240-370 |
| | SEW | 0.5-1.5-2.5 | 0.10-0.40-0.60 | 160-290-420 | 0.5-1.5-2.5 | 0.10-0.40-0.60 | 120-240-370 |
| | GU/GE/UX | 0.8-2.2-5.0 | 0.10-0.30-0.45 | 160-290-420 | 0.8-2.2-5.0 | 0.10-0.30-0.45 | 120-240-370 |
| | MU | 1.8-3.0-6.0 | 0.20-0.35-0.60 | 140-250-350 | 1.8-3.0-6.0 | 0.20-0.35-0.60 | 100-220-300 |
| | ME | 1.0-3.0-6.0 | 0.20-0.45-0.70 | 140-250-350 | 1.0-3.0-6.0 | 0.20-0.45-0.70 | 100-220-300 |
| | HG | 3.0-4.5-8.0 | 0.35-0.50-0.80 | 120-230-330 | 3.0-4.5-8.0 | 0.35-0.50-0.80 | 100-220-300 |
| CNM□16 SNM□15 | GU/GE/UX | 0.8-3.5-5.0 | 0.15-0.30-0.45 | 110-260-350 | 0.8-3.5-5.0 | 0.15-0.30-0.45 | 100-220-300 |
| | MU | 1.8-4.5-6.0 | 0.20-0.40-0.60 | 120-220-300 | 1.8-4.5-6.0 | 0.20-0.40-0.60 | 100-180-250 |
| | ME | 1.5-4.5-7.0 | 0.20-0.50-0.70 | 120-220-300 | 1.5-4.5-7.0 | 0.20-0.50-0.70 | 100-180-250 |
| | HG | 3.0-5.0-8.0 | 0.35-0.60-0.80 | 110-190-270 | 3.0-5.0-8.0 | 0.35-0.60-0.80 | 80-150-220 |
| CNM□19 SNM□19 CNM□25 SNM□25 DNM□19 TNM□27 | MU | 1.8-5.0-6.0 | 0.20-0.40-0.60 | 120-220-300 | 1.8-5.0-6.0 | 0.20-0.40-0.60 | 100-180-250 |
| | ME | 2.0-5.0-8.0 | 0.20-0.50-0.70 | 120-220-300 | 2.0-5.0-8.0 | 0.20-0.50-0.70 | 100-180-250 |
| | HG | 3.0-6.5-9.0 | 0.35-0.60-0.80 | 110-190-270 | 3.0-6.5-9.0 | 0.35-0.60-0.80 | 80-150-220 |

AC8115P/AC8020P/AC8025P/AC8035P

■ **AC8025P** Cutting Performance Suppresses adhesion with ultra-smooth surface. Adhesion fracture resistance **2x or more**

General
Machining

AC8025P

ABSOTECH

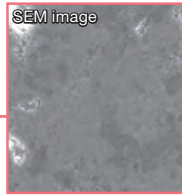
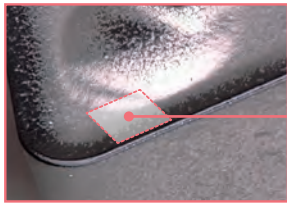
Surface Smoothing
Treatment

Absolute Reliability

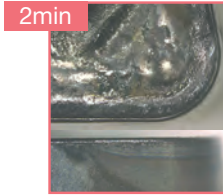


Surface smoothing treatment significantly suppresses adhesion and chipping

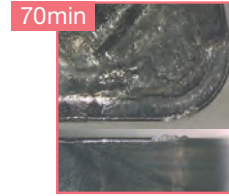
AC8025P



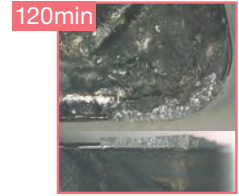
Ra0.04μm



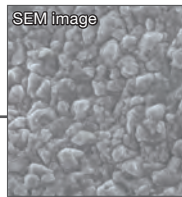
Normal wear



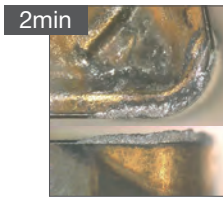
Minor damage only, able to continue



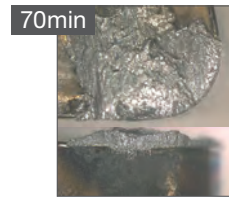
Conventional Tool



Ra0.4μm



Adhesion



Fracture

Unable to continue

Work Material: SCM415 (Facing) Insert: CNMG120408N-GU (AC8025P)
Cutting Conditions: $v_c = 100$ to 300 m/min $f = 0.3$ mm/rev $a_p = 1.5$ mm Wet

■ AC8025P Recommended Cutting Conditions

Min. - Optimum - Max.

