



TURNING / General Turning Inserts

General turning inserts code key

General turning

General turning inserts code key

Insert shape/Code		
A	B	C
D	E	H
K	L	M
O	P	R
S	T	T
V	W	Others Z

Insert shape

Metric							
Code	With/Without hole	With/Without chipbreaker	Section plane of insert	Code	With/Without hole	With/Without chipbreaker	Section plane of insert
B	With	Without		N	Without	Without	
H	With	Single-side		R	Without	Single-side	
C	With	Without		F	Without	Double-side	
J	With	Double-side		A	With	Without	
W	With	Without		M	With	Single-side	
T	With	Single-side		G	With	Double-side	
Q	With	Without		X	---	---	Special
U	With	Double-side					

Chipbreaker and clamping system

T N M G

Clearance angle of main cutting edge			
Code	Clearance angle	Code	Clearance angle
A	3°	B	5°
C	7°	D	15°
E	20°	F	25°
G	30°	N	0°
P	11°	O	Other clearance angles

Tolerance										
Code	Nose height m Tolerance(mm)	Inscribed circle ØI.C Tolerance(mm)	Thickness S Tolerance(mm)	(Reference) Details of M-level tolerance (Identified by shape)						
				Inscribed circle	Regular triangle	Square	Diamond with 80°	Diamond with 55°	Diamond with 35°	Round
A	±0.005	±0.025	±0.025	● Nose height tolerance(mm)						
F	±0.005	±0.013	±0.025	6.35	±0.08	±0.08	±0.08	±0.11	±0.16	---
C	±0.013	±0.025	±0.025	9.525	±0.08	±0.08	±0.08	±0.11	±0.16	---
H	±0.013	±0.013	±0.025	12.7	±0.13	±0.13	±0.13	±0.15	---	---
E	±0.025	±0.025	±0.025	15.875	±0.15	±0.15	±0.15	±0.18	---	---
G	±0.025	±0.025	±0.13	19.05	±0.15	±0.15	±0.15	±0.18	---	---
J	±0.005	±0.05-±0.13	±0.025	25.4	---	±0.18	---	---	---	---
K	±0.013	±0.05-±0.13	±0.025	● Tolerance of inscribed circle ØI.C(mm)						
L	±0.025	±0.05-±0.13	±0.025	Inscribed circle	Regular triangle	Square	Diamond with 80°	Diamond with 55°	Diamond with 35°	Round
M	±0.08-±0.18	±0.05-±0.13	±0.13	6.35	±0.05	±0.05	±0.05	±0.05	±0.05	---
N	±0.08-±0.18	±0.05-±0.13	±0.025	9.525	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05
U	±0.13-±0.38	±0.08-±0.25	±0.13	12.7	±0.08	±0.08	±0.08	±0.08	---	±0.08
				15.875	±0.10	±0.10	±0.10	±0.10	---	±0.10
				19.05	±0.10	±0.10	±0.10	±0.10	---	±0.10
				25.4	---	±0.13	---	---	---	±0.13



General turning inserts code key

Diameter of IC	Insert shape							
	C	D	R	S	T	V	W	K
3.97					06			
5.0			05					
5.56					09			
6.0			06					
6.35	06	07			11	11		
8.0			08					
9.525	09	11	09	09	16	16	06	16
10.0			10					
12.0			12					
12.7	12	15	12	12	22	22	08	
15.875	16		15	15	27			
16.0		19	16					
19.05	19		19	19	33			
20.0			20					
25.0	25	25	25					
25.4			25	25				
31.75			31					
32			32					

Length of cutting edge

Thickness is defined as the height from the bottom of insert to the highest part of cutting edge

Code	Insert thickness(mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.58
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.96
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.70

Insert thickness

22 04 08 - DM (ISO)

4 3 2 (inch)

Inscribed circle

Code	Diameter of IC(mm)
2	6.35
3	9.525
4	12.7
5	15.875
6	19.05
8	25.4

Thickness

Code	Thickness (mm)
2	3.18
3	4.76
4	6.35
5	7.94
6	9.52

Nose radius

Code	Nose radius (mm)
0	0.2
1	0.4
2	0.8
3	1.2
4	1.6
5	2.0
6	2.4

Nose radius code

Code	Nose radius (mm)
00	No radius
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
X	Others

Diameter of insert (Metric) Round insert

Chipbreaker code

DF	DM	DR
HF	HM	HR
EF	EM	ER
NF	NM	SF
PM	WGF	SNR

General turning inserts code key



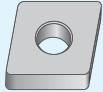
TURNING / General Turning Inserts

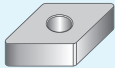
Metric and inch comparison table of general turning inserts

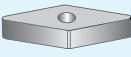
Metric and inch comparison table of negative inserts

General turning


Metric and inch comparison table of general turning inserts


C-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	090304	321	-DF
	090308	322	-WGF
	120404	431	-SF
	120408	432	-EF
	120412	433	-NF
	120416	434	-WGM
	160608	542	-PM
	160612	543	-DM
	160616	544	-EM
	190608	642	-NM
	190612	643	-DR
	190616	644	-ER
	190624	646	-LR
	250724	856	-HDR
	250732	858	-HPR
	250924	866	-SNR
250932	868		


