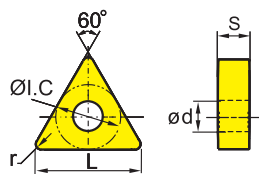




Cemented carbide and cermet inserts

**TN** □ □ (Negative inserts)

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



Workpiece material  
**P** Steel  
**M** Stainless steel  
**K** Cast iron  
**N** Non-ferrous metal  
**S** Heat resistant alloy, Ti alloy

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																Cermet 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
<b>EF</b>  For finishing	TNMG110304-EF	11	6.35	3.18	2.26	0.4																											
	TNMG110308-EF	11	6.35	3.18	2.26	0.8																											
	TNMG160404-EF	16.5	9.525	4.76	3.81	0.4										○	★																
	TNMG160408-EF	16.5	9.525	4.76	3.81	0.8										●	★																
	TNMG160412-EF	16.5	9.525	4.76	3.81	1.2										○	★																
	TNMG220404-EF	22	12.7	4.76	5.16	0.4										○	★																
	TNMG220408-EF	22	12.7	4.76	5.16	0.8										○	★																
	TNMG220412-EF	22	12.7	4.76	5.16	1.2										○	★																
<b>WGM</b>  For semi-finishing Wiper	TNMX160408-WGM	16.5	9.525	4.76	3.81	0.8																											
	TNMX160412-WGM	16.5	9.525	4.76	3.81	1.2																											
<b>PM</b>  For semi-finishing	TNMG110304-PM	11	6.35	3.18	2.26	0.4	★	●	○																								
	TNMG110308-PM	11	6.35	3.18	2.26	0.8	★	○	○																								
	TNMG160404-PM	16.5	9.525	4.76	3.81	0.4	★	●	★																		★	★					
	TNMG160408-PM	16.5	9.525	4.76	3.81	0.8	★	●	★	●	○																★	★	★				
	TNMG160412-PM	16.5	9.525	4.76	3.81	1.2	★	●	○	○																	★	★	○				
	TNMG220408-PM	22	12.7	4.76	5.16	0.8	★	●	○	●																	★	○	○				
	TNMG220412-PM	22	12.7	4.76	5.16	1.2	●	★	○	○																	○	○					
	TNMG220416-PM	22	12.7	4.76	5.16	1.6																						○					

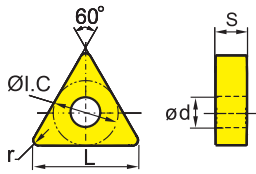
★ Recommended grade (always stock available)    ● Available grade (always stock available)    ○ Make-to-order

Applicable tool



Page A169      A180      A181      A182      A216

### TN (Negative inserts)



😊 Good working condition   🙄 Normal working condition   😞 Bad working condition

Workpiece material	Steel	Stainless steel	Cast iron	Non-ferrous metal	Heat resistant alloy, Ti alloy
P	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊
M	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊
K	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊
N	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊
S	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊😊😊😊😊

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet 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	
For semi-finishing	TNMG110308-DM	11	6.35	3.18	2.26	0.8		○	○																										
	TNMG160404-DM	16.5	9.525	4.76	3.81	0.4	★	●	★	○				○																					
	TNMG160408-DM	16.5	9.525	4.76	3.81	0.8	★	●	★	●				●									●												
	TNMG160412-DM	16.5	9.525	4.76	3.81	1.2		○	○	★	○																								
	TNMG220404-DM	22	12.7	4.76	5.16	0.4	★	●	★	○														○											
	TNMG220408-DM	22	12.7	4.76	5.16	0.8	★	●	★	●														○											
	TNMG220412-DM	22	12.7	4.76	5.16	1.2		○	○	○	○																								
	TNMG220416-DM	22	12.7	4.76	5.16	1.6		○	○	○																									
For semi-finishing	TNMG160404-EM	16.5	9.525	4.76	3.81	0.4								●	★						★		★												
	TNMG160408-EM	16.5	9.525	4.76	3.81	0.8								●	★						★		★												
	TNMG160412-EM	16.5	9.525	4.76	3.81	1.2								○	★						★		★												
	TNMG220408-EM	22	12.7	4.76	5.16	0.8								●	★						○		★												
	TNMG220412-EM	22	12.7	4.76	5.16	1.2								○	★						○		★												
	TNMG220416-EM	22	12.7	4.76	5.16	1.6								○	★						○		★												
Light-load roughing	TNMM160408-LR	16.5	9.525	4.76	3.81	0.8																													
	TNMM160412-LR	16.5	9.525	4.76	3.81	1.2																													
	TNMM220408-LR	22	12.7	4.76	5.16	0.8																													
	TNMM220412-LR	22	12.7	4.76	5.16	1.2																													
	TNMM220416-LR	22	12.7	4.76	5.16	1.6																													

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

### Applicable tool

**DTGNR/L**  
Kr:91°



Page A169

**PTFNR/L**  
Kr:90°



A180

**PTTNR/L**  
Kr:60°



A181

**PTGNR/L**  
Kr:90°



A182

**PTFNR/L**  
Kr:90°



A216

Insert code key

A50-A51

Grade selection reference

A19/A36-A48

Chipbreaker selection reference

A22-A35

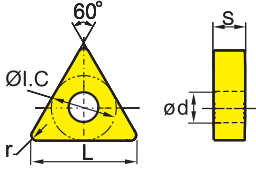
Recommended cutting parameters

A241-A244



### TN (Negative inserts)

😊 Good working condition   🙄 Normal working condition   🙍 Bad working condition



Workpiece material	Steel	Stainless steel	Cast iron	Non-ferrous metal	Heat resistant alloy, Ti alloy
P	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊
M	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊
K	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊
N	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊
S	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊	😊😊😊😊😊😊😊😊

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide														Cermet 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
<b>HDR</b>  For heavy machining	TNMM160408-HDR	16.5	9.525	4.76	3.81	0.8						○	○																					
	TNMM160412-HDR	16.5	9.525	4.76	3.81	1.2																												
	TNMM220408-HDR	22	12.7	4.76	5.16	0.8																												
	TNMM220412-HDR	22	12.7	4.76	5.16	1.2																												
	TNMM220416-HDR	22	12.7	4.76	5.16	1.6																												
	TNMM270612-HDR	27.5	15.875	6.35	6.35	1.2																												
	TNMM270616-HDR	27.5	15.875	6.35	6.35	1.6																												
	TNMM270624-HDR	27.5	15.875	6.35	6.35	2.4																												
<b>All round</b> 	TNMG110308	11	6.35	3.18	2.26	0.8			○																									
	TNMG160404	16.5	9.525	4.76	3.81	0.4	○	●																										
	TNMG160408	16.5	9.525	4.76	3.81	0.8	●	○	●																									
	TNMG160412	16.5	9.525	4.76	3.81	1.2	●	●	○													○												
	TNMG220404	22	12.7	4.76	5.16	0.4	○	●		○																								
	TNMG220408	22	12.7	4.76	5.16	0.8	○	●		○												○												
	TNMG220412	22	12.7	4.76	5.16	1.2	●	●		○																								
	TNMG220416	22	12.7	4.76	5.16	1.6				○																								
	TNMG270612	27.5	15.875	6.35	6.35	1.2				●		●																						
	TNMG270616	27.5	15.875	6.35	6.35	1.6				○		○																						
	TNMG330916	33	19.05	9.525	7.94	1.6						●																						
	TNMG330924	33	19.05	9.525	7.94	2.4	○	○		●																								

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

#### Applicable tool



Page   A169                      A180                      A181                      A182                      A216

Insert code key   A50-A51      Grade selection reