

# **AC8015P \ AC8025P \ AC8035P**

**P**

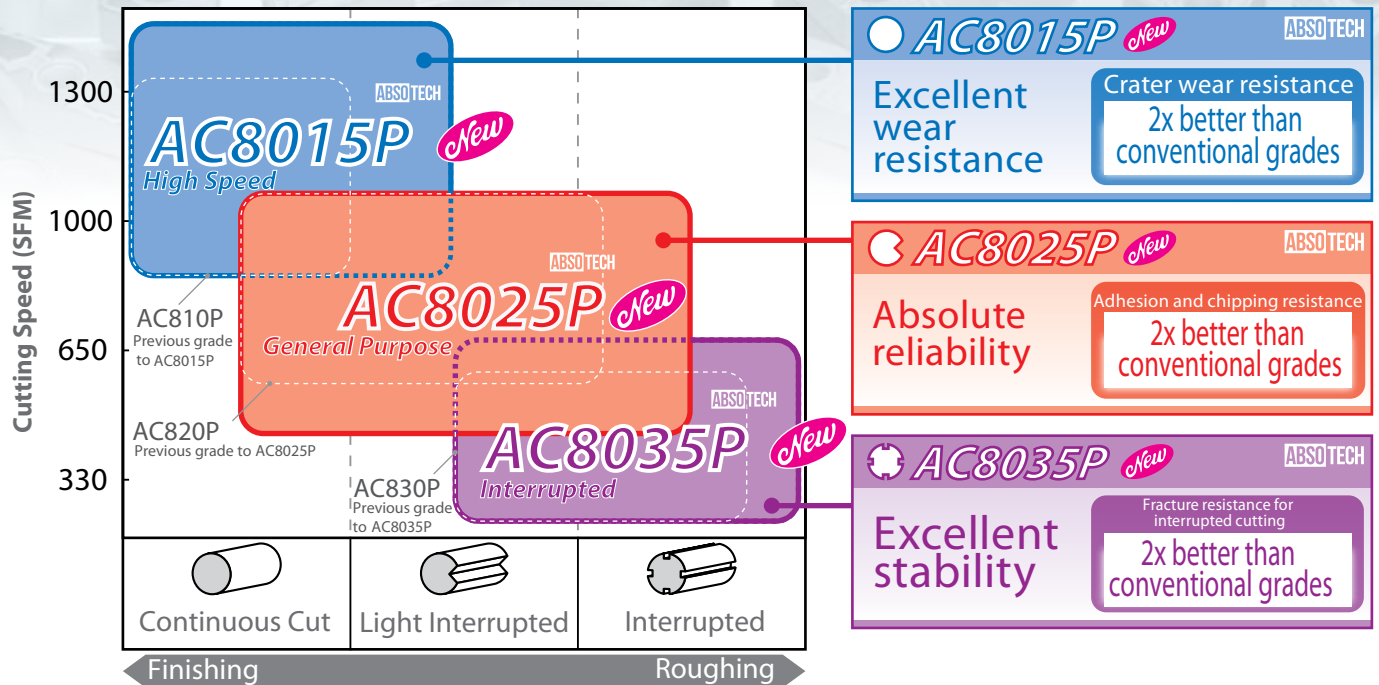


**New 'Absotech Platinum' CVD Coating  
for Cutting of Steel**

New coated grades for Steel Turning

# AC8015P / A8025P / AC8035P

## Application Range



**AC8015P** *New* ABSOTECH

Excellent wear resistance

Crater wear resistance  
2x better than conventional grades

**AC8025P** *New* ABSOTECH

Absolute reliability

Adhesion and chipping resistance  
2x better than conventional grades

**AC8035P** *New* ABSOTECH

Excellent stability

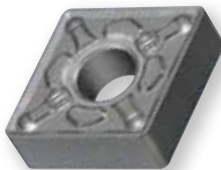
Fracture resistance for interrupted cutting  
2x better than conventional grades