| Insert Shape / Cutting Edge Length | Chipbreaker | Mild Steel (SS400, etc.) Low Carbon Steel (S10C, etc.) Low-alloy Steel (SCM415, etc.) 180HB or less | | | High Carbon Steel (S45C, etc.) High-alloy Steel (SCM435, etc.) 180HB or more | | |
|-------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------|------------------------|-----------------------------|------------------------------------------------------------------------------|------------------------|-----------------------------|
| | | Depth of Cut a_p (mm) | Feed Rate f (mm/rev) | Cutting Speed V_c (m/min) | Depth of Cut a_p (mm) | Feed Rate f (mm/rev) | Cutting Speed V_c (m/min) |
| CNM□12 TNM□16 DNM□15 TNM□22 SNM□12 WNM□08 | FE | 0.1-0.4-1.2 | 0.10-0.25-0.45 | 150-250-350 | 0.1-0.4-1.2 | 0.10-0.25-0.45 | 120-210-300 |
| | LU/SU/SE | 0.5-1.5-2.0 | 0.10-0.20-0.40 | 150-250-350 | 0.5-1.5-2.0 | 0.10-0.20-0.40 | 120-210-300 |
| | SEW | 0.5-1.5-2.5 | 0.10-0.40-0.60 | 150-250-350 | 0.5-1.5-2.5 | 0.10-0.40-0.60 | 120-210-300 |
| | GU/GE/UX | 0.8-2.2-5.0 | 0.10-0.30-0.45 | 150-230-300 | 0.8-2.2-5.0 | 0.10-0.30-0.45 | 100-180-270 |
| | MU | 1.8-3.0-6.0 | 0.20-0.35-0.60 | 130-200-280 | 1.8-3.0-6.0 | 0.20-0.35-0.60 | 80-150-230 |
| | ME | 1.0-3.0-6.0 | 0.20-0.45-0.70 | 130-200-280 | 1.0-3.0-6.0 | 0.20-0.45-0.70 | 80-150-230 |
| | HG | 3.0-4.5-8.0 | 0.35-0.50-0.80 | 100-180-260 | 3.0-4.5-8.0 | 0.35-0.50-0.80 | 60-130-200 |
| CNM□16 SNM□15 | GU/GE/UX | 0.8-3.5-5.0 | 0.15-0.30-0.45 | 130-200-280 | 0.8-3.5-5.0 | 0.15-0.30-0.45 | 100-160-230 |
| | MU | 1.8-4.5-6.0 | 0.20-0.40-0.60 | 100-180-260 | 1.8-4.5-6.0 | 0.20-0.40-0.60 | 80-140-210 |
| | ME | 1.5-4.5-7.0 | 0.20-0.50-0.70 | 100-180-260 | 1.5-4.5-7.0 | 0.20-0.50-0.70 | 80-140-210 |
| | HG | 3.0-5.0-8.0 | 0.35-0.60-0.80 | 80-160-240 | 3.0-5.0-8.0 | 0.35-0.60-0.80 | 70-120-180 |
| CNM□19 SNM□19 CNM□25 SNM□25 DNM□19 TNM□27 | MU | 1.8-5.0-6.0 | 0.20-0.40-0.60 | 100-180-260 | 1.8-5.0-6.0 | 0.20-0.40-0.60 | 80-140-210 |
| | ME | 2.0-5.0-8.0 | 0.20-0.50-0.70 | 100-180-260 | 2.0-5.0-8.0 | 0.20-0.50-0.70 | 80-140-210 |
| | HG | 3.0-6.5-9.0 | 0.35-0.60-0.80 | 80-160-240 | 3.0-6.5-9.0 | 0.35-0.60-0.80 | 70-120-180 |
| | HF | 4.5-8.0-13.5 | 0.45-0.80-1.10 | 135-170-220 | 4.5-8.0-13.5 | 0.45-0.80-1.15 | 105-140-190 |

AC8115P/AC8020P/AC8025P/AC8035P

■ **AC8035P Cutting Performance** Suppresses crack growth and fractures by reducing tensile residual stress. Fracture resistance 2x or more

Interrupted
Machining

AC8035P

ABSOTECH

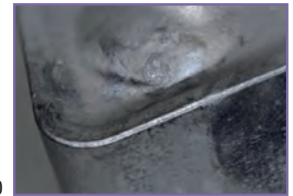
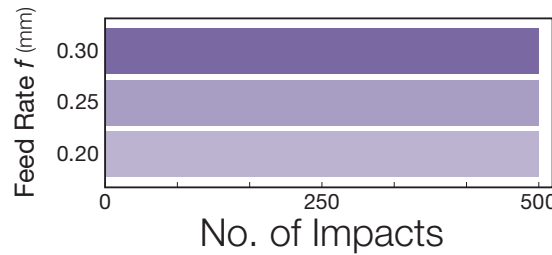
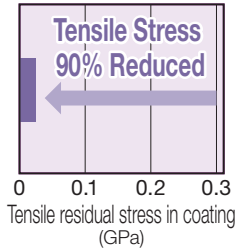
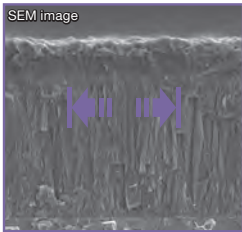
Stress Control
Within Coating

