

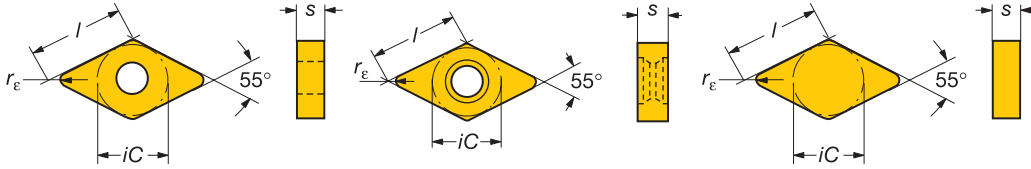
# Negative basic-shape inserts

Rhombic 55°

DNGA, DNMA

DNGQ

DNGN



For ISO application areas, see bottom of the page.

## Ceramics

	15	Ordering code	K				S		H			
			GC	CC	-	CC	CC	CC	GC	CC	CC	
		DNGA150404S01525	1690									
		DNGA150408S01525	6090									
		DNGA150412S01525	620									
		DNGA150604S01525										
		DNGA150608S01525										
		DNGA150612S01525										
		DNGA150408T01525										
		DNGA150608T01525										
		DNGA 15 04 08T01020										
		DNGA 15 04 12T01020										
		DNGA 15 04 16T01020										
		DNGA 15 04 08T02520										
		DNGA 15 04 12T02520	☆	☆	☆							
		DNGA 15 04 16T02520	☆	☆								
		DNGQ 150708 T02520										
		DNGQ 150712 T02520										
		DNGQ 150716 T02520										
		DNGN 15 04 16T01020										
		DNGN 15 07 08T01020										
		DNGN 15 07 12T01020										
		DNGN 15 07 16T01020										
		DNGN 15 07 08T02520										
		DNGN 15 07 12T02520										
		DNGN 15 07 16T02520										
			K10	☆	☆							
			K10	☆	☆							
			K01									
			K01									
			S05									
			S15									
			H05									
			H05									
			H10									

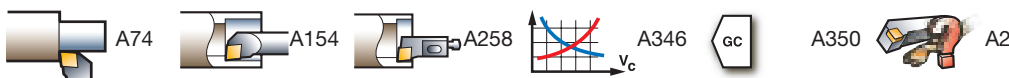
## Cubic boron nitride

	$l_a$	11	Ordering code	K		H		
				CB	CB	CB	CB	CB
	1.3		DNGA110404S01020A					
	1.0		DNGA110404T01020A					
	3.8	15	DNGA150404S01030A		★			
	3.4		DNGA150408S01030A		★			
	3.0		DNGA150412S01030A		★			
	3.3	15	DNMA 15 04 04S01020E					☆
	2.9		DNMA 15 04 08S01020E					☆
	2.6		DNMA 15 04 12S01020E					☆
				K05				
				H15				
				H01				
				H05				
				H01				

Ordering example: 10 pieces DNGA150404S01525 6050

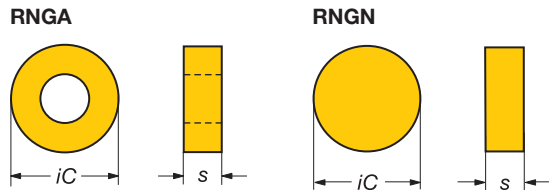
★ = First choice

For dimensions, see code key on page A16.



# Negative basic-shape inserts

Round



For ISO application areas, see bottom of the page.

