



SUMITOMO

CARBIDE - CBN - DIAMOND

DA1000



PCD Grade DA1000

1.5X tougher than conventional PCD grades
Superior strength and wear resistance
Economical NF-tip geometry



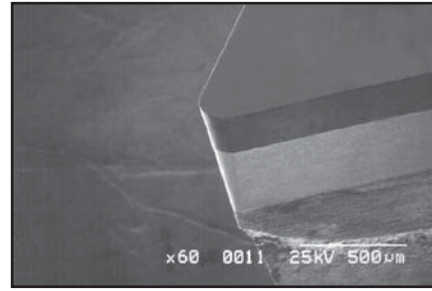
DA1000

Features & Benefits

● Features & Benefits

- Superior strength and wear resistance
- 1.5X tougher than conventional PCD grades
- Great for milling and heavy interrupted turning applications
- Special edge preparations available to suit your individual needs

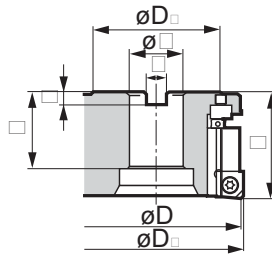
Economical DA1000 NF-tip



● Recommended cutting conditions

Aluminum Alloy			
Si content		Less than 13%	13% and above
Cutting Speed sfm (m/min)	DA1000	(2,000 ~ 5,000)	1,310 ~ 2,625 (400 ~ 800)
		(2,000 ~ 5,000)	(400 ~ 800)
Feed Rate ipt (mm/t)		0.002 ~ 0.008 (0.050 ~ 0.200)	0.002 ~ 0.008 (0.050 ~ 0.200)
D.O.C. inch (mm)		below .118 inch (below 3mm)	below .118 inch (below 3mm)

Material	SFM	IPR	D.O.C.
Aluminum Alloys (4% - 8% Si)	3000 - 10000	0.004 - 0.025	0.120"
Aluminum Alloys (9% - 14% Si)	2000 - 8000	0.004 - 0.020	0.120"
Copper Alloy	3300	0.002 - 0.008	0.120"
Hard Plastic	3300	0.004 - 0.012	0.080"
Wood & Composite	13000	0.004 - 0.015	-
Tungsten Carbide	30 - 70	0.008	0.020"
Reinforced Plastics	3300	0.016	0.080"



Note: The above running parameters are for turning applications only.

● RF Endmill Availability (Metric)

Sumitomo Cat. No.	Stock	ϕD	$\phi D1$	$\phi D2$	F	ϕd	a	b	E	# of teeth	Insert
RF4080R	★	80.0	82.0	60.0	50.0	25.40	9.5	6.0	30.0	6	NF-SNEW12
RF4100R	★	100.0	102.0	75.0	50.0	31.75	12.7	8.0	38.0	6	
RF4125R	★	125.0	127.0	75.0	63.0	38.10	15.9	10.0	38.0	8	
RF4160R	★	160.0	162.0	100.0	63.0	50.80	19.0	11.0	38.0	10	

★ = Worldwide Warehouse item

● Cartridge

Sumitomo Cat. No.	Stock	Appearance
RFF	●	

● = USA Stocked item

● Inserts

Description	Sumitomo Catalog No.	SUMIDIA	Appearance
		DA1000	
SUMIDIA Insert	NF-SNEW1204ADFR	●	
Wiper Insert	NF-SNEW1204ADFR-W	●	

● = USA Stocked item

Insert Availability

CCGA		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
80° Diamond 7° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-CCGA21.50	NF-CCGW060201	●	.250	.094	.0039	.110
NF-CCGA21.50.5	NF-CCGW060202	●	.250	.094	.0078	.110
NF-CCGA21.51	NF-CCGW060204	●	.250	.094	.0156	.110
NF-CCGA32.50.5	NF-CCGW09T302	●	.375	.156	.0078	.1732
NF-CCGA32.51	NF-CCGW09T304	●	.375	.156	.0156	.1732
NF-CCGA32.52	NF-CCGW09T308	●	.375	.156	.0313	.1732