## Cutting Performance

High Speed **AC8015P** ABSOTECH Absotech Platinum

Crystal-controlled alumina layer

Excellent wear resistance



**Reduced crater damage due to chip abrasion through optimized crystal orientation in the alumina layer**

### Conventional

Orientation of crystals not aligned

TiCN layer exposure      End of tool life

Progressive crater damage due to peeling of alumina layer

**Part Material:** 52100 (External Continuous) **Insert:** CNMG432EGU  
**Cutting Conditions:**  $v_c=1000$  sfm  $f=0.012$  IPR  $ap=0.06$ " Wet

### AC8015P

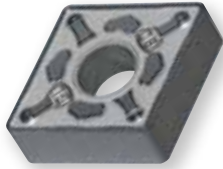
Crystal orientation aligned

Significantly reduced damage to alumina layer

Minimal wear      TiCN layer exposure      End of tool life

Reduced crater damage due to chip abrasion

2x better crater wear resistance



## Improved tool surface smoothness and significantly reduced adhesions through special surface treatment

**Conventional**

Ra0.4µm

2min Adhesions 70min Breakage

Unable to continue

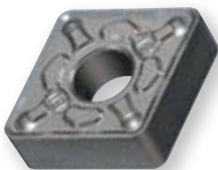
**Part Material:** 4115 Steel (Face) **Insert :** CNMG432EGU  
**Cutting Conditions:**  $v_c=330-1000$  sfm  $f=0.012$  IPR  $a_p=0.06''$  Wet

**AC8025P**

Ra0.04µm

2min Normal wear 70min Controlled even wear 120min No end of tool life

Extremely smooth surface for less adhesions Double the adhesion and breakage resistance!



## Drastically reduced tensile residual stress in coating through special surface treatment

**Conventional**

Tensile residual stress in TiCN (GPa)

f Feed Rate (in.) No. of Impacts

Unable to continue

**Part Material:** 4137 Steel (External Interrupted) **Insert:** CNMG432EGU  
**Cutting Conditions:**  $v_c=520$  sfm  $f=0.08-0.012$  IPR  $a_p=0.06''$  Wet

**AC8035P**

90% less tensile stress

Tensile residual stress in TiCN (GPa)

f Feed Rate (in.) No. of Impacts

Able to continue for all corners

Reduced crack growth and breakage through reduced tensile residual stress Double the fracture resistance!

## ■ Chipbreaker Selection Guide

⊕

General Purpose

1st Recommendation  
General Purpose

AC8025P


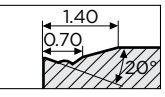

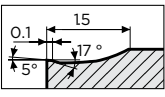

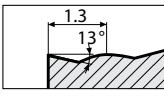

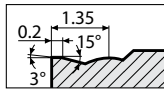

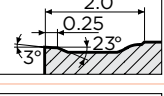

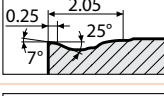

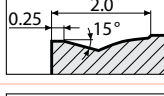

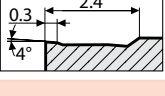

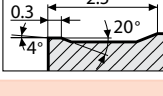

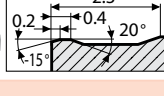
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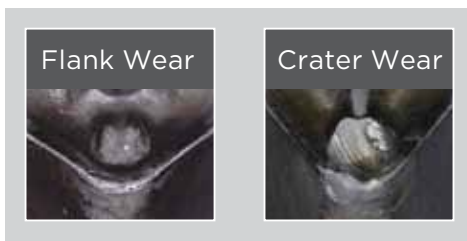
EGU

EGU Type Chipbreaker

1st Recommendation


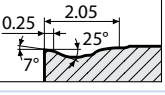

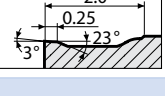


Units (mm)	Better Wear Resistance	General Purpose	Better Toughness
<b>Finish to Small Depth</b>	   	 	 
<b>General Purpose</b>	 	 	 
<b>Rough to Larger Cutting Depth</b>	 	 	 