Ceramics

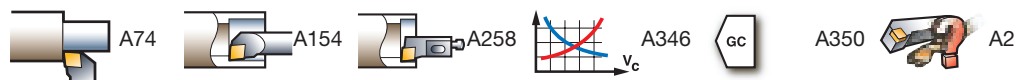
	ISO	Ordering code	K				S		H	
			GC	CC	-	CC	CC	CC	CC	CC
	12	RNGA 12 04 00 T01020	1690	6090	620	650	650	670	650	670
	09	RNGN 09 03 00T01020				☆	☆	☆	☆	☆
	12	RNGN 12 07 00E				☆	☆	☆	☆	☆
		RNGN 12 07 00K15015				☆	☆	☆	☆	☆
		RNGN 12 04 00T01020				☆	☆	☆	☆	☆
		RNGN 12 07 00T01020				☆	☆	☆	☆	☆
		RNGN 12 07 00T15015				☆	☆	☆	☆	☆
		RNGN 12 04 00T02520	☆	☆						
		RNGN 12 07 00T02520	☆	☆	☆	☆	☆	☆	☆	☆
	15	RNGN 15 07 00T01020				☆	☆	☆	☆	☆
		RNGN 15 07 00T02520				☆	☆	☆	☆	☆
	19	RNGN 19 07 00T01020				☆	☆	☆	☆	☆
		RNGN 19 07 00T20015				☆	☆	☆	☆	☆
	25	RNGN 25 07 00K20015				☆	☆	☆	☆	☆
		RNGN 25 07 00T20015				☆	☆	☆	☆	☆
			K10	K10	K01	K01	S05	S15	H05	H10

Cubic boron nitride

	ISO	Ordering code	K			H		
			CB	CB	CB	CB	CB	CB
	09	RNGA 09 03 00S01020D				CB50	CB20	CB50
	12	RNGN 12 04 00FD				☆		☆
						K05	H01	H05

Ordering example: 10 pieces RNGN 09 03 00T01020 650

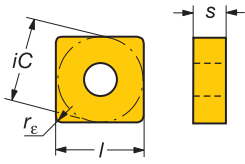
For dimensions, see code key on page A16.



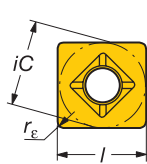
# Negative basic-shape inserts

## Square

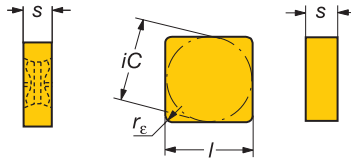
SNGA



SNGQ



SNGN



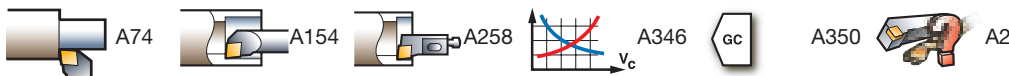
For ISO application areas, see bottom of the page.

## Ceramics

	□	Ordering code	K			S		H		
			GC	CC	-	CC	CC	CC	CC	
	12	SNGA 12 04 08T01020	1690	6090	620	650	650	670	650	670
		SNGA 12 04 12T01020				☆				
		SNGA 12 04 16T01020				☆				
		SNGA 12 04 08T02520				☆				
		SNGA 12 04 12T02520	☆	☆						
		SNGA 12 04 16T02520	☆							
	12	SNGQ 120708 T02520								
		SNGQ 120712 T02520								
		SNGQ 120716 T02520	☆							
	09	SNGN 09 03 08T01020				☆	☆	☆	☆	
		SNGN 09 03 12T01020				☆	☆	☆	☆	
	12	SNGN 12 07 16K15015				☆	☆	☆	☆	
		SNGN 12 04 08T01020				☆	☆	☆	☆	
		SNGN 12 04 12T01020				☆	☆	☆	☆	
		SNGN 12 04 16T01020				☆	☆	☆	☆	
		SNGN 12 07 08T01020				☆	☆	☆	☆	
		SNGN 12 07 12T01020				☆	☆	☆	☆	
		SNGN 12 07 16T01020				☆	☆	☆	☆	
		SNGN 12 04 08T02520				☆		☆		
		SNGN 12 04 12T02520		☆		☆		☆		
		SNGN 12 04 16T02520	☆	☆						
		SNGN 12 07 08T02520		☆	☆					
		SNGN 12 07 12T02520		☆	☆	☆		☆		
		SNGN 12 07 16T02520		☆	☆					
		15	SNGN 15 07 08T01020				☆	☆		☆
			SNGN 15 07 12T01020				☆	☆		☆
			SNGN 15 07 16T01020				☆	☆		☆
			SNGN 15 07 16T02520		☆	☆				
		19	SNGN 19 07 24T01020				☆	☆		☆
SNGN 190716 T01020					☆	☆		☆		
SNGN 19 07 24T02520			☆							
			K10	K10	K01	K01	S05	S15	H05	H10

Ordering example: 10 pieces SNGA 12 04 08T01020

For dimensions, see code key on page A16.

