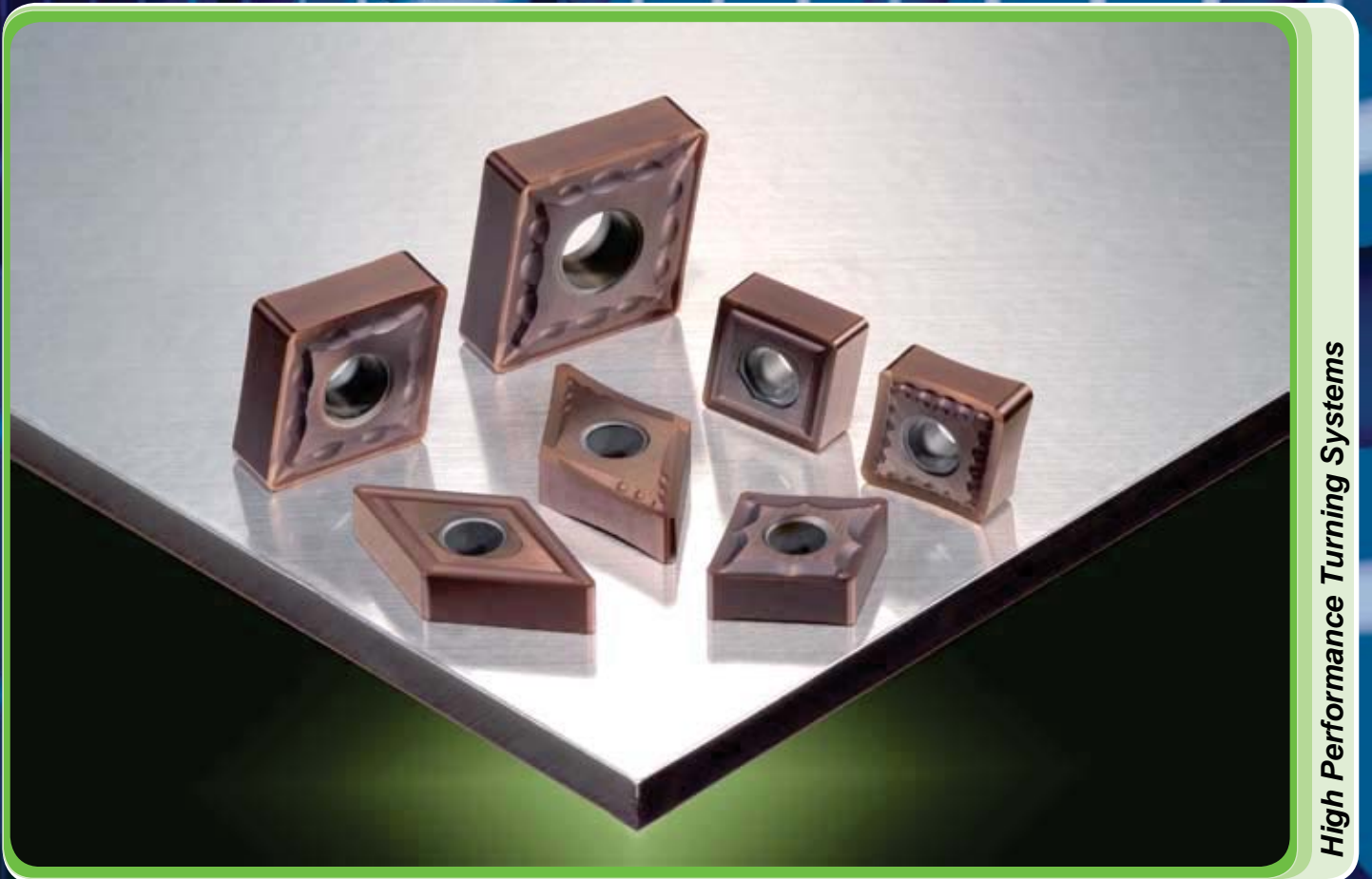
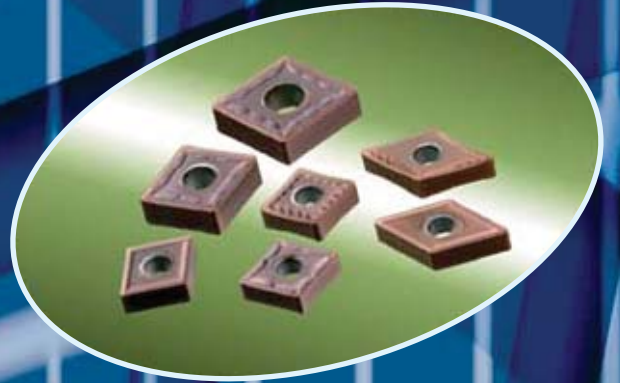