Exceptional Stability



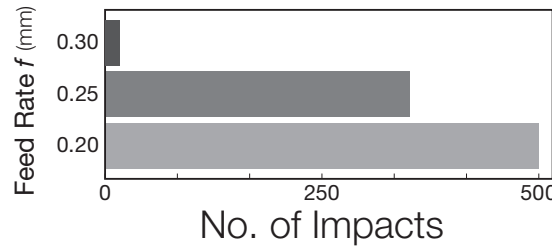
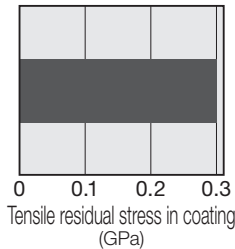
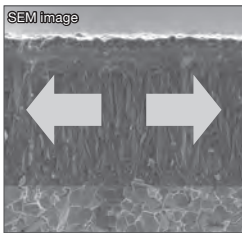
Special surface treatment reduces tensile stress in the coating layer, significantly suppressing fractures

AC8035P



All corners able to continue

Conventional Tool



Unable to continue

Work Material: SCM435 (External Interrupted) Insert: CNMG120408N-GU (AC8035P)
Cutting Conditions: $v_c = 160$ m/min $f = 0.2$ to 0.3 mm/rev $a_p = 2.0$ mm Dry

AC8035P Recommended Cutting Conditions

Min. - Optimum - Max.

| Insert Shape / Cutting Edge Length | Chipbreaker | Mild Steel (SS400, etc.) Low Carbon Steel (S10C, etc.) Low-alloy Steel (SCM415, etc.) 180HB or less | | | High Carbon Steel (S45C, etc.) High-alloy Steel (SCM435, etc.) 180HB or more | | |
|-------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|---------------------------------------------------------------------------------|---------------------------|--------------------------------|
| | | Depth of Cut a_p (mm) | Feed Rate f (mm/rev) | Cutting Speed V_c (m/min) | Depth of Cut a_p (mm) | Feed Rate f (mm/rev) | Cutting Speed V_c (m/min) |
| CNM□12 TNM□16 DNM□15 TNM□22 SNM□12 WNM□08 | FE | 0.1-0.4-1.2 | 0.10-0.25-0.45 | 120-200-300 | 0.1-0.4-1.2 | 0.10-0.25-0.45 | 120-180-250 |
| | LU/SU/SE | 0.5-1.3-2.0 | 0.10-0.20-0.40 | 120-200-300 | 0.5-1.3-2.0 | 0.10-0.20-0.40 | 120-180-250 |
| | SEW | 0.8-2.2-5.0 | 0.10-0.30-0.45 | 120-200-300 | 0.8-2.2-5.0 | 0.10-0.30-0.45 | 100-150-200 |
| | GU/GE/UX | 1.8-3.0-6.0 | 0.20-0.35-0.60 | 100-180-250 | 1.8-3.0-6.0 | 0.20-0.35-0.60 | 80-130-180 |
| | MU | 1.0-3.0-6.0 | 0.20-0.45-0.70 | 100-180-250 | 1.0-3.0-6.0 | 0.20-0.45-0.70 | 80-130-180 |
| | ME | 3.0-4.5-8.0 | 0.35-0.50-0.80 | 100-150-200 | 3.0-4.5-8.0 | 0.35-0.50-0.80 | 70-100-160 |
| | HG | 0.8-3.5-5.0 | 0.15-0.30-0.45 | 100-180-250 | 0.8-3.5-5.0 | 0.15-0.30-0.45 | 90-130-170 |
| CNM□16 SNM□15 | GU/GE/UX | 1.8-4.5-6.0 | 0.20-0.40-0.60 | 100-150-200 | 1.8-4.5-6.0 | 0.20-0.40-0.60 | 70-110-150 |
| | MU | 1.5-4.5-7.0 | 0.20-0.50-0.70 | 100-150-200 | 1.5-4.5-7.0 | 0.20-0.50-0.70 | 70-110-150 |
| | ME | 3.0-5.0-8.0 | 0.35-0.60-0.80 | 80-130-180 | 3.0-5.0-8.0 | 0.35-0.60-0.80 | 60-100-140 |
| | HG | 1.8-5.0-6.0 | 0.20-0.40-0.60 | 100-150-200 | 1.8-5.0-6.0 | 0.20-0.40-0.60 | 70-110-150 |
| CNM□19 SNM□19 CNM□25 SNM□25 DNM□19 TNM□27 | MU | 2.0-5.0-8.0 | 0.20-0.50-0.70 | 100-150-200 | 2.0-5.0-8.0 | 0.20-0.50-0.70 | 70-110-150 |
| | ME | 3.0-6.5-9.0 | 0.35-0.60-0.80 | 80-130-180 | 3.0-6.5-9.0 | 0.35-0.60-0.80 | 60-100-140 |
| | HG | 4.5-8.0-13.5 | 0.45-0.80-1.15 | 120-150-190 | 4.5-8.0-13.5 | 0.45-0.80-1.15 | 90-120-160 |
| | HF | 5.0-8.0-27.0 | 0.80-1.20-1.60 | 70-110-150 | 5.0-8.0-27.0 | 0.80-1.20-1.60 | 50- 80-120 |