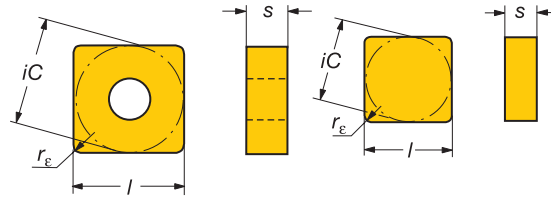


# Negative basic-shape inserts

Square

SNGA, SNMA

SNGN



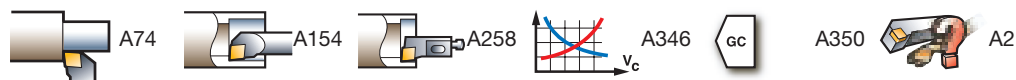
For ISO application areas, see bottom of the page.

Cubic boron nitride

	$l_a$		Ordering code	K		H		
				CB	7020	7050	CB	CB
	1.4	09	SNGA090304S01020A			☆		
	1.4		SNGA090308S01020A			☆		
	1.4		SNGA090304T01020A			☆		
	1.4		SNGA090308T01020A			☆		
	1.4	12	SNGA 12 04 08S01020A		☆			
	1.4		SNGA 12 04 12S01020A		☆			
	1.4		SNGA 12 04 08T01020A			☆		
	1.4		SNGA 12 04 12T01020A			☆		
	3.4	12	SNMA 12 04 04S01020E				☆	
	3.4		SNMA 12 04 08S01020E				☆	
	3.4		SNMA 12 04 12S01020E				☆	
		12	SNGN 12 04 08FD	☆			☆	
			SNGN 12 04 12FD	☆			☆	
			SNGN 12 04 16FD	☆			☆	
				K05	H01	H05	H01	H05

Ordering example: 10 pieces SNGA090304S01020A 7050

For dimensions, see code key on page A16.

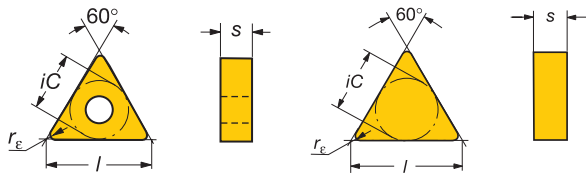


# Negative basic-shape inserts

Triangular

TNGA, TNMA

TNGN



For ISO application areas, see bottom of the page.

## Ceramics

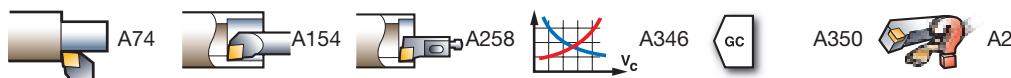
	△	Ordering code	K				S		H		
			GC	CC	-	CC	CC	CC	GC	CC	CC
	16	TNGA160404S01525	1690								
		TNGA160408S01525	6090								
		TNGA160412S01525	620								
		TNGA 16 04 08T01020	650								
	16	TNGA 16 04 08T01020									
		TNGA 16 04 12T01020				☆	☆			☆	
		TNGA 16 04 16T01020				☆	☆			☆	
		TNGA 16 04 08T02520				☆	☆			☆	
		TNGA 16 04 12T02520				☆	☆			☆	
		TNGA 16 04 16T02520				☆	☆			☆	
		TNGA 22 04 08T01020	22								
	11	TNGN 11 03 08T01020									
		TNGN 11 03 12T01020				☆	☆			☆	
		TNGN 16 04 08T01020	16				☆	☆	☆		☆
		TNGN 16 04 12T01020					☆	☆	☆		☆
		TNGN 16 04 16T01020					☆	☆	☆		☆
	16	TNGN 16 07 08T01020									
		TNGN 16 07 12T01020									
		TNGN 16 04 12T02520					☆	☆			☆
		TNGN 22 04 08T01020	22								
		TNGN 22 07 12T01020									
			K10	K10	K01	K01	S05	S15	H05	H10	H10