D-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	110404	331	-EF
	110408	332	-DF
	110412	333	-WGF
	150404	431	-SF
	150408	432	-NF
	150412	433	-WGM
	150416	434	-PM
	150604	441	-DM
	150608	442	-EM
	150612	443	-NM
	150616	444	-DR
	190608	542	-ER
	190612	543	-LR
	190616	544	-HDR
190624	646	-HPR	
190632	648	-SNR	
190640	650	-NGF	

V-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	160404	331	-DF -EF
	160408	332	-SF -NF
	160412	333	-PM -DM
			-EM -NM
			-SNR -NGF

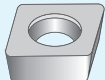
R-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	120400	43	

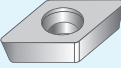
W-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	06T304	3(2.5)1	-DF
	06T308	3(2.5)2	-WGF
	06T312	3(2.5)3	-SF
	060404	331	-EF
	060408	332	-NF
	060412	333	-WGM
	080404	431	-PM
	080408	432	-DM
	080412	433	-EM
			-DR
			-SNR

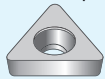
T-type negative angle	(ISO)	(Inch)	Chipbreaker	
Insert shape 	110304	221	-DF	
	110308	222	-WGF	
	160404	331	-SF	
	160408	332	-EF	
	160412	333	-NF	
	220404	431	-WGM	
	220408	432	-PM	
	220412	433	-DM	
	220416	434	-EM	
	270608	542	-DR	
	270612	543	-ER	
	270616	544	-LR	
				-HDR
				-SNR


S-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	090304	321	
	090308	322	
	090312	323	
	120404	431	-DF
	120408	432	-SF
	120412	433	-EF
	120416	434	-NF
	150608	542	-WGM
	150612	543	-PM
	150616	544	-DM
	190412	633	-EM
	190424	636	-NM
	190612	643	-DR
	190616	644	-ER
	250724	856	-LR
	250732	858	-HDR
	250924	866	-HPR
	250932	868	-SNR

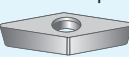
Metric and inch comparison table of positive insert

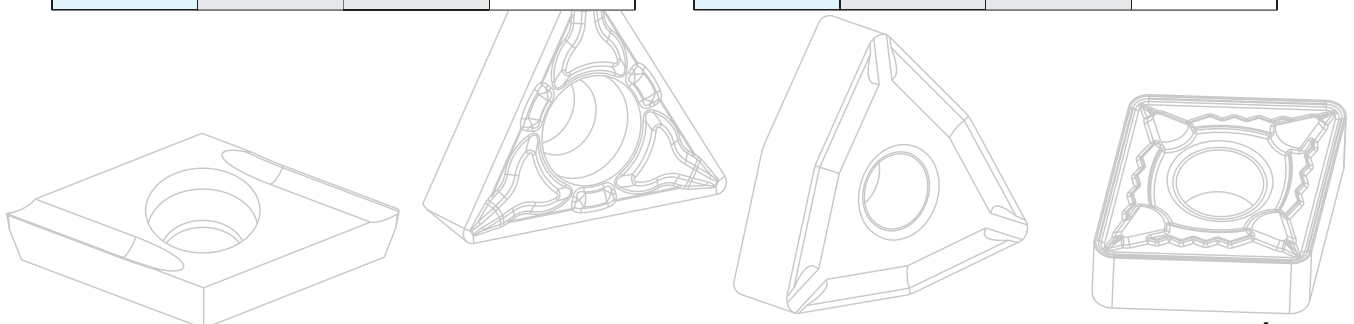
C-type positive angle	(ISO)	(Inch)	Chipbreaker
	060202	2(1.5)0	-USF
	060204	2(1.5)1	-SF
	060208	2(1.5)2	-HF
	09T302	3(2.5)0	-EF
	09T304	3(2.5)1	-HM
	09T308	3(2.5)2	-EM
	120404	431	-HR
	120408	432	-LH
	120412	433	-LC

D-type positive angle	(ISO)	(Inch)	Chipbreaker
	070202	2(1.5)0	-USF
	070204	2(1.5)1	-SF
	070208	2(1.5)2	-HF
	11T302	3(2.5)0	-EF
	11T304	3(2.5)1	-HM
	11T308	3(2.5)2	-EM
	11T312	3(2.5)3	-HR

T-type positive angle	(ISO)	(Inch)	Chipbreaker
	06T102	1.2(1.2)0	
	06T104	1.2(1.2)1	
	06T108	1.2(1.2)2	
	090202	1.8(1.5)0	
	090204	1.8(1.5)1	
	090208	1.8(1.5)2	
	110202	2(1.5)0	
	110204	2(1.5)1	
	110208	2(1.5)2	-USF
	110302	220	-SF
	110304	221	-HF
	110308	222	-EF
	16T302	3(2.5)0	-HM
	16T304	3(2.5)1	-EM
	16T308	3(2.5)2	-HR
	16T312	3(2.5)3	-LH
	160400	330	-LC
	220408	432	
	220412	433	
	220416	434	
	270408	532	
	270412	533	
	330612	643	
	330616	644	