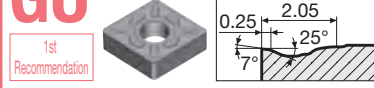
AC8115P/AC8020P/AC8025P/AC8035P

Application Guide

1st Recommended Grade

General-purpose machining **AC8025P**

GU type Chipbreaker

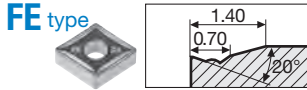


| | Chipbreakers for High-efficiency Machining | | Main Chipbreakers | | Strong Cutting Edge Chipbreakers | |
|---------------------------------|--------------------------------------------|--------------------|--------------------|--------------------|----------------------------------|--|
| Finishing to Small Depth of Cut | FE type | SE type | SU type | SX type | | |
| General-purpose | GE type | | GU type | UX type | | |
| Roughing to Large Depth of Cut | ME type | | MU type | MX type | | |

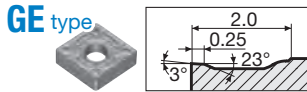
For high-speed and dry machining

High-speed Machining **AC8115P**

To improve tool life at small depths of cut



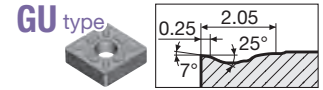
To increase feed rate



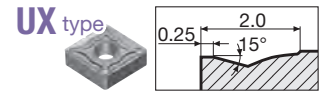
For heavy interrupted cutting emphasizing stability

Interrupted Machining **AC8035P**

To improve tool life



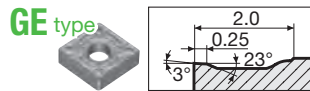
To improve machining stability



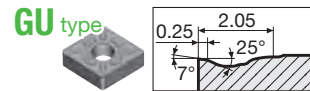
For high-efficiency machining of carbide and forged material

High Efficiency **AC8020P**

To increase feed rate

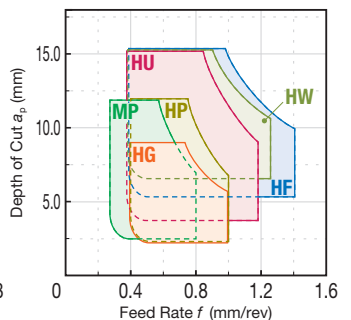
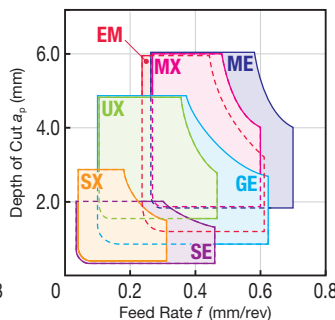
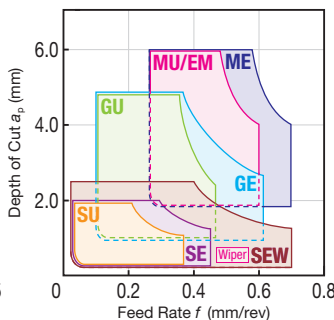
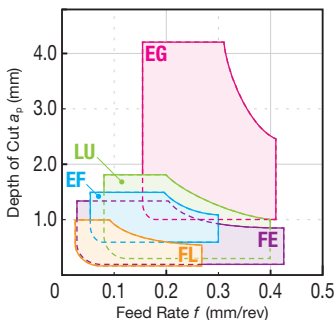


To increase cutting speed



Chipbreaker Application Range

- Chip evacuation emphasised
- Continuous to light interrupted cutting
- Light interrupted to heavy interrupted cutting
- Rough to heavy cutting



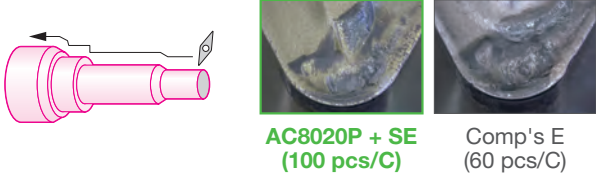




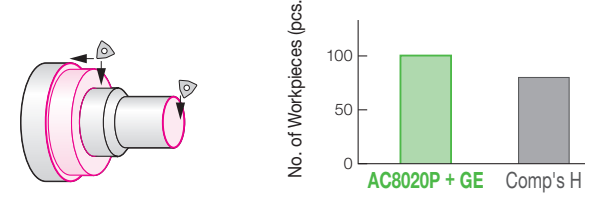
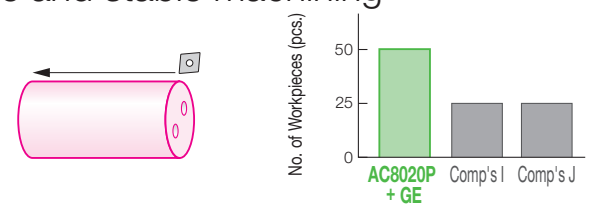
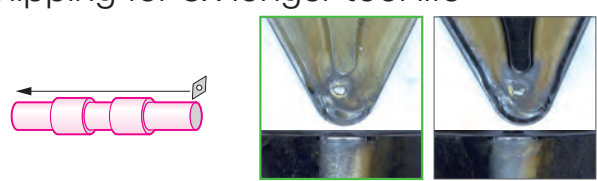
AC8115P/AC8020P/AC8025P/AC8035P