## Cubic boron nitride

	l <sub>a</sub>	△	Ordering code	K		H			
				CB	CB	CB	CB	CB	CB
	1.3	11	TNGA110304S01020A						
	1.0		TNGA110308S01020A						
	1.2	16	TNGA 16 04 04S01020A						
	0.9		TNGA 16 04 08S01020A						
	0.6		TNGA 16 04 12S01020A						
	1.2		TNGA 16 04 04T01020A						
0.9		TNGA 16 04 08T01020A	☆	☆					
0.6		TNGA 16 04 12T01020A	☆	☆					
	3.6	16	TNMA 16 04 04S01020E						
	3.3		TNMA 16 04 08S01020E						
	3.0		TNMA 16 04 12S01020E						
	3.2	22	TNMA 22 04 08S01020E						
2.9	TNMA 22 04 12S01020E								
		22	TNGN 22 04 12FD						
				K05	K05	H01	H05	H01	H05

Ordering example: 10 pieces TNGA160404S01525 6050

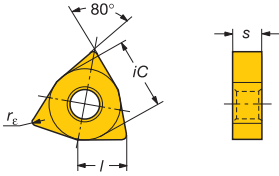
For dimensions, see code key on page A16.



# Negative basic-shape inserts





Trigon 80°

WNGA





For ISO application areas, see bottom of the page.

Ceramics

				K	H
				CC	GC
	08		Ordering code	6090	6050
			WNGA 080408 T01020WG	★	
			WNGA 080412 T01020WG	★	
			WNGA 080416 T01020WG	★	
	08		WNGA080404S01525WH		★
			WNGA080408S01525WH		★
			WNGA080408T01525WH		★
	08		WNGA 08 04 08 T02520	☆	
			WNGA 08 04 12 T02520	☆	
			WNGA 08 04 16 T02520	☆	
				K10	H05

Cubic boron nitride

				K	H	
				CB	CB	
	1.4	06	Ordering code	7050	7020	
			WNGA060404T01020AWG	★	★	
	1.3			WNGA060408T01020AWG	★	★
	1.2	08		WNGA080404T01020AWG	★	★
	1.2			WNGA080408T01020AWG	★	★
	1.4	06		WNGA060404T01020AWH		★
	1.3			WNGA060408T01020AWH		★
	1.2	08		WNGA080404T01020AWH		★
	1.2			WNGA080408T01020AWH		★
		1.4	06	WNGA060404S01020A		☆
1.3			WNGA060408S01020A		☆	
1.4			WNGA060404T01020A	☆	☆	
1.3			WNGA060408T01020A	☆	☆	
1.2		08	WNGA080404S01020A		☆	
1.2			WNGA080408S01020A		☆	
1.1			WNGA080412S01020A		☆	
1.2			WNGA080404T01020A	☆	☆	
1.2			WNGA080408T01020A	☆	☆	
1.1			WNGA080412T01020A	☆	☆	
				K05	H05	

Ordering example: 10 pieces WNGA 080408 T01020WG 6090

★ = First choice

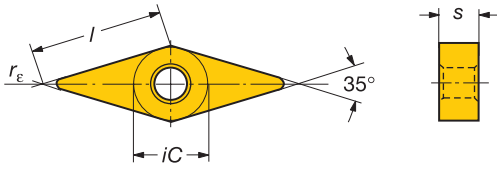
For dimensions, see code key on page A16.



# Negative basic-shape inserts

Rhombic 35°

VNGA



For ISO application areas, see bottom of the page.

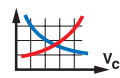
## Ceramics

	16	Ordering code	H	
			GC	
		VNGA 16 04 04 S01525	★	
		VNGA 16 04 08 S01525	★	
		VNGA 16 04 12 S01525	★	
		VNGA 16 04 08 T01525	★	
			H05	

Ordering example: 10 pieces VNGA 16 04 04 S01525 6050

★ = First choice

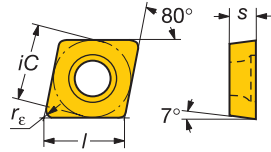
For dimensions, see code key on page A16.