⊕ Better Wear Resistance

High Speed **AC8015P**

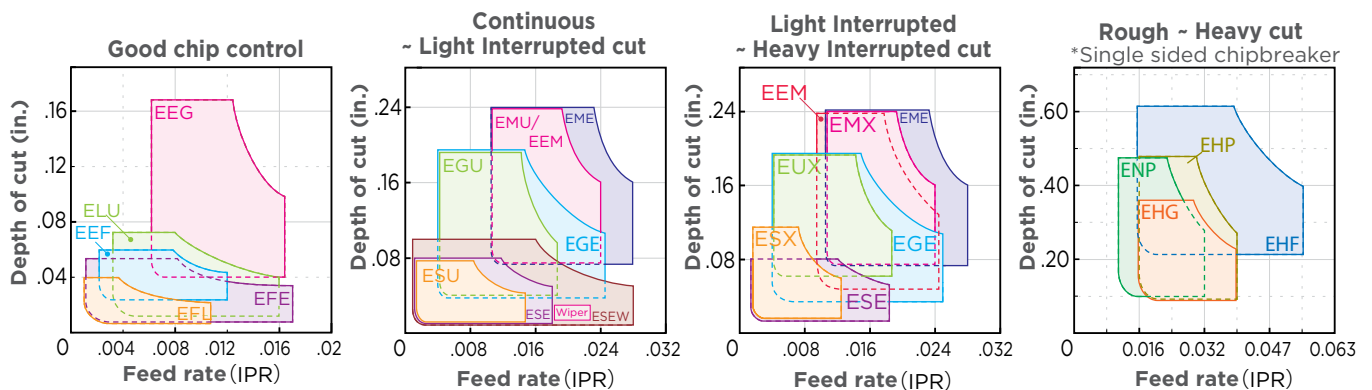
Units (mm)	 
Longer Tool Life Required	
Better Efficiency Required	 

⊕ Better Toughness

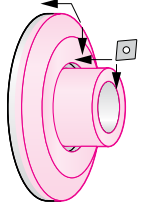
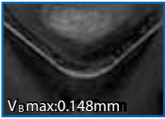

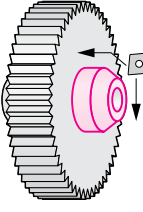


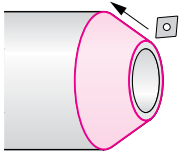


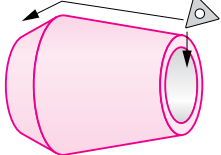


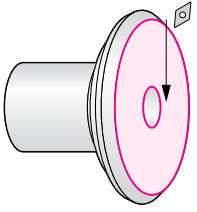
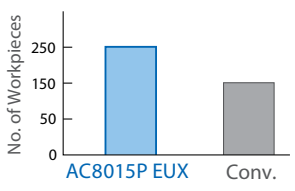
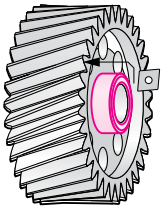
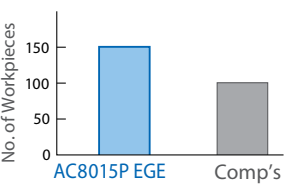
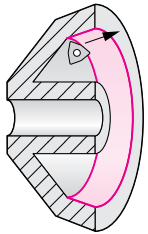