SUMITOMO

CARBIDE - CBN - DIAMOND

AC510U
AC520U



High Performance Turning Systems

PVD coated carbide grade for turning of exotic materials



AC510U/AC520U

for turning of exotic materials

AC510U: Finish turning of exotic materials

AC520U: General purpose turning of exotic materials

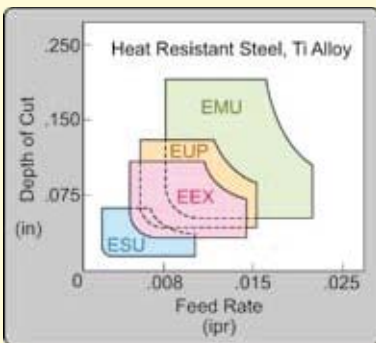


Features & Benefits

- Super multi-layered coating with ultra-thin layers of TiAlN and AlCrN, alternately stacked up to 1,000 layers allowing for higher speed capabilities and higher wear resistance.
- Tool life is extended due to oxidation temperature increase by 200°C resulting in a 40% increase in coating hardness.

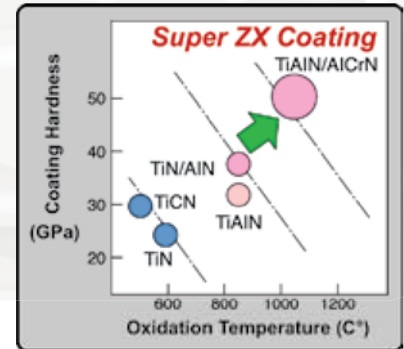
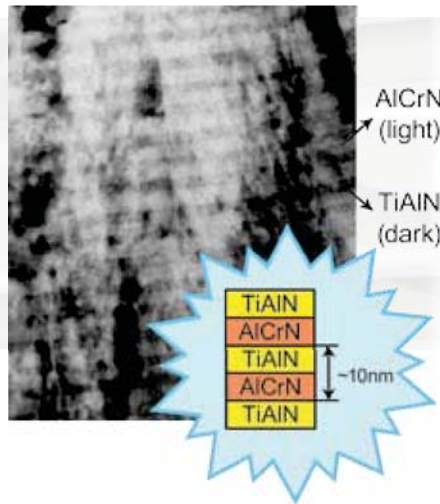
New PVD coated carbide grades for roughing, finishing, and medium cut machining of super alloy materials.

Application Range



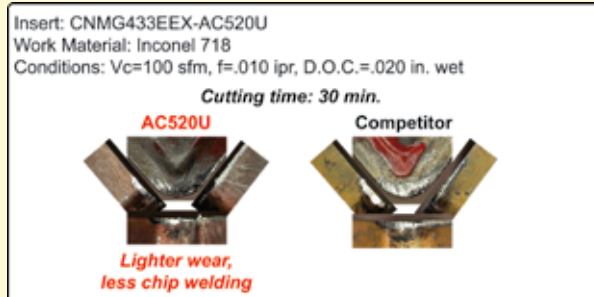
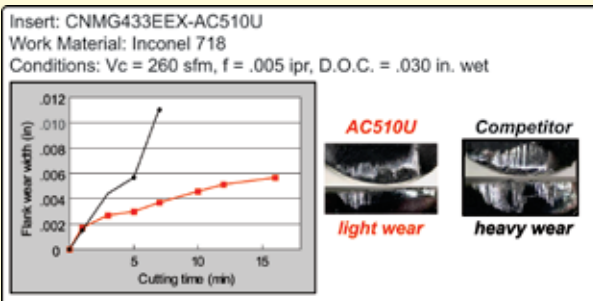
Finishing	Medium	Roughing
AC510U		
	AC520U	

