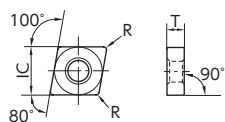


Item Number	IC	T
CN_1204_	12.7	4.76

<80 degree Rhombic Negative type>



Steel	P																					
Stainless Steel	M																					
Cast Iron	K			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Non-Ferrous Material	N																					
Heat Resistant Alloy	S	●	●																			
Hardened Material	H					●	●													●	●	

● : 1st Choice
● : 2nd choice

Shape	ISO Item Number	Inch Item Number	R	Ceramics														For applicable holder, see pages:						
				BIDEMICS		Alumina-based							Silicon nitride-based						Whisker-based					
				JX1	JX3	HC1	HW2	HC2	HC4	HC6	ZC7	SX6	SX7	SX3	SX9	SP9	WA1		WA5					
	CNGA 120404 S02025	CNGA431-SNF	0.4																					
	120404 T01025	431-TN	0.4																					
	120404 Z02025	431-ZNF	0.4							●														
	120408 S02025	432-SNF	0.8																					
	120408 T00520	—	0.8																					
	120408 T01020	—	0.8																					
	120408 T01025	432-TN	0.8							●			●		●									
	120408 T02020	—	0.8																					
	120408 T02025	432-TNF	0.8																					
	120408 Z02025	432-ZNF	0.8																					
	120412 S02025	433-SNF	1.2																					
	120412 T00520	—	1.2																					
	120412 T01020	—	1.2																					
	120412 T01025	433-TN	1.2																					
	120412 T02020	—	1.2																					
	120412 T02025	433-TNF	1.2																					
	120416 T00520	—	1.6																					
	120416 T01020	—	1.6																					
120416 T02020	—	1.6																						
120416 T02025	434-TNF	1.6																						
	CNGA 120408 WL T01025	CNGA432WL-TN	0.8																					
	120412 WL T01025	433WL-TN	1.2																					
	CNGG 120408 Z01030 AG	CNGG432-ZNCGAG	0.8																					
	120412 Z01030 AG	433-ZNCGAG	1.2																					

F9
F11
G40
K34

F9
K34

F9
F11
G40
K34

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

Item Number	IC	T
SN_0903_	9.525	3.18
SN_0904_	9.525	4.76
SN_1204_	12.7	4.76

<90 degree Square Negative type>

	Steel Stainless Steel Cast Iron Non-Ferrous Material Heat Resistant Alloy Hardened Material	P M K N S H	
--	--	----------------------------	--

Shape	ISO Item Number	Inch Item Number	R	Ceramics																For applicable holder, see pages:
				BIDEMICS		Alumina-based					Silicon nitride-based					Whisker-based				
				JX1	JX3	HC1	HW2	HC2	HC4	HC6	ZC7	SX6	SX7	SX3	SX9	SP9	WA1	WA5		
	SNGA 120408 S02025	SNGA432-SNF	0.8								●								F17 F19 K36	
	120408 T01025	432-TN	0.8								●									
	120408 T02020	—	0.8										●							
	120412 S02025	433-SNF	1.2									●								
	120412 T01025	433-TN	1.2									●								
	120412 T02020	—	1.2										●							
	120416 T02020	—	1.6										●							
	SNGN 090308 T01025	SNGN322-TN	0.8					●											—	
	090316 T01025	324-TN	1.6			●		●												
	SNGN 090408 T01025	SNGN332-TN	0.8					●												
	SNGN 120404 T01025	SNGN431-TN	0.4					●												F17 F19 F21 K36 N12 N14 N16
	120408 S02025	432-SNF	0.8								●									
	120408 T00520	—	0.8															●		
	120408 T00820	—	0.8																●	
	120408 T01020	—	0.8														●			
	120408 T01025	432-TN	0.8				●		●		●	●						●		
	120408 T02020	—	0.8										●							
	120408 T02025	432-TNF	0.8														●			
	120408 Z02025	432-ZNF	0.8						●											
	120412 S02025	433-SNF	1.2									●								
	120412 T00520	—	1.2																●	
	120412 T00820	—	—																●	
	120412 T01020	—	1.2														●	●		