Interrupted **AC8035P**

Units (mm)	 
Longer Tool Life Required	
Machining Consistency Required	 

## ■ Chipbreaker Application Range

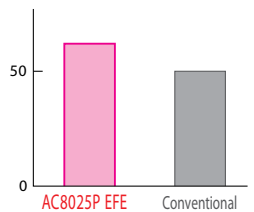




# AC8015P Application Examples



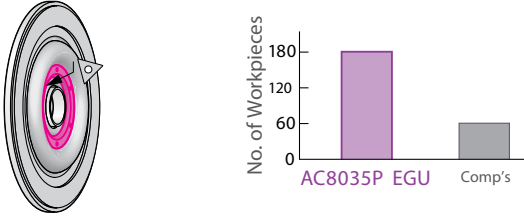
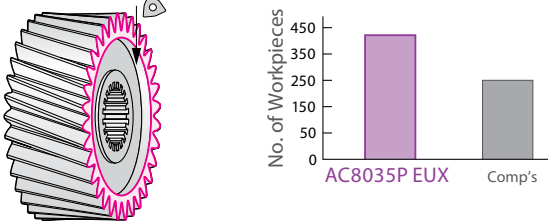
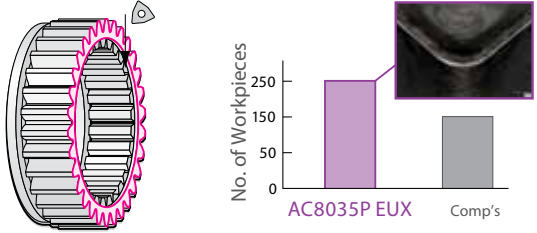

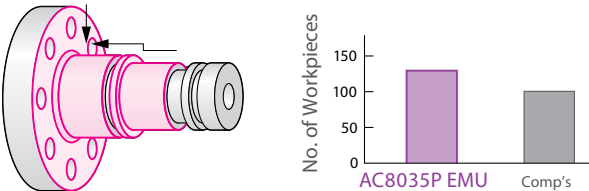
<p><b>CrMo Steel</b> <span style="float: right;"><b>Gear</b></span></p> <p><b>AC8015P</b> AC8015P ensures minimal wear and a 1.5x extension of tool life</p>   <p><math>V_{Bmax}: 0.148mm</math> <b>AC8015P EMU</b> 150 pieces</p>  <p><math>V_{Bmax}: 0.155mm</math> Comp's 100 pieces</p> <p>Insert: CNMG433EUX-AC8015P Roughing Cutting Conditions: <math>v_c=920</math> sfm <math>f=0.010</math> IPR <math>a_p=0.08</math> - .1" Wet</p>	<p><b>4137 Steel</b> <span style="float: right;"><b>Ring gear</b></span></p> <p><b>AC8015P</b> AC8015P ensures minimal crater wear and a 1.5x extension of tool life</p>   <p><b>AC8015P EGE</b> 150 pieces</p>  <p>Comp's 100 pieces</p> <p>Insert: CNMG433EGE-AC8015P Cutting Conditions: <math>v_c=655-855</math> sfm <math>f=0.012</math> - .016 IPR <math>a_p=0.06</math>" Wet</p>
<p><b>Carbon Steel</b> <span style="float: right;"><b>Pipe</b></span></p> <p><b>AC8015P</b> AC8015P's excellent chipping resistance ensures minimal damage and a 2x extension of tool life</p>   <p><b>AC8015P EMU</b> 25 pieces</p>  <p>Comp's 12 pieces</p> <p>Insert: CNMG433EMU-AC8015P Roughing Cutting Conditions: <math>v_c=520</math> sfm <math>f=0.0178</math> IPR <math>a_p=0.098</math>" Wet</p>	<p><b>52100 Bearing Steel</b> <span style="float: right;"><b>Toolholder</b></span></p> <p><b>AC8015P</b> AC8015P ensures minimal breakage and a 1.7x extension of tool life</p>   <p><b>AC8015P EGE</b> 500 pieces</p>  <p>Comp's 300 pieces</p> <p>Insert: TNMG331EGE-AC8015P Cutting Conditions: <math>v_c=690-880</math> sfm <math>f=0.0079</math> IPR <math>a_p=0.13</math>" Wet</p>
<p><b>1055 Steel</b> <span style="float: right;"><b>Hub</b></span></p> <p><b>AC8015P</b> AC8015P ensures minimal wear and a 1.7x extension of tool life</p>   <p><b>AC8015P EUX</b></p> <p>Conv.</p> <p>Insert: DNMG433EUX-AC8015P Cutting Conditions: <math>v_c=785</math> sfm <math>f=0.02</math> IPR <math>a_p=0.04</math> - .10" Wet</p>	<p><b>4137 Steel</b> <span style="float: right;"><b>Gear</b></span></p> <p><b>AC8015P</b> AC8015P's excellent chipping resistance ensures minimal damage and a 1.5x extension of tool life</p>   <p><b>AC8015P EGE</b></p> <p>Comp's</p> <p>Insert: CNMG433EGE-AC8015P Cutting Conditions: <math>v_c=655-855</math> sfm <math>f=0.012</math> - .016 IPR <math>a_p=0.08</math>" Wet</p>
<p><b>4118 Steel</b> <span style="float: right;"><b>CVT Part</b></span></p> <p><b>AC8015P</b> AC8015P's excellent chipping resistance ensures minimal damage</p>   <p><b>AC8015P ESX</b> 300 pieces</p>  <p>Conventional 300 pieces</p> <p>Insert: WNMG432ESX-AC8015P Mill-Scaled Work Cutting Conditions: <math>v_c=985</math> sfm <math>f=0.008</math> - .011 IPR <math>a_p=0.04</math>" Wet</p>	