Coating Structure

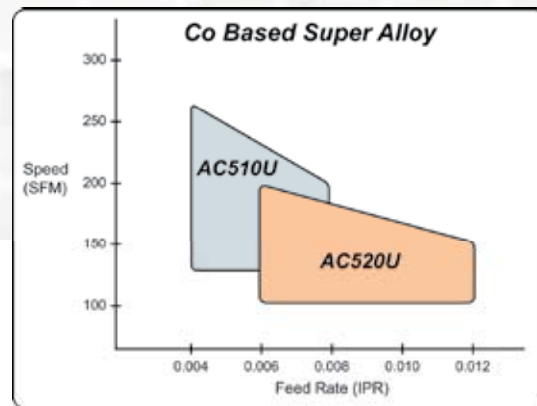
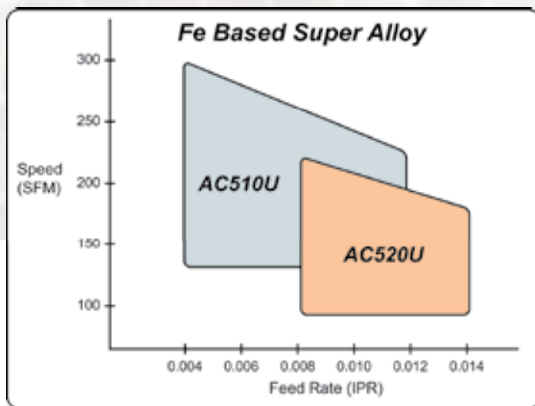
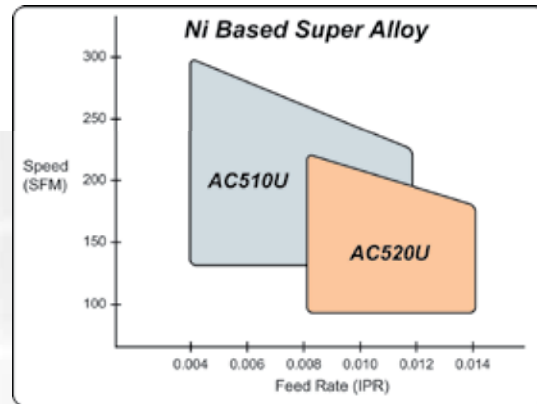
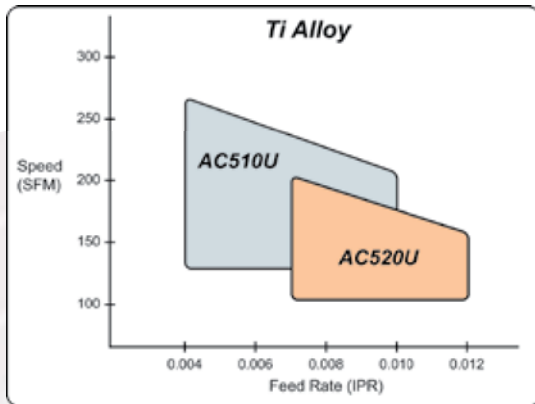