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

Negative type



Positive type



For Machining Mill Tools

Item Number	IC	T
SN_1204	12.7	4.76
SN_1207	12.7	7.94
SN_1507	15.875	7.94
SN_1906	19.05	6.35
SN_1907	19.05	7.94

<90 degree Square Negative type>

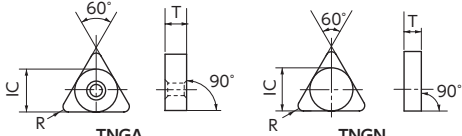
Shape	ISO Item Number	Inch Item Number	R	Ceramics															For applicable holder, see pages:	
				BIDEMICS		Alumina-based							Silicon nitride-based					Whisker-based		
				JX1	JX3	HC1	HW2	HC2	HC4	HC6	ZC7	SX6	SX7	SX3	SX9	SP9	WA1	WA5		
	SNGN 120412 T01025	SNGN433-TN	1.2			●		●		●	●							●		F17 F19 F21 K36 N12 N14 N16
	120412 T02020	—	1.2											●				●		
	120412 T02025	433-TNF	1.2															●		
	120412 Z02025	433-ZNF	1.2						●											
	120416 S02025	434-SNF	1.6								●									
	120416 T00520	—	1.6															●		
	120416 T01020	—	1.6															●	●	
	120416 T01025	434-TN	1.6			●		●		●	●								●	
	120416 T02020	—	1.6								●									
	120416 T02025	434-TNF	1.6															●		
	120416 Z02025	434-ZNF	1.6						●											
	120420 T01025	435-TN	2					●		●										
	120420 T01020	—	2															●		
	120420 T02020	—	2								●									
	120420 T02025	435-TNF	2			●													●	
	120424 T01025	436-TN	2.4					●												
	120424 T02020	—	2.4								●									
	SNGN 120708 T02025	SNGN452-TN	0.8			●		●												
	120712 S02025	453-SNF	1.2					●												
	120712 T02025	453-TN	1.2					●												
120716 T02025	454-TN	1.6			●															
SNGN 150716 T02025	SNGN554-TN	1.6																●		
SNGN 190616 T00525	SNGN644-TNB	1.6															●			
SNGN 190724 T00525	SNGN656-TNB	2.4															●			
	SNGX 120712 T02025	—	1.2															●	F17 K36	
	120716 T02025	—	1.6															●		

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

- New Products
- Tool Materials / Selection Guide
- BIDEMICS, PCD, CBN and Ceramics
- Micrograin Carbide, PVD Coated Carbide
- Insert Item List
- General Turning Toolholders
- Unique Swiss Tooling
- Grooving / Side Turning
- Threading
- Shaper
- ID Tooling
- Application Introduction
- Endmills
- Rotating Tools
- Information
- Index

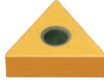

Item Number	IC	T
TN_1103	6.35	3.18
TN_1603	9.525	3.18
TN_1604	9.525	4.76

<60 degree Triangle Negative type>



Steel	P																			
Stainless Steel	M																			
Cast Iron	K																			
Non-Ferrous Material	N																			
Heat Resistant Alloy	S																			
Hardened Material	H																			

● : 1st Choice
● : 2nd choice

Shape	ISO Item Number	Inch Item Number	R	Ceramics														For applicable holder, see pages:				
				BIDEMICS		Alumina-based						Silicon nitride-based					Whisker-based					
				JX1	JX3	HC1	HW2	HC2	HC4	HC6	ZC7	SX6	SX7	SX3	SX9	SP9	WA1		WA5			
	TNGA 160404 S02025	TNGA331-SNF	0.4																			F23 F25 G39
	160404 T01025	331-TN	0.4																			
	160404 Z02025	331-ZNF	0.4																			
	160408 S02025	332-SNF	0.8																			
	160408 T01025	332-TN	0.8																			
	160408 T02020	—	0.8																			
	160408 T02025	332-TNF	0.8																			
	160408 Z02025	332-ZNF	0.8																			
	160412 S02025	333-SNF	1.2																			
	160412 T01025	333-TN	1.2																			
	160412 T02020	—	1.2																			
	160412 T02025	333-TNF	1.2																			
160416 T02025	334-TNF	1.6																				
	TNGN 110308 T00525	TNGN222-TN	0.8																			—
	TNGN 160304 T01025	TNGN321-TN	0.4																			
	TNGN 160404 T01025	TNGN331-TN	0.4																			
	160404 Z02025	331-ZNF	0.4																			
	160408 S02025	332-SNF	0.8																			
	160408 T00820	—	0.8																			
	160408 T01020	—	0.8																			
	160408 T01025	332-TN	0.8																			
	160408 T02020	—	0.8																			
	160408 T02025	332-TNF	0.8																			
	160408 Z02025	332-ZNF	0.8																			
	160412 S02025	333-SNF	0.8																			
	160412 T00820	—	1.2																			
	160412 T01020	—	1.2																			
	160412 T01025	333-TN	1.2																			
	160412 T02020	—	1.2																			
160412 T02025	333-TNF	1.2																				
160412 Z02025	333-ZNF	1.2																				