# AC8025P Application Examples

<p><b>1045 Steel</b> <span style="float: right;"><b>Axle End</b></span></p> <p><b>AC8025P</b> AC8025P ensures minimal crater wear.</p>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><math>V_{smax}: 0.15mm</math> <b>AC8025P ENP</b> 150 pieces</p> </div> <div style="text-align: center;">  <p><math>V_{smax}: 0.83mm</math> Comp's 150 pieces</p> </div> </div>	<p><b>16MnCr5 Steel</b> <span style="float: right;"><b>Ring Gear</b></span></p> <p><b>AC8025P</b> AC8025P ensures an 1.5x extension of tool life</p>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><b>AC8025P EME</b> 150 pieces</p> </div> <div style="text-align: center;">  <p>Comp's 100 pieces</p> </div> </div>
<p>Insert: CNMM434ENP-AC8025P Cutting Conditions: <math>v_c=590 - 655</math> sfm <math>f=0.017 - 0.022</math> IPR <math>a_p=0.04 - 0.12</math>" Wet</p>	<p>Insert: WNMG434EME-AC8025P Cutting Conditions: <math>v_c=820</math> sfm <math>f=0.012 - 0.018</math> IPR <math>a_p=0.04 - 0.1</math>" Wet</p>
<p><b>15CrMo Steel</b> <span style="float: right;"><b>Toolholder</b></span></p> <p><b>AC8025P</b> AC8025P's excellent chipping resistance ensures minimal damage</p>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><b>AC8025P EEM</b> 100 pieces</p> </div> <div style="text-align: center;">  <p>Comp's 100 pieces</p> </div> </div>	<p><b>1045 Steel</b> <span style="float: right;"><b>Ring</b></span></p> <p><b>AC8025P</b> AC8025P ensures a 3x extension of tool life.</p>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><b>AC8025P EGE</b> 450 pieces</p> </div> <div style="text-align: center;">  <p>Comp's 150 pieces</p> </div> </div>
<p>Insert: DNMG442EEM-AC8025P Cutting Conditions: <math>v_c=500</math> sfm <math>f=0.016</math> IPR <math>a_p=0.16</math>" Wet</p>	<p>Insert: CNMG432EGE-AC8025P Cutting Conditions: <math>v_c=650 - 820</math> sfm <math>f=0.01</math> IPR <math>a_p=0.039</math>" Wet</p>
<p><b>Soft Steel</b> <span style="float: right;"><b>Cylinder</b></span></p> <p><b>AC8025P</b> AC8025P's excellent chipping resistance ensures minimal damage after attaining a 2x life</p>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><math>V_{smax}: 0.11mm</math> <b>AC8025P ESU</b> 200 pieces</p> </div> <div style="text-align: center;">  <p><math>V_{smax}: 0.11mm</math> Comp's 100 pieces</p> </div> </div>	<p><b>4320 Steel</b> <span style="float: right;"><b>Bushing</b></span></p> <p><b>AC8025P</b> AC8025P ensures excellent flank wear resistance</p>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><math>V_{smax}: 0.14mm</math> <b>AC8025P EGE</b> 200 pieces</p> </div> <div style="text-align: center;">  <p><math>V_{smax}: 0.21mm</math> Comp's 200 pieces</p> </div> </div>
<p>Insert: DCMT32.52ESU-AC8025P Cutting Conditions: <math>v_c=690</math> sfm <math>f=0.006</math> IPR <math>a_p=0.040</math>" Wet</p>	<p>Insert: CNMG434EME-AC8025P Cutting Conditions: <math>v_c=850</math> sfm <math>f=0.019 - 0.039</math> IPR <math>a_p=0.06 - 0.08</math>" Wet</p>