● = USA Stocked item

CCMX		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
80° Diamond 7° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-CCMX21.50	NF-CCMT060201	●	.250	.094	.0039	.110
NF-CCMX21.50.5	NF-CCMT060202	●	.250	.094	.0078	.110
NF-CCMX21.51	NF-CCMT060204	●	.250	.094	.0156	.110
NF-CCMX32.50.5	NF-CCMT09T302	●	.375	.156	.0078	.110
NF-CCMX32.51	NF-CCMT09T304	●	.375	.156	.0156	.110
NF-CCMX32.52	NF-CCMT09T308	●	.375	.156	.0313	.110

● = USA Stocked item

CNMA		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
80° Diamond 0° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-CNMA432	NF-CNMA120408	●	.500	.1875	.0313	.2031
NF-CNMA432H	NF-CNMA120408H	●	.500	.1875	.0313	.2031

● = USA Stocked item

CNMX		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
80° Diamond 0° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-CNMX431	NF-CNMX120404	●	.500	.1875	.0156	.2031
NF-CNMX432	NF-CNMX120408	●	.500	.1875	.0313	.2031
NF-CNMX433	NF-CNMX120412	★	.500	.1875	.0469	.2031

● = USA Stocked item

★ = Worldwide Warehouse item

CPGA		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
80° Diamond 11° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-CPGA321	NF-CPGW090304	●	.375	.125	.0156	.1732
NF-CPGA322	NF-CPGW090308	●	.375	.125	.0313	.1732

● = USA Stocked item

CPMX		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
80° Diamond 11° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-CPMX21.51	NF-CPMT060204	●	.250	.094	.0039	.110
NF-CPMX21.52	NF-CPMT060208	●	.250	.094	.0078	.110
NF-CPMX32.51	NF-CPMT09T304	●	.250	.094	.0156	.110
NF-CPMX32.52	NF-CPMT09Y308	●	.375	.156	.0078	.110
NF-CPMX320.5	NF-CPMT090302	●	.375	.125	.0078	.1732
NF-CPMX321	NF-CPMT090304	●	.375	.125	.0156	.1732
NF-CPMX322	NF-CPMT090308	●	.375	.125	.0313	.1732

● = USA Stocked item

DCGA		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
55° Diamond 07° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-DCGA32.50.5	NF-DCGW11T302	●	.375	.156	.0078	.1732
NF-DCGA32.51	NF-DCGW11T304	●	.375	.156	.0156	.1732
NF-DCGA32.52	NF-DCGW11T308	●	.375	.156	.0313	.1732

● = USA Stocked item

DCMX		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
55° Diamond 7° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-DCMX21.50	NF-DCMT070201	★	.250	.094	.0039	.110
NF-DCMX21.50.5	NF-DCMT070202	●	.250	.094	.0078	.110
NF-DCMX21.51	NF-DCMT070204	●	.250	.094	.0156	.110
NF-DCMX32.50	NF-DCMT11T301	★	.375	.156	.0039	.1732
NF-DCMX32.50.5	NF-DCMT11T302	●	.375	.156	.0078	.1732
NF-DCMX32.51	NF-DCMT11T304	●	.375	.156	.0156	.1732
NF-DCMX32.52	NF-DCMT11T308	●	.375	.156	.0313	.1732

● = USA Stocked item

★ = Worldwide Warehouse item

DNMA		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
55° Diamond 0° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-DNMA432	NF-DNMA150408	●	.500	.1875	.0313	.2031
NF-DNMA432H	NF-DNMA150408H	●	.500	.1875	.0313	.2031

● = USA Stocked item

DNMX		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
55° Diamond 0° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-DNMX430.5	NF-DNMX150402	●	.500	.1875	.0078	.2031
NF-DNMX431	NF-DNMX150404	●	.500	.1875	.0156	.2031
NF-DNMX432	NF-DNMX150408	●	.500	.1875	.0313	.2031
NF-DNMX433	NF-DNMX150412	★	.500	.1875	.0469	.2031

● = USA Stocked item

★ = Worldwide Warehouse item

SPG		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
90° Square 11° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-SPG321	NF-SPGN090304	★	.375	.125	.0078	.2031
NF-SPG322	NF-SPGN090308	★	.375	.125	.0156	.2031
NF-SPG421	NF-SPGN120304	★	.500	.125	.0156	.2031
NF-SPG422	NF-SPGN120308	★	.500	.125	.0313	.2031