# Positive basic-shape inserts

## Rhombic 80°

### CCMW



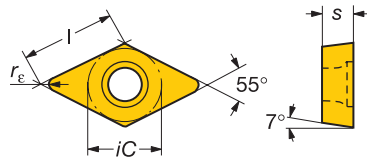
For ISO application areas, see bottom of the page.

## Polycrystalline diamond tipped

			N	
			CD	
			CD10	
	$l_a$		<b>Ordering code</b>	
	2.9	06	CCMW 06 02 04 FP	☆
	4.3	09	CCMW 09 T3 04 FP	☆
	4.2		CCMW 09 T3 08 FP	☆
			N01	

## Rhombic 55°

### DCMW



For ISO application areas, see bottom of the page.

## Cubic boron nitride

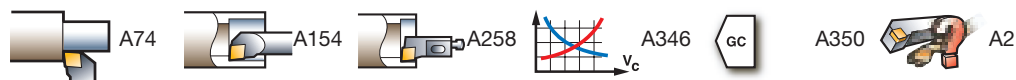
			K		H		
			7050	7015	7020	7050	CB20
	$l_a$		<b>Ordering code</b>				
	3.65	11	DCMW 11 T3 04S01020E				
	3.36		DCMW 11 T3 08S01020E				☆
						☆	
			K05	H15	H01	H05	H01

## Polycrystalline diamond tipped

			N	
			CD	
			CD10	
	$l_a$		<b>Ordering code</b>	
	4.1	11	DCMW 11 T3 04 FP	☆
	3.8		DCMW 11 T3 08 FP	☆
			N01	

Ordering example: 10 pieces CCMW 06 02 04 FP CD10

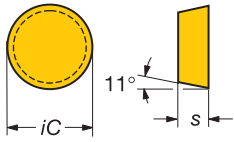
For dimensions, see code key on page A16.



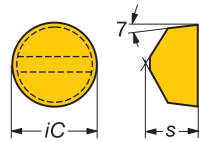


Positive basic-shape inserts

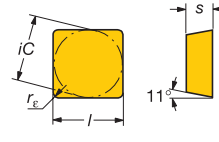
RPGN



RCGX, RPGX



SPGN, SPUN



For ISO application areas, see bottom of the page.

Ceramics

	iO	Ordering code	K				S		H	
			GC	CC	-	CC	CC	CC	CC	CC
	09	RPGN 09 03 00T01020	1690	6090	620	650	650	670	650	670
	06	RCGX 06 06 00E				☆	☆	☆	☆	☆
		RCGX 06 06 00T01020				☆	☆	☆	☆	☆
	09	RCGX 09 07 00E				☆	☆	☆	☆	☆
		RCGX 09 07 00T01020				☆	☆	☆	☆	☆
	12	RCGX 12 07 00E				☆	☆	☆	☆	☆
		RCGX 12 07 00K15015				☆	☆	☆	☆	☆
		RCGX 12 07 00T01020				☆	☆	☆	☆	☆
		RCGX 12 07 00T02520				☆	☆	☆	☆	☆
		RCGX 12 07 00T15015				☆	☆	☆	☆	☆
	15	RCGX 15 10 00T20015				☆	☆	☆	☆	☆
	19	RCGX 19 10 00K20015				☆	☆	☆	☆	☆
	25	RCGX 25 12 00K20015				☆	☆	☆	☆	☆
	09	RPGX 09 07 00T01020						☆		☆
	12	RPGX 12 07 00T01020						☆		☆
			K10	K10	K01	K01	S05	S15	H05	H10

Ceramics

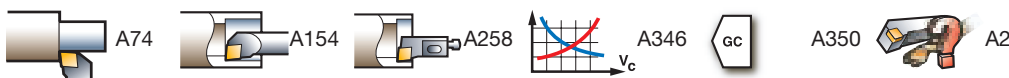
	i□	Ordering code	K				S		H	
			GC	CC	-	CC	CC	CC	CC	CC
	12	SPGN 12 04 08T01020	1690	6090	620	650	650	670	650	670
	12	SPGN 12 04 12T01020				☆	☆	☆	☆	☆
			K10	K10	K01	K01	S05	S15	H05	H10

Polycrystalline diamond tipped

	la	i□	Ordering code	N	
				CB	CD10
	3.1	09	SPUN 09 03 04-FP	☆	
	4.6	12	SPUN 12 03 04-FP	☆	
				N01	

Ordering example: 10 pieces RPGN 09 03 00T01020 650

For dimensions, see code key on page A16.