S-type positive angle	(ISO)	(Inch)	Chipbreaker
	060204	2(1.5)1	
	09T302	3(2.5)0	
	09T304	3(2.5)1	
	09T308	3(2.5)2	-HF
	120404	431	-EF
	120408	432	-HM
	120412	433	-EM
	150404	531	-HR
	150408	532	-LH
	150412	533	-LC
	190408	632	
	190412	633	
	190416	634	

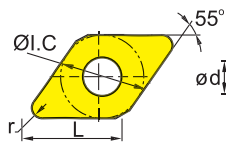
V-type positive angle	(ISO)	(Inch)	Chipbreaker
	110202	2(1.5)0	
	110204	2(1.5)1	-USF
	110208	2(1.5)2	-SF
	110302	220	-HF
	110304	221	-NF
	110308	222	-LH
	160402	330	-LC
	160404	331	
	160408	332	-NGF
	160412	333	



General turning
Metric and inch comparison
table of general turning inserts



DN (Negative inserts)



😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBM151	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YBD252	YNG151	YNG151C	YD101	YD201
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																	Cemented carbide	Cemented carbide									
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBM151	YBM153	YBM215	YBM251	YBM253			YBS103	YBD052	YBD102	YBD152	YBD252	YNG151	YNG151C	YD101	YD201
WGM For semi-finishing Wiper	DNMX150408-WGM	15.5	12.7	4.76	5.16	0.8				★						★																		
	DNMX150412-WGM	15.5	12.7	4.76	5.16	1.2				★						★																		
	DNMX150608-WGM	15.5	12.7	6.35	5.16	0.8				★						★																		
	DNMX150612-WGM	15.5	12.7	6.35	5.16	1.2				★						★																		
PM For semi-finishing	DNMG110404-PM	11.6	9.525	4.76	3.81	0.4	●	●	○																									
	DNMG110408-PM	11.6	9.525	4.76	3.81	0.8	●	●	○	○																	★	○	○					
	DNMG110412-PM	11.6	9.525	4.76	3.81	1.2			○	○																								
	DNMG150404-PM	15.5	12.7	4.76	5.16	0.4	●	●	○																									
	DNMG150408-PM	15.5	12.7	4.76	5.16	0.8	●	●	○	○																		★	★	○				
	DNMG150412-PM	15.5	12.7	4.76	5.16	1.2			●	○		○																○	★	○				
	DNMG150416-PM	15.5	12.7	4.76	5.16	1.6			○	○																								
	DNMG150604-PM	15.5	12.7	6.35	5.16	0.4	●	●	○	○																			★	★				
	DNMG150608-PM	15.5	12.7	6.35	5.16	0.8	●	○	●	★	●																		★	★	○			
	DNMG150612-PM	15.5	12.7	6.35	5.16	1.2			★	●	★	○																	★	○				
DNMG150616-PM	15.5	12.7	6.35	5.16	1.6			○	○																									

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



Page A167

A174

A175

A213

A214

Insert code key

A50-A51

Grade selection reference

A19/A36-A48

Chipbreaker selection reference

A22-A35

Recommended cutting parameters

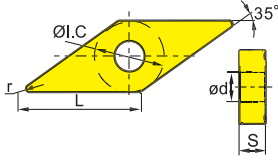
A241-A244



General Turning Inserts

Cemented carbide and cermet inserts

VN (Negative inserts)



😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBM151	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YBD252	YNG151	YNG151C	YD101	YD201	
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																	Cernet	Coated cermet	Cemented carbide											
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBM151	YBM153	YBM215	YBM251	YBM253				YBS103	YBD052	YBD102	YBD152	YBD252	YNG151	YNG151C	YD101	YD201		
PM For semi-finishing	VNMG160404-PM	16.6	9.525	4.76	3.81	0.4	★	●	○	○																											
	VNMG160408-PM	16.6	9.525	4.76	3.81	0.8	★	●	○																												
	VNMG160412-PM	16.6	9.525	4.76	3.81	1.2			○	○																											
DM For semi-finishing	VNMG160408-DM	16.6	9.525	4.76	3.81	0.8	★	●	★	○																											
	VNMG160412-DM	16.6	9.525	4.76	3.81	1.2		○	○	○																											
EM For semi-finishing	VNMG160404-EM	16.6	9.525	4.76	3.81	0.4																															
	VNMG160408-EM	16.6	9.525	4.76	3.81	0.8																															
NM For semi-finishing	VNMG160412-NM	16.6	9.525	4.76	3.81	1.2																															
SNR For roughing	VNMG160408-SNR	16.6	9.525	4.76	3.81	0.8																															
	VNMG160412-SNR	16.6	9.525	4.76	3.81	1.2																															
All round 	VNMG160404	16.6	9.525	4.76	3.81	0.4	○	○																													
	VNMG160408	16.6	9.525	4.76	3.81	0.8	●	●																													

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



Page A170

A170