★ = Worldwide Warehouse item

TBGD		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
60° Triangle 5° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-TBGD520.5	NF-TBGW060102	★	.156	.0625	.0078	.090
NF-TBGD521	NF-TBGW060104	★	.156	.0625	.0156	.090

★ = Worldwide Warehouse item

TBGE		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
60° Triangle 5° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-TBGE520.5	NF-TBGN060102	★	.156	.0625	.0078	-
NF-TBGE521	NF-TBGN060104	★	.156	.0625	.0156	-

★ = Worldwide Warehouse item

TCMX		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
55° Diamond 7° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-TCMX1.81.50.5	NF-TCMT090202	★	.219	.094	.0078	.098
NF-TCMX1.81.51	NF-TCMT090204	●	.219	.094	.0156	.098
NF-TCMX21.50	NF-TCMT110201	★	.250	.094	.0039	.110
NF-TCMX21.50.5	NF-TCMT110202	●	.250	.094	.0313	.110
NF-TCMX21.51	NF-TCMT110204	●	.250	.094	.0469	.110

● = USA Stocked item

★ = Worldwide Warehouse item

TEEN*		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
60° Triangle 20° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-TEEN32R	NF-TEEN1603R	●	.375	.125	-	-
NF-TEEN43R	NF-TEEN2204R	●	.500	.1875	-	-

● = USA Stocked item

* Inserts used in Sumitomo CHG and CHE milling cutters

TNMX		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
60° Triangle 0° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-TNMX330.5	NF-TNMX160402	★	.375	.1875	.0078	.150
NF-TNMX331	NF-TNMX160404	●	.375	.1875	.0156	.150
NF-TNMX332	NF-TNMX160408	●	.375	.1875	.0313	.150

● = USA Stocked item

★ = Worldwide Warehouse item

TPG		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
60° Triangle 11° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-TPG1.81.50.5	NF-TPGN090202		.219	.094	.0078	-
NF-TPG1.81.51	NF-TPGN090204		.219	.094	.0156	-
NF-TPG220.5	NF-TPGN110302	★	.250	.125	.0078	-
NF-TPG221	NF-TPGN110304	●	.250	.125	.0156	-
NF-TPG221P	NF-TPGN110304P	★	.250	.125	.0156	-
NF-TPG222	NF-TPGN110308	●	.250	.125	.0313	-
NF-TPG222P	NF-TPGN110308P	★	.250	.156	.0313	-
NF-TPG320.5	NF-TPGN160302	★	.375	.125	.0078	-
NF-TPG321	NF-TPGN160304	●	.375	.125	.0156	-
NF-TPG321P	NF-TPGN160304P	★	.375	.125	.0156	-
NF-TPG322	NF-TPGN160308	●	.375	.125	.0313	-

● = USA Stocked item

★ = Worldwide Warehouse item

TPGA		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
60° Triangle 11° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-TPGA1.81.50.5	NF-TPGW090202	●	.219	.094	.0078	.102
NF-TPGA1.81.51	NF-TPGW090204	●	.219	.094	.0156	.102
NF-TPGA21.50	NF-TPGW110201	★	.250	.094	.0039	.107
NF-TPGA21.50.5	NF-TPGW110202	●	.250	.094	.0078	.107
NF-TPGA21.51	NF-TPGW110204	●	.250	.094	.0156	.107
NF-TPGA220.5	NF-TPGW110302	★	.250	.125	.0078	.130
NF-TPGA221	NF-TPGW110304	●	.250	.125	.0156	.130
NF-TPGA222	NF-TPGW110308	●	.250	.125	.0313	.130
NF-TPGA320.5	NF-TPGW160302	●	.375	.125	.0078	.1693
NF-TPGA321	NF-TPGW160304	●	.375	.125	.0156	.1693
NF-TPGA322	NF-TPGW160308	●	.375	.125	.0313	.1693
NF-TPGA330	NF-TPGW160401	★	.375	.1875	.0039	.1693
NF-TPGA330.5	NF-TPGW160402	●	.375	.1875	.0078	.1693
NF-TPGA331	NF-TPGW160404	●	.375	.1875	.0156	.1693
NF-TPGA332	NF-TPGW160408	●	.375	.1875	.0313	.1693