AC8115P Application Examples

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>SCM440 Rotor Shaft</p> <p>Suppresses crater wear for 1.3x longer tool life</p>  <p>AC8115P + MU (5 pcs/C)</p> <p>Comp's A (4 pcs/C)</p> <p>Insert: TNMG220412N-MU (AC8115P) Roughing Cutting Conditions: $v_c=220\text{m/min}$ $f=0.4\text{mm/rev}$ $a_p=2.5\text{mm}$ Wet</p> | <p>P110 Pipe</p> <p>1.3x longer tool life even in high-load machining</p>  <p>AC8115P + EM (14 pcs/C)</p> <p>Comp's B (11 pcs/C)</p> <p>Insert: CNMG160616N-EM (AC8115P) Cutting Conditions: $v_c=185\text{m/min}$ $f=0.6\text{mm/rev}$ $a_p=4.0\text{mm}$ Wet</p> |
| <p>SCM440 Rotor Shaft</p> <p>Suppresses crater wear for 1.3x longer tool life</p>  <p>AC8115P + GE (150 pcs/C)</p> <p>Comp's C(P05) (120 pcs/C)</p> <p>Insert: DNMG150612-GE (AC8115P) Roughing Cutting Conditions: $v_c=310\text{-}340\text{m/min}$ $f=0.4\text{mm/rev}$ $a_p=1.0\text{-}2.5\text{mm}$ Wet</p> | <p>SCM440 Rotor Shaft</p> <p>Suppresses wear for 2x longer tool life</p>  <p>AC8115P + MU (8 pcs/C)</p> <p>Comp's D (4 pcs/C)</p> <p>Insert: CNMG120408N-MU (AC8115P) Cutting Conditions: $v_c=240\text{m/min}$ $f=0.3\text{mm/rev}$ $a_p=3.0\text{mm}$ Wet</p> |
| <p>Transmission Part</p> <p>Suppresses flank wear for 1.3x longer tool life</p>  <p>AC8115P + SU (100 pcs/C)</p> <p>Comp's E (80 pcs/C)</p> <p>Insert: DNMG150408N-SU (AC8115P) Finishing Cutting Conditions: $v_c=300\text{m/min}$ $f=0.4\text{mm/rev}$ $a_p=0.8\text{-}1.0\text{mm}$ Wet</p> | <p>S38C Motor Shaft</p> <p>Suppresses chipping and rake face wear</p>  <p>AC8115P + ME (250 pcs/C)</p> <p>Comp's F (250 pcs/C)</p> <p>Insert: CNMG120408N-ME (AC8115P) Roughing Cutting Conditions: $v_c=280\text{m/min}$ $f=0.5\text{mm/rev}$ $a_p=2.0\text{mm}$ Wet</p> |
| <p>SCM440 Rotor Shaft</p> <p>Suppresses cutting edge fractures for 1.2x longer tool life</p>  <p>AC8115P + SE (180 pcs/C)</p> <p>Conventional Tool (150 pcs/C)</p> <p>Insert: TNMG160408N-SE (AC8115P) Finishing Cutting Conditions: $v_c=300\text{m/min}$ $f=0.45\text{mm/rev}$ $a_p=0.2\text{-}0.3\text{mm}$ Wet</p> | <p>SKD61 Die</p> <p>Suppresses wear over the same machining time</p>  <p>AC8115P + GE (25 pcs/C)</p> <p>Comp's G (25 pcs/C)</p> <p>Insert: CNMG120408N-GE (AC8115P) Cutting Conditions: $v_c=120\text{m/min}$ $f=0.2\text{mm/rev}$ $a_p=1.5\text{mm}$ Wet</p> |