<p><b>Soft Steel</b> <span style="float: right;"><b>Front Cover</b></span></p> <p><b>AC8025P</b> AC8025P shows excellent finishing surface by the combination of FE type chipbreaker and ensures an 1.2x extension of tool life.</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">  </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><b>AC8025P EFE</b></p> </div> <div style="text-align: center;">  <p>Conventional</p> </div> </div> </div> <p>Insert: TNMG332EFE-AC8025P Cutting Conditions: Facing: <math>v_c=1475-1575</math> sfm <math>f=.010 - .013</math> IPR <math>a_p=.002 - .0</math>" Wet Internal: <math>v_c=1310</math> sfm <math>f=.008 - .012</math> IPR <math>a_p=.008 - .0012</math>" Wet</p>
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# AC8035P Application Examples

<p><b>1035 Steel Planetary Pinion</b></p> <p><b>AC8035P</b> AC8035P's excellent breakage resistance ensures minimal damage and a 1.5x extension of tool life</p>  <p>AC8035P EUX 300 pieces      Comp's 200 pieces</p> <p>Insert: CNMG433EUX-AC8035P    Interrupted Cutting Conditions: <math>v_c=590</math> sfm <math>f=0.012</math> IPR <math>a_p=0.080</math>" Wet</p>	<p><b>1025 Steel Automotive Part</b></p> <p><b>AC8035P</b> AC8035P's excellent breakage resistance ensures minimal damage and an extended tool life</p>  <p>AC8035P EUX 120 pieces      Comp's 120 pieces</p> <p>Insert: CNMG432EUX-AC8035P    Interrupted Cutting Conditions: <math>v_c=330 - 425</math> sfm <math>f=0.008</math> IPR <math>a_p=0.040 - .125</math>" Wet</p>
<p><b>Hot Rolled Steel Flange</b></p> <p><b>AC8035P</b> AC8035P's excellent chipping resistance ensures minimal damage and a 3x extension of tool life</p>  <p>AC8035P EGU 180 pieces      Comp's 60 pieces</p> <p>Insert: TNMG332EGU-AC8035P    Roughing / Interrupted Cutting Conditions: <math>v_c= 330</math> sfm <math>f=0.012</math> IPR <math>a_p=0.060</math>" Wet</p>	<p><b>NiCr Steel Gear</b></p> <p><b>AC8035P</b> AC8035P's excellent chipping resistance ensures minimal damage and a 1.7x extension of tool life</p>  <p>AC8035P EUX 400 pieces      Comp's 240 pieces</p> <p>Insert: WNMG432EUX-AC8035P    Roughing / Interrupted Cutting Conditions: <math>v_c= 590</math> sfm <math>f=0.006 - 0.016</math> IPR <math>a_p=0.040</math>" Wet</p>
<p><b>5120 Steel Reverse gear</b></p> <p><b>AC8035P</b> AC8035P's excellent chipping resistance ensures minimal damage and a 1.6x extension of tool life</p>  <p>AC8035P EUX 250 pieces      Comp's 150 pieces</p> <p>Insert: WNMG432EUX-AC8035P    Roughing / Interrupted Cutting Conditions: <math>v_c= 755</math> sfm <math>f=0.006 - 0.012</math> IPR <math>a_p=0.040 - 0.080</math>" Wet</p>	<p><b>5140 Steel Flange</b></p> <p><b>AC8035P</b> AC8035P's excellent chipping resistance ensures minimal damage and a 1.5x extension of tool life</p>  <p>AC8035P EGU 90 pieces      Comp's 60 pieces</p> <p>Insert: WNMG433EGU-AC8035P    Roughing / Interrupted Cutting Conditions: <math>v_c= 260 - 655</math> sfm <math>f=0.008</math> IPR <math>a_p=0.040 - 0.060</math>" Dry</p>
<p><b>Alloy Steel Axle End</b></p> <p><b>AC8035P</b> AC8035P's excellent chipping resistance ensures minimal damage and a 1.3x extension of tool life</p>  <p>AC8035P EMU 130 pieces      Comp's 100 pieces</p> <p>Insert: CNMG644EMU-AC8035P    Scaled Part/ Continuous to Interrupted Cutting Conditions: <math>v_c= 460 - 920</math> sfm <math>f=0.020</math> IPR <math>a_p=0.195</math>" Dry</p>	