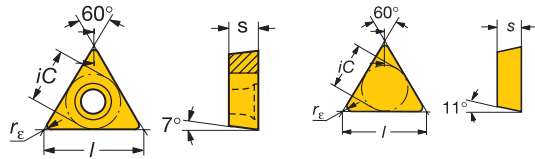


# Positive basic-shape inserts

## Triangular


### TCMW

### TPGN, TPUN




For ISO application areas, see bottom of the page.





### Ceramics

	Ordering code	K			S			H			
		GC	CC	-	CC	CC	CC	GC	CC	CC	
	11	TPGN 11 03 04T01020	1690	6090	620	650	650	670	6050	650	670
		TPGN 11 03 08T01020				☆	☆	☆		☆	☆
	16	TPGN 16 03 04T01020				☆	☆	☆		☆	☆
		TPGN 16 03 08T01020				☆	☆	☆		☆	☆
		TPGN 16 03 12T01020				☆	☆	☆		☆	☆
			K10	K10	K01	K01	S05	S15	H05	H05	H10

### Cubic boron nitride

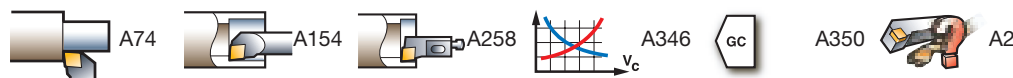
	Ordering code	Max a <sub>p</sub>	K		H			
			CB	CB	CB	CB	CB	CB
	3.0 09	0.8	7050	CB50	7020	7050	CB20	CB50
	3.0 11	0.8					☆	
	3.0	0.8					☆	
	3.0	0.8					☆	
	3.0	0.8					☆	
	3.0	0.8					☆	
			K05	K05	H01	H05	H01	H05

### Polycrystalline diamond tipped

	Ordering code	Max a <sub>p</sub>	N	
			CD	CD10
	2.7 09	2.2	☆	
	2.7 11	2.2	☆	
	2.4	1.9	☆	
	4.2 16	3.4	☆	
	3.9	3.1	☆	
	7.4 16	7.0	☆	
	7.4	7.0	☆	
	2.7 11	2.2	☆	
	2.7 16	2.2	☆	
	7.4 16	7.0	☆	
	7.4	7.0	☆	
				ND1

Ordering example: 10 pieces TPGN 11 03 04T01020 650

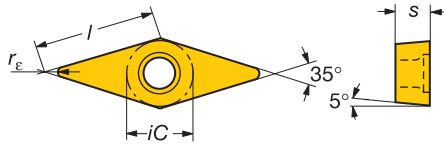
For dimensions, see code key on page A16.



## Positive basic-shape inserts

Rhombic 35°

VBMW, VCMW



For ISO application areas, see bottom of the page.

Cubic boron nitride

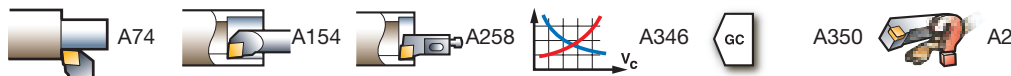
				H	
				CB	
	$l_a$		<b>Ordering code</b>	Max $a_p$	
	4.69		16	VBMW 16 04 04S01020E	0.8
	4.12		VBMW 16 04 08S01020E	0.8	☆
				H01	

Polycrystalline diamond tipped

				N		
				CD		
	$l_a$		<b>Ordering code</b>	Max $a_p$		
	4.4		11	VCMW 11 02 04 FP	3.5	☆
	4.4		16	VCMW 16 04 04 FP	3.5	☆
	2.5			VCMW 16 04 08 FP	2.8	☆
	2.7		VCMW 16 04 12 FP	2.1	☆	
				N01		

Ordering example: 10 pieces VBMW 16 04 04S01020E CB20

For dimensions, see code key on page A16.



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