● = USA Stocked item

★ = Worldwide Warehouse item

TPGD		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
60° Triangle 11° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-TPGD630	NF-TPGW080201	★	.1875	.094	.0039	.090
NF-TPGD630.5	NF-TPGW080202	●	.1875	.094	.0078	.090
NF-TPGD631	NF-TPGW080204	●	.1875	.094	.0156	.090

● = USA Stocked item

★ = Worldwide Warehouse item

TPMX		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
60° Triangle 11° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-TPMX220	NF-TPMT110301	★	.250	.125	.0039	.130
NF-TPMX220.5	NF-TPMT110302	★	.250	.125	.0078	.130
NF-TPMX221	NF-TPMT110304	★	.250	.125	.0156	.130
NF-TPMX222	NF-TPMT110308	★	.250	.125	.0313	.130

● = USA Stocked item

★ = Worldwide Warehouse item

VCMA		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
35° Diamond 7° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-VCMA332	NF-VCMW160408	●	.375	.1875	.0313	.1732
NF-VCMA333	NF-VCMW160412	●	.375	.1875	.0469	.1732
NF-VCMA333H	NF-VCMW160412H		.375	.1875	.0469	.1732

● = USA Stocked item

VCMX		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
35° Diamond 7° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-VCMX220	NF-VCMT110301	●	.250	.125	.0039	.134
NF-VCMX220.5	NF-VCMT110302	●	.250	.125	.0078	.134
NF-VCMX221	NF-VCMT110304	●	.250	.125	.0156	.134
NF-VCMX331	NF-VCMT160404	●	.375	.1875	.0156	.1732
NF-VCMX332	NF-VCMT160408	●	.375	.1875	.0313	.1732
NF-VCMX333	NF-VCMT160412	★	.375	.1875	.0469	.1732

● = USA Stocked item

★ = Worldwide Warehouse item

VNMA		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
35° Diamond 0° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-VNMA332	NF-VNMA160408	●	.375	.1875	.0313	.150
NF-VNMA333	NF-VNMA160412	●	.375	.1875	.0469	.150
NF-VNMA333H	NF-VNMA160412H		.375	.1875	.0469	.150

● = USA Stocked item

VNMX		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
35° Triangle 0° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-VNMX330.5	NF-VNMX160402	●	.375	.1875	.0078	.150
NF-VNMX331	NF-VNMX160404	●	.375	.1875	.0156	.150
NF-VNMX332	NF-VNMX160408	●	.375	.1875	.0313	.150
NF-VNMX333	NF-VNMX160412	★	.375	.1875	.0469	.150

● = USA Stocked item

★ = Worldwide Warehouse item

SDC*		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
90° Square 15° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-SDC42R	NF-SDCN1203R		.500	.125	-	-

● = USA Stocked item

* Insert used in Sumitomo APG milling cutter

SECW*		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
90° Square 20° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-SECW13T3AGTNN	NF-SECW13T3AGTN-N	●				

● = USA Stocked item

* Insert used in Sumitomo WGC milling cutter

SNEW*		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
90° Square 0° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-SNEW09T3ADTR	NF-SNEW09T3ADTR	●	.500	.125		
NF-SNEW09T3ADTRR	NF-SNEW09T3ADTR-R	●	.500	.125		
NF-SNEW09T3ADTRU	NF-SNEW09T3ADTR-U	●	.500	.125		

● = USA Stocked item

* Inserts used in Sumitomo SRF milling cutter

W = Wiper edge preparation

SNEW*		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
90° Square 0° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-SNEW1204DFR	NF-SNEW1204DFR	●	.500	.1875	-	-
NF-SNEW1204DFRW	NF-SNEW1204DFR-W	●	.500	.1875	-	-

● = USA Stocked item

* Inserts used in Sumitomo SRF milling cutter

W = Wiper edge preparation

XEEW*		Stock	Inscribed Circle	Thickness	Nose Radius	Insert Hole Dia.
20° Rake						
Sumitomo Cat. No.	ISO Cat. No.					
NF-XEEW13T3AGFRW	NF-XEEW13T3AGFR-W	★				

● = USA Stocked item

* Insert used in Sumitomo WGC milling cutter



SUMITOMO

CARBIDE - CBN - DIAMOND

'at the cutting edge'

Sumitomo Electric Carbide, Inc.

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