- Increased coating hardness by 40%
- Oxidation temperature increased by 200°C

Performance

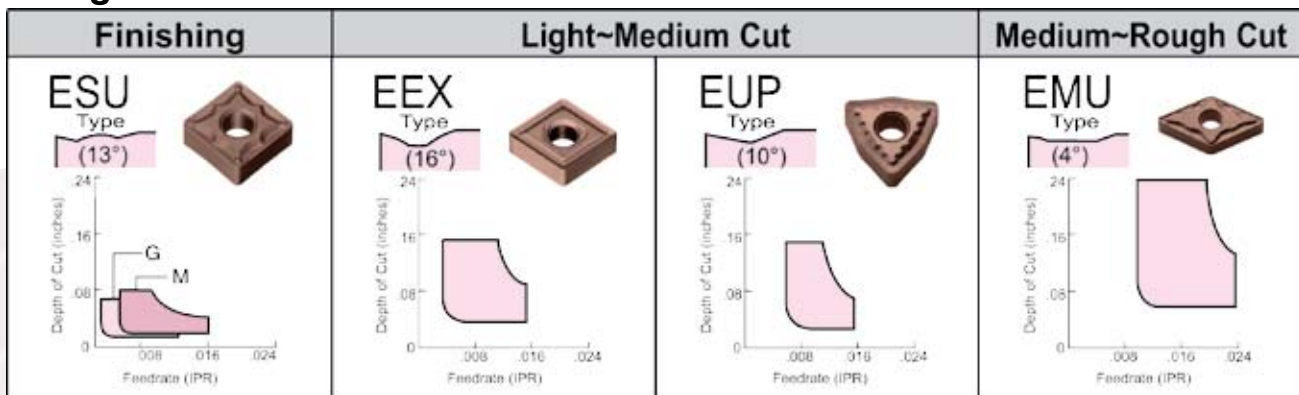


Recommended Cutting Conditions

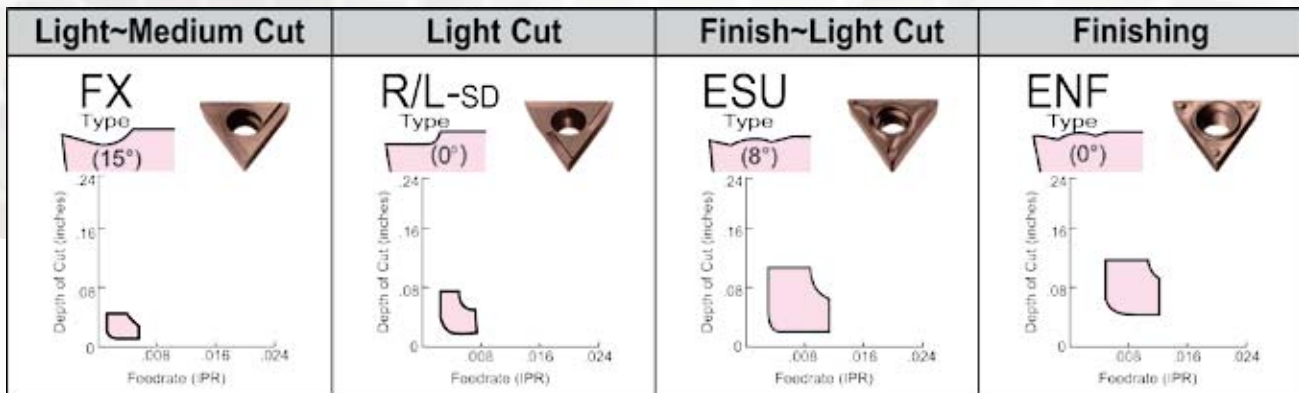


Chipbreaker Selection

• Negative



• Positive



AC510U/AC520U for turning of exotic materials

Insert Availability-NEGATIVE

CNGG 80° Diamond/Negative							
Sumitomo Cat. No.	ISO Cat. No.	AC510U	AC520U	I.C.	Thickness	Nose Radius	Hole Dia.
CNGG 430 ESU	CNGG120401N-SU	●	●	.500	.1875	.0039	.2031
CNGG 430.5 ESU	CNGG120402N-SU	●	●	.500	.1875	.0078	.2031
CNGG 431 ESU	CNGG120404N-SU	●	●	.500	.1875	.0156	.2031
CNGG 432 ESU	CNGG120408N-SU	●	●	.500	.1875	.0313	.2031
CNMG 80° Diamond/Negative							
Sumitomo Cat. No.	ISO Cat. No.	AC510U	AC520U	I.C.	Thickness	Nose Radius	Hole Dia.
CNMG 430.5 ESU	CNMG120402N-SU	●	●	.500	.1875	.0078	.2031
CNMG 431 ESU	CNMG120404N-SU	●	●	.500	.1875	.0156	.2031
CNMG 432 ESU	CNMG120408N-SU	●	●	.500	.1875	.0313	.2031
CNMG 433 ESU	CNMG120412N-SU	●	●	.500	.1875	.0464	.2031
CNMG 431 EEX	CNMG120404N-EX	●	●	.500	.1875	.0156	.2031
CNMG 432 EEX	CNMG120408N-EX	●	●	.500	.1875	.0313	.2031
CNMG 433 EEX	CNMG120412N-EX	●	●	.500	.1875	.0464	.2031
CNMG 543 EEX	CNMG160612N-EX	●	●	.625	.250	.0469	.250
CNMG 643 EEX	CNMG190612N-EX	●	●	.750	.250	.0469	.3126
CNMG 431 EUP	CNMG120404N-UP	●	●	.500	.1875	.0156	.2031
CNMG 432 EUP	CNMG120408N-UP	●	●	.500	.1875	.0313	.2031
CNMG 433 EUP	CNMG120412N-UP	●	●	.500	.1875	.0464	.2031