## AC8015P, AC8025P & AC8035P Availability - Positive Inserts

### TPG Triangle/ 11° Relief Angle

Sumitomo Catalog Number	AC8015P	AC8025P	AC8035P	Inscribed Circle	Thickness	Nose Radius	Insert Hole Diameter
TPG221	●			.250	.125	.0156	
TPG222	●			.250	.125	.0313	
TPG321	●			.375	.125	.0156	
TPG322	●			.375	.125	.0313	
TPG323	●			.375	.125	.0469	
TPG324	●			.375	.125	.0625	
TPG332	●			.375	.1875	.0313	
TPG431	●			.500	.1875	.0156	
TPG432	●			.500	.1875	.0313	
TPG433	●			.500	.1875	.0469	
TPG434	●			.500	.1875	.0625	
TPG436	●			.500	.1875	.0938	

### VBMT 35° Diamond/ 5° Relief Angle

Sumitomo Catalog Number	AC8015P	AC8025P	AC8035P	Inscribed Circle	Thickness	Nose Radius	Insert Hole Diameter
VBMT220.5ELB	★	●		.250	.125	.0078	.134
VBMT221ELB	★	●		.250	.125	.0156	.134
VBMT222ELB	★	●		.250	.125	.0313	.134
VBMT331ELB		●	●	.375	.1875	.0156	.1732
VBMT332ELB		●	●	.375	.1875	.0313	.1732
VBMT333ELB		●	●	.375	.1875	.0469	.1732
VBMT221ELU	●	★		.250	.125	.0156	.134
VBMT331ELU	●	●		.375	.1875	.0156	.1732
VBMT332ELU	●	●		.375	.1875	.0313	.1732
VBMT332ENK		●		.375	.1875	.0313	.1732
VBMT221ESU	●	●		.250	.125	.0156	.134
VBMT222ESU	●	●		.250	.125	.0313	.134
VBMT331ESU	●	●	★	.375	.1875	.0156	.1732
VBMT332ESU	●	●	●	.375	.1875	.0313	.1732
VBMT333ESU		★		.375	.1875	.0469	.1732

### VCMT 35° Diamond/ 7° Relief Angle

Sumitomo Catalog Number	AC8015P	AC8025P	AC8035P	Inscribed Circle	Thickness	Nose Radius	Insert Hole Diameter
VCMT630.5ELB			●	.1875	.094	.0078	.090
VCMT631ELB			●	.1875	.094	.0156	.090
VCMT331ELB		●	●	.375	.1875	.0156	.1732
VCMT332ELB		●	●	.375	.1875	.0313	.1732
VCMT331ELU	●	●		.375	.1875	.0156	.1732
VCMT332ELU	●	●		.375	.1875	.0313	.1732
VCMT331ENK		●	●	.375	.1875	.0156	.1732
VCMT332ENK		●	●	.375	.1875	.0313	.1732
VCMT331ESU	●	●	★	.375	.1875	.0156	.1732
VCMT332ESU	●	●	★	.375	.1875	.0313	.1732

### WPMT 80° Trigon/ 11° Relief Angle

WPMT110204N-LB	●	★		.250	.094	.0156	.110
WPMT160308N-LB	●	★		.375	.125	.0313	.1732

● = USA Stocked item  
★ = Worldwide Warehouse item



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