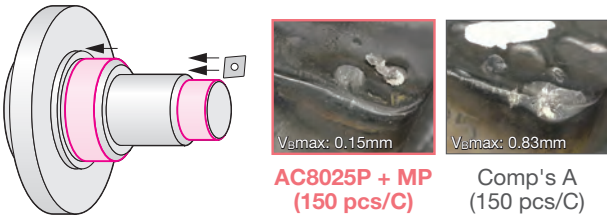

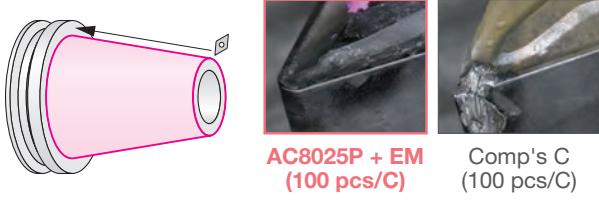
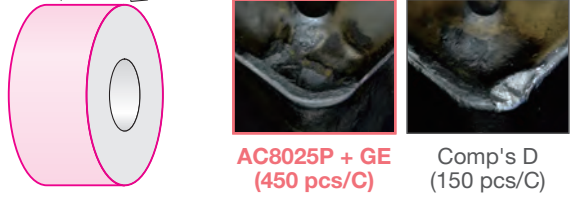
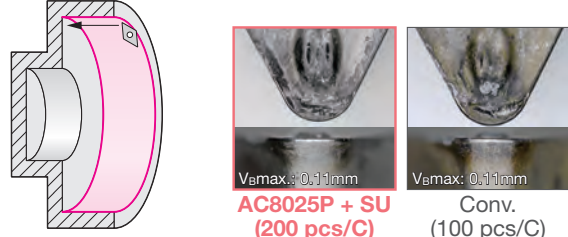
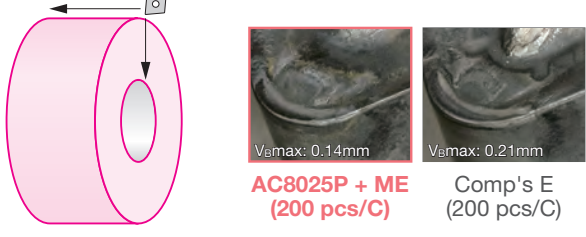
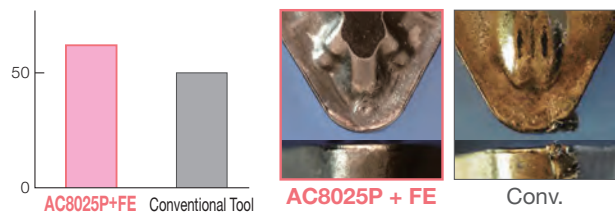

AC8115P/AC8020P/AC8025P/AC8035P

AC8020P Application Examples



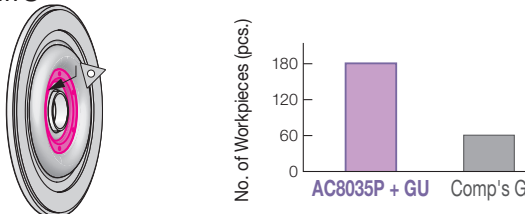
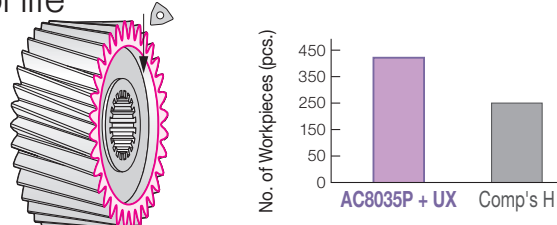
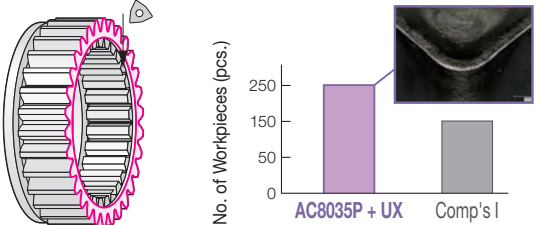

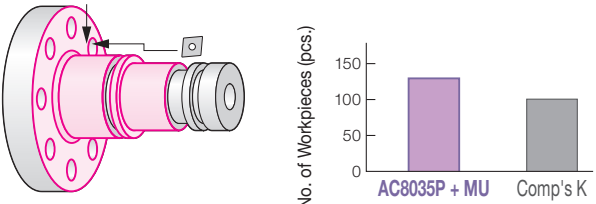
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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|----------|----------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <h3>S53C CVJ Component</h3> <p>Suppresses chipping for 1.7x longer tool life</p>  <p>AC8020P + SE (100 pcs/C)</p> <p>Comp's E (60 pcs/C)</p> <p>Insert: DNMG150412N-SE (AC8020P) Cutting Conditions: $v_c=220\text{m/min}$ $f=0.35\text{mm/rev}$ $a_p=1.00\text{mm}$ Wet</p> | <h3>S35C Machine Tool Component</h3> <p>Suppresses both crater and flank wear for 2x longer tool life</p>  <p>AC8020P + SE (1,600 pcs/C)</p> <p>Comp's F (800 pcs/C)</p> <p>Insert: WNMG080408N-SE (AC8020P) Cutting Conditions: $v_c=240\text{m/min}$ $f=0.25\text{mm/rev}$ $a_p=1.00\text{mm}$ Wet</p> | | | | | | |
| <h3>SCM435 Equivalent Transmission Component</h3> <p>Suppresses crater wear for 1.5x longer tool life</p>  <p>AC8020P + GU (40 pcs/C)</p> <p>Conv. (26 pcs/C)</p> <p>Insert: CNMG120408N-GU (AC8020P) Cutting Conditions: $v_c=250\text{m/min}$ $f=0.3\text{mm/rev}$ $a_p=1.5\text{mm}$ Wet</p> | <h3>S45C Bearing</h3> <p>Suppresses crater wear and chipping for 1.4x longer tool life</p>  <p>AC8020P + SU (230 pcs/C)</p> <p>Conv. (160 pcs/C)</p> <p>Insert: WNMG080408N-SU (AC8020P) Cutting Conditions: $v_c=230\text{m/min}$ $f=0.26\text{mm/rev}$ $a_p=1.00\text{mm}$ Wet</p> | | | | | | |
| <h3>SUJ2 Bearing</h3> <p>Suppresses flank wear for 1.2x longer tool life and stable machining</p>  <p>AC8020P + GE (600 pcs/C)</p> <p>Comp's G (500 pcs/C)</p> <p>Insert: DNMG150412N-GE (AC8020P) Cutting Conditions: $v_c=300\text{m/min}$ $f=0.3\text{mm/rev}$ $a_p=0.3\text{mm}$ Wet</p> | <h3>S53C CVJ Component</h3> <p>1.3x longer tool life and stable machining</p>  <p>No. of Workpieces (pcs.)</p> <table border="1"> <tr> <td>AC8020P + GE</td> <td>100</td> </tr> <tr> <td>Comp's H</td> <td>75</td> </tr> </table> <p>Insert: WNMG080412N-GE (AC8020P) Cutting Conditions: $v_c=260\text{m/min}$ $f=0.45\text{mm/rev}$ $a_p=1.50\text{mm}$ Wet</p> | AC8020P + GE | 100 | Comp's H | 75 | | |
| AC8020P + GE | 100 | | | | | | |
| Comp's H | 75 | | | | | | |
| <h3>SCM440 Automotive Component</h3> <p>Suppresses wear for 2x longer tool life and stable machining</p>  <p>No. of Workpieces (pcs.)</p> <table border="1"> <tr> <td>AC8020P + GE</td> <td>50</td> </tr> <tr> <td>Comp's I</td> <td>25</td> </tr> <tr> <td>Comp's J</td> <td>25</td> </tr> </table> <p>Insert: CNMG120408N-GE (AC8020P) Cutting Conditions: $v_c=190\text{m/min}$ $f=0.3\text{mm/rev}$ $a_p=3.0\text{mm}$ Wet</p> | AC8020P + GE | 50 | Comp's I | 25 | Comp's J | 25 | <h3>Boron Steel Shaft</h3> <p>Suppresses both crater wear and chipping for 3x longer tool life</p>  <p>AC8020P + GU (220 pcs/C)</p> <p>Conv. (70 pcs/C)</p> <p>Insert: DNMG150412N-UX (AC8020P) Cutting Conditions: $v_c=230\text{m/min}$ $f=0.55\text{mm/rev}$ $a_p=1.00\text{mm}$ Wet</p> |
| AC8020P + GE | 50 | | | | | | |
| Comp's I | 25 | | | | | | |
| Comp's J | 25 | | | | | | |

AC8115P/AC8020P/AC8025P/AC8035P

AC8025P Application Examples

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>S45C Automotive Chassis Component</p> <p>Suppresses crater wear</p>  <p>Insert: CNMM120416N-MP (AC8025P) Cutting Conditions: $v_c = 180$ to 200 m/min $f = 0.43$ to 0.55 mm/rev $a_p = 1.00$ to 3.00 mm Wet</p> | <p>SCr415 Ring Gear</p> <p>Suppresses chipping for 1.5x longer tool life</p>  <p>Insert: WNMG080416N-ME (AC8025P) Cutting Conditions: $v_c = 250$ m/min $f = 0.30$ to 0.45 mm/rev $a_p = 2.50$ mm Wet</p> |
| <p>SCM415 Tool Holder</p> <p>Suppresses adhesion fractures, enabling stable machining</p>  <p>Insert: DNMG150608N-EM (AC8025P) Cutting Conditions: $v_c = 150$ m/min $f = 0.4$ mm/rev $a_p = 4.0$ mm Wet</p> | <p>S45C Ring</p> <p>Reduces crater wear for 3x longer tool life</p>  <p>Insert: CNMG120408N-GE (AC8025P) Cutting Conditions: $v_c = 200$ to 250 m/min $f = 0.25$ mm/rev $a_p = 1.00$ mm Wet</p> |
| <p>Rolled Steel Cylinder</p> <p>Suppresses chipping for 2x longer tool life</p>  <p>Insert: DCMT11T308N-SU (AC8025P) Cutting Conditions: $v_c = 210$ m/min $f = 0.15$ mm/rev $a_p = 1.00$ mm Wet</p> | <p>SMnC420H Bush</p> <p>Suppresses flank wear</p>  <p>Insert: CNMG120416N-ME (AC8025P) Cutting Conditions: $v_c = 260$ m/min $f = 0.5$ to 1.0 mm/rev $a_p = 1.5$ to 2.0 mm Wet</p> |
| <p>Rolled Steel Front Cover</p> <p>Improves tearing in combination with FE type chipbreaker for 1.2x longer tool life</p>  <p>Insert: TNMG160408N-FE (AC8025P) Cutting Conditions Face: $v_c = 450$ to 480 m/min $f = 0.25$ to 0.32 mm/rev $a_p = 0.05$ to 0.25 mm Wet Internal Boring: $v_c = 400$ m/min $f = 0.20$ to 0.30 mm/rev $a_p = 0.20$ to 0.30 mm Wet</p> | <p>SCr415 Fastening Component</p> <p>Strong design realizes 1.5x longer tool life</p>  <p>Insert: CCMT09T308N-GU (AC8025P) Cutting Conditions: $v_c = 190$ m/min $f = 0.25$ mm/rev $a_p = 1.00$ mm Wet</p> |