CNMG 432 EMU	CNMG120408N-MU	●	●	.500	.1875	.0313	.2031
CNMG 433 EMU	CNMG120412N-MU	●	●	.500	.1875	.0464	.2031
CNMG 542 EMU	CNMG160608N-MU	●	●	.625	.250	.0313	.250
CNMG 543 EMU	CNMG160612N-MU	●	●	.625	.250	.0469	.250
CNMG 544 EMU	CNMG160616N-MU	●	●	.625	.250	.0625	.250
CNMG 642 EMU	CNMG190608N-MU	●	●	.750	.250	.0313	.3126
CNMG 643 EMU	CNMG190612N-MU	●	●	.750	.250	.0469	.3126
CNMG 644 EMU	CNMG190616N-MU	●	●	.750	.250	.0625	.3126
DNGG 55° Diamond/Negative							
Sumitomo Cat. No.	ISO Cat. No.	AC510U	AC520U	I.C.	Thickness	Nose Radius	Hole Dia.
DNGG 430 ESU	DNGG150401N-SU	●	●	.500	.1875	.0039	.2031
DNGG 430.5 ESU	DNGG150402N-SU	●	●	.500	.1875	.0078	.2031
DNGG 431 ESU	DNGG150404N-SU	●	●	.500	.1875	.0156	.2031
DNGG 432 ESU	DNGG150408N-SU	●	●	.500	.1875	.0313	.2031
DNMG 55° Diamond/Negative							
Sumitomo Cat. No.	ISO Cat. No.	AC510U	AC520U	I.C.	Thickness	Nose Radius	Hole Dia.
DNMG 431 EEX	DNMG150404N-EX	●	●	.500	.1875	.0156	.2031
DNMG 432 EEX	DNMG150408N-EX	●	●	.500	.1875	.0313	.2031
DNMG 433 EEX	DNMG150412N-EX	●	●	.500	.1875	.0469	.2031
DNMG 431 ESU	DNMG150404N-SU	●	●	.500	.1875	.0156	.2031
DNMG 432 ESU	DNMG150408N-SU	●	●	.500	.1875	.0313	.2031
DNMG 433 ESU	DNMG150412N-SU	●	●	.500	.1875	.0469	.2031
DNMG 431 EUP	DNMG150404N-UP	●	●	.500	.1875	.0156	.2031
DNMG 432 EUP	DNMG150408N-UP	●	●	.500	.1875	.0313	.2031
DNMG 433 EUP	DNMG150412N-UP	●	●	.500	.1875	.0469	.2031
DNMG 432 EMU	DNMG150408N-MU	●	●	.500	.1875	.0313	.2031
DNMG 433 EMU	DNMG150412N-MU	●	●	.500	.1875	.0469	.2031