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

BIDEMICS • Ceramic



Negative type

Positive type

For Machining Mill rolls

Item Number	IC	T
TN_1604	9.525	4.76
TN_1607	9.525	7.94
TN_2204	12.7	4.76
TN_2207	12.7	7.94

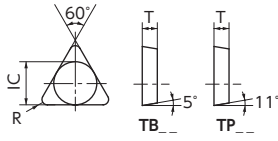
<60 degree Triangle Negative type>

Shape	ISO Item Number	Inch Item Number	R	BIDEMICS		Ceramics											For applicable holder, see pages:				
				JX1	JX3	Alumina-based					Silicon nitride-based					Whisker-based					
						HC1	HW2	HC2	HC4	HC6	ZC7	SX6	SX7	SX3	SX9	SP9	WA1	WA5			
	TNGN 160416 T01020	—	1.6													●			F23 F25		
	160416 T01025	TNGN334-TN	1.6			●	●	●													
	160416 T02020	—	1.6									●									
	160416 T02025	334-TNF	1.6												●						
	160420 T01025	335-TN	1.6			●		●													
	160420 T02020	—	2									●									
	TNGN 160708 T02025	TNGN352-TN	0.8					●													
	160712 T02025	353-TN	1.2					●													
	TNGN 220416 T00520	—	1.6															●			
	TNGN 220716 T00520	—	1.6															●			
	TNGG 160408 Z01030 AG	TNGG332-ZNCGAG	0.8								●								F23 F25 G39		
	160412 Z01030 AG	333-ZNCGAG	1.2								●										

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

Item Number	IC	T	Relief angle
TB_0601_	3.97	1.59	5°
TP_0902_	5.56	2.38	11°
TP_1103_	6.35	3.18	11°
TP_1603_	9.525	3.18	11°

<60 degree Triangle Positive type>



Material	P	M	K	N	S	H	Alumina-based	Silicon nitride-based	Whisker-based
Steel	●								
Stainless Steel	●								
Cast Iron	●		●	●	●	●	●	●	●
Non-Ferrous Material	●			●					
Heat Resistant Alloy	●								
Hardened Material	●								

● : 1st Choice
● : 2nd choice

Shape	ISO Item Number	Inch Item Number	R	Ceramics													For applicable holder, see pages:	
				BIDEMICS		Alumina-based					Silicon nitride-based					Whisker-based		
				JX1	JX3	HC1	HW2	HC2	HC4	HC6	ZC7	SX6	SX7	SX3	SX9	SP9		WA1
	TBGN 060104 T00525	TBGE521-TN	0.4					●										—
	060108 T00525	522-TN	0.8					●										
	TPGN 090204 T00525	TPGE731-TN	0.4					●										
	090208 T00525	732-TN	0.8					●										
	TPGN 110304 T00525	TPGN221-TN	0.4					●										
	110304 T01025	221-TNC	0.4							●								
	110308 T00525	222-TN	0.8					●										
	110308 T01025	222-TNC	0.8							●								
	TPGN 160304 T01025	TPGN321-TN	0.4					●			●							
	160304 Z01025	321-ZNC	0.4						●									
	160308 T01025	322-TN	0.8					●		●	●							
	160308 Z01025	322-ZNC	0.8						●									
	160312 T01025	323-TN	1.2					●										

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

Negative type

Positive type

C

D

E

R

S

T

V

W

For Machining Mill Rolls