AC8035P Application Examples

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| <h3>S35C Planetary Pinion</h3> <p>Significantly suppresses fractures for 1.5x longer tool life</p>  <p>AC8035P + UX (300 pcs/C) Conv. (200 pcs/C)</p> <p>Insert: CNMG120412N-UX (AC8035P) Interrupted Machining Cutting Conditions: $v_c=180\text{m/min}$ $f=0.3\text{mm/rev}$ $a_p=2.0\text{mm}$ Wet</p> | <h3>S25C Equivalent Automotive Component</h3> <p>Significantly suppresses fractures and extends tool life</p>  <p>AC8035P + UX (120 pcs/C) Conv. (120 pcs/C)</p> <p>Insert: CNMG120408N-UX (AC8035P) Interrupted Machining Cutting Conditions: $v_c=100\text{ to }130\text{m/min}$ $f=0.2\text{mm/rev}$ $a_p=1.0\text{ to }3.2\text{mm}$ Wet</p> |
| <h3>SPH440 Flange</h3> <p>Suppresses chipping for 3x longer tool life</p>  <p>AC8035P + GU Comp's G</p> <p>Insert: TNMG160408N-GU (AC8035P) Interrupted Roughing Cutting Conditions: $v_c=100\text{m/min}$ $f=0.3\text{mm/rev}$ $a_p=1.5\text{mm}$ Wet</p> | <h3>SNCN Gear</h3> <p>Suppresses chipping for 1.7x longer tool life</p>  <p>AC8035P + UX Comp's H</p> <p>Insert: WNMG080408N-UX (AC8035P) Interrupted Roughing Cutting Conditions: $v_c=180\text{m/min}$ $f=0.15\text{ to }0.40\text{mm/rev}$ $a_p=1.00\text{mm}$ Wet</p> |
| <h3>SCr420 Equivalent Reverse Gear</h3> <p>Suppresses chipping for 1.6x longer tool life</p>  <p>AC8035P + UX Comp's I</p> <p>Insert: WNMG080408N-UX (AC8035P) Interrupted Roughing Cutting Conditions: $v_c=230\text{m/min}$ $f=0.15\text{ to }0.30\text{mm/rev}$ $a_p=1.00\text{ to }2.00\text{mm}$ Wet</p> | <h3>SCr440 Flange</h3> <p>Suppresses chipping for 1.5x longer tool life</p>  <p>AC8035P + GU (90 pcs/C) Comp's J (60 pcs/C)</p> <p>Insert: WNMG080412N-GU (AC8035P) Interrupted Roughing Cutting Conditions: $v_c=80\text{ to }200\text{m/min}$ $f=0.2\text{mm/rev}$ $a_p=1.5\text{mm}$ Dry</p> |
| <h3>Alloy Steel Automotive Chassis Component</h3> <p>Suppresses chipping for 1.3x longer tool life</p>  <p>AC8035P + MU Comp's K</p> <p>Insert: CNMG190616N-MU (AC8035P) Mill-scale Work Continuous to Interrupted Machining Cutting Conditions: $v_c=140\text{ to }280\text{m/min}$ $f=0.5\text{mm/rev}$ $a_p=\text{Max. }5.0\text{mm}$ Dry</p> | |

MEMO

A large grid of dotted lines for writing a memo. The grid consists of 20 columns and 30 rows of small squares, providing a structured space for text entry.

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- Very hot or lengthy chips may be discharged while the machine is in operation. Therefore, machine guards, safety goggles or other protective covers must be used. Fire safety precautions must also be considered.

< SAFETY NOTES >

- Please handle with care as this product has sharp edges.
- Improper cutting conditions or mis-handling of the tool may result in breakages or projectiles. Therefore, please use the tool within its recommended conditions.

- When using non-water soluble cutting oil, precautions against fire must be taken and please ensure that a fire extinguisher is placed near the machine.

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