SNMG 90° Square/Negative							
Sumitomo Cat. No.	ISO Cat. No.	AC510U	AC520U	I.C.	Thickness	Nose Radius	Hole Dia.
SNMG 431 EEX	SNMG120404N-EX	●	●	.500	.1875	.0156	.2031
SNMG 432 EEX	SNMG120408N-EX	●	●	.500	.1875	.0313	.2031
SNMG 433 EEX	SNMG120412N-EX	●	●	.500	.1875	.0469	.2031
SNMG 543 EEX	SNMG150612N-EX	●	●	.625	.250	.0469	.250
SNMG 643 EEX	SNMG190612N-EX	●	●	.750	.250	.0469	.3126
SNMG 432 EMU	SNMG120408N-MU	●	●	.500	.1875	.0313	.2031
SNMG 433 EMU	SNMG120412N-MU	●	●	.500	.1875	.0469	.2031
SNMG 543 EMU	SNMG150612N-MU	●	●	.625	.250	.0469	.250
SNMG 544 EMU	SNMG150616N-MU	●	●	.625	.250	.0625	.250
SNMG 643 EMU	SNMG190612N-MU	●	●	.750	.250	.0469	.3126
SNMG 644 EMU	SNMG190616N-MU	●	●	.750	.250	.0625	.3126
SNMG 432 ESU	SNMG120408N-SU	●	●	.500	.1875	.0313	.2031
TNMG 60° Triangle/Negative							
Sumitomo Cat. No.	ISO Cat. No.	AC510U	AC520U	I.C.	Thickness	Nose Radius	Hole Dia.
TNMG 331 EEX	TNMG160404N-EX	●	●	.375	.1875	.0156	.150
TNMG 332 EEX	TNMG160408N-EX	●	●	.375	.1875	.0313	.150
TNMG 333 EEX	TNMG160412N-EX	●	●	.375	.1875	.0469	.150
TNMG 332 EMU	TNMG160408N-MU	●	●	.375	.1875	.0313	.150
TNMG 333 EMU	TNMG160412N-MU	●	●	.375	.1875	.0469	.150
VNGG 35° Diamond/Negative							
Sumitomo Cat. No.	ISO Cat. No.	AC510U	AC520U	I.C.	Thickness	Nose Radius	Hole Dia.
VNGG 330 ESU	VNGG160401N-SU	●	●	.375	.1875	.0039	.150
VNGG 330.5 ESU	VNGG160402N-SU	●	●	.375	.1875	.0078	.150
VNGG 331 ESU	VNGG160404N-SU	●	●	.375	.1875	.0156	.150
VNGG 332 ESU	VNGG160408N-SU	●	●	.375	.1875	.0313	.150
VNMG 35° Diamond/Negative							
Sumitomo Cat. No.	ISO Cat. No.	AC510U	AC520U	I.C.	Thickness	Nose Radius	Hole Dia.
VNMG 331 ESU	VNMG160404N-SU	●	●	.375	.1875	.0156	.150
VNMG 332 ESU	VNMG160408N-SU	●	●	.375	.1875	.0313	.150
VNMG 331 EUP	VNMG160404N-UP	●	●	.375	.1875	.0156	.150
VNMG 332 EUP	VNMG160408N-UP	●	●	.375	.1875	.0313	.150
VNMG 332 EEX	VNMG160408N-EX	●	●	.375	.1875	.0313	.150
WNGG 80° Trigon/Negative							
Sumitomo Cat. No.	ISO Cat. No.	AC510U	AC520U	I.C.	Thickness	Nose Radius	Hole Dia.
WNGG 431 ESU	WNGG080404N-SU	●	●	.500	.1875	.0156	.2031
WNMG 80° Trigon/Negative							
Sumitomo Cat. No.	ISO Cat. No.	AC510U	AC520U	I.C.	Thickness	Nose Radius	Hole Dia.
WNMG 431 EEX	WNMG080404N-EX	●	●	.500	.1875	.0156	.2031
WNMG 432 EEX	WNMG080408N-EX	●	●	.500	.1875	.0313	.2031
WNMG 432 EMU	WNMG080408N-MU	●	●	.500	.1875	.0313	.2031
WNMG 433 EMU	WNMG080412N-MU	●	●	.500	.1875	.0469	.2031
WNMG 432 EUP	WNMG080408N-UP	●	●	.500	.1875	.0313	.2031

● = Stocked standard items

AC510U/AC520U for turning of exotic materials

Insert Availability-POSITIVE

CCMT		<i>80° Diamond/7° Positive</i>					
Sumitomo Cat. No.	ISO Cat. No.	AC510U	AC520U	I.C.	Thickness	Nose Radius	Hole Dia.
CCMT 21.50.5 ESU	CCMT060202N-SU	●	●	.250	.094	.0078	.0156
CCMT 21.51 ESU	CCMT060204N-SU	●	●	.250	.094	.110	.0156
CCMT 21.52 ESU	CCMT060208N-SU	●	●	.250	.094	.0313	.0156
CCMT 32.50.5 ESU	CCMT09T302N-SU	●	●	.375	.156	.0078	.1732
CCMT 32.51 ESU	CCMT09T304N-SU	●	●	.375	.156	.0156	.1732
CCMT 32.52 ESU	CCMT09T308N-SU	●	●	.375	.156	.0313	.1732
CPGT		<i>80° Diamond/11° Positive</i>					
CPGT 2.51.50.5	CPGT080202N-SD	●	●	.3125	.094	.0078	.134
CPMT		<i>80° Diamond/11° Positive</i>					
CPMT 21.51 ESU	CPMT060204N-SU	●	●	.250	.094	.0156	.110
DCMT		<i>55° Diamond/7° Positive</i>					
DCMT 21.50.5 ESU	DCMT070202N-SU	●	●	.250	.094	.0078	.110
DCMT 21.51 ESU	DCMT070204N-SU	●	●	.250	.094	.0156	.110
DCMT 21.52 ESU	DCMT070208N-SU	●	●	.250	.094	.0313	.110
DCMT 32.50.5 ESU	DCMT11T302N-SU	●	●	.375	.156	.0078	.1732
DCMT 32.51 ESU	DCMT11T304N-SU	●	●	.375	.156	.0156	.1732
DCMT 32.52 ESU	DCMT11T308N-SU	●	●	.375	.156	.0313	.1732
TBGT		<i>60° Triangle/5° Positive</i>					
TBGT 520.5 LFX	TBGT060102L-FX	●	●	.156	.125	.0078	.090
TBGT 521 LFX	TBGT060104L-FX	●	●	.156	.125	.0156	.090
TBGT 521 RFX	TBGT060104R-FX	●	●	.156	.125	.0156	.090
TCMT		<i>55° Triangle/7° Positive</i>					
TCMT 21.51 ESU	TCMT110204N-SU	●	●	.250	.094	.0156	.110
TCMT 21.52 ESU	TCMT110208N-SU	●	●	.250	.094	.0313	.110
TCMT 32.51 ESU	TCMT16T304N-SU	●	●	.375	.156	.0156	.1693
TCMT 32.52 ESU	TCMT16T308N-SU	●	●	.375	.156	.0313	.1693
TPG		<i>60° Triangle/11° Positive</i>					
TPG 321	TPGN160304	●	●	.375	.125	.0156	-
TPG 322	TPGN160308	●	●	.375	.125	.0313	-
TPG 432	TPGN220408	●	●	.500	.1875		-
TPGG		<i>60° Triangle/11° Positive</i>					
TPGG 221 L	TPGT110304L-SD	●	●	.250	.125	.0156	.130
TPGG 221 R	TPGT110304R-SD	●	●	.250	.125	.0156	.130
TPGG 331 L	TPGT160404L-SD	●	●	.375	.1875	.0156	.1693
TPGG 331 R	TPGT160404R-SD	●	●	.375	.1875	.0156	.1693

TPGT		<i>60° Triangle/11° Positive</i>					
Sumitomo Cat. No.	ISO Cat. No.	AC510U	AC520U	I.C.	Thickness	Nose Radius	Hole Dia.
TPGT 630.5 L	TPGT080202L-W	●	●	.1875	.094	.0078	.090
TPGT 630.5 LFX	TPGT080202L-FX	●	●	.1875	.094	.0078	.090
TPGT 630.5 RFX	TPGT080202R-FX	●	●	.1875	.094	.0078	.090
TPGT 631 LFX	TPGT080204L-FX	●	●	.1875	.094	.0156	.090
TPGT 631 RFX	TPGT080204R-FX	●	●	.1875	.094	.0156	.090
TPGT 21.50.5 LFX	TPGT110202L-FX	●	●	.250	.094	.0078	.110
TPGT 21.50.5 RFX	TPGT110202R-FX	●	●	.250	.094	.0078	.110
TPGT 21.51 LFX	TPGT110204L-FX	●	●	.250	.094	.0156	.110
TPGT 21.51 RFX	TPGT110204R-FX	●	●	.250	.094	.0156	.110
TPGT 21.52 LFX	TPGT110208L-FX	●	●	.250	.094	.0313	.110
TPMT		<i>60° Triangle/11° Positive</i>					
TPMT 21.50.5 ESU	TPMT110202N-SU	●	●	.250	.094	.0078	.107
TPMT 21.51 ESU	TPMT110204N-SU	●	●	.250	.094	.0156	.107
TPMT 221 ENF	TPMT110304N-SF	●	●	.250	.125	.0156	.130
TPMT 222 ENF	TPMT110308N-SF	●	●	.250	.125	.0313	.130
TPMT 331 ENF	TPMT160404N-SF	●	●	.375	.1875	.0156	.1693
TPMT 332 ENF	TPMT160408N-SF	●	●	.375	.1875	.0313	.1693
VBMT		<i>35° Diamond/5° Positive</i>					
VBMT 221 ESU	VBMT110304N-SU	●	●	.250	.125	.0156	.134
VBMT 222 ESU	VBMT110308N-SU	●	●	.250	.125	.0313	.134
VBMT 331 ESU	VBMT160404N-SU	●	●	.375	.1875	.0156	.1752
VBMT 332 ESU	VBMT160408N-SU	●	●	.375	.1875	.0313	.1732
VCMT		<i>35° Diamond/7° Positive</i>					
VCMT 331 ESU	VCMT160404N-SU	●	●	.375	.1875	.0156	.1732
VCMT 332 ESU	VCMT160408N-SU	●	●	.375	.1875	.0313	.1732



SUMITOMO

CARBIDE - CBN - DIAMOND

'at the cutting edge'

Sumitomo Electric Carbide, Inc.

Headquarters

1001 Business Center Drive
Mount Prospect, IL 60056-6080
P.O. Box 545, Mt. Prospect, IL 60056-0545
Phone: (800) 950-5202
Phone: (847) 635-0044
Fax: (847) 635-7866
<http://www.sumicarbide.com>

Detroit Branch

14496 Sheldon Road #230
Plymouth, MI 48170
Phone: (800) 239-5177
Phone: (734) 451-0200
Fax: (734) 451-5338

Cincinnati Branch

4450 Carver Woods Drive
Cincinnati, OH 45242-5545
Phone: (800) 879-1887
Phone: (513) 891-4000
Fax: (513) 794-2911

Huntsville Branch

5650 Sanderson Street NW Suite J
Huntsville, AL 35805
Phone: (256) 895-2845
Fax: (256) 895-3150

Torrance Branch

21221 South Western Avenue Suite 200
Torrance, CA 90501
Phone: (800) 950-5202
Fax: (310) 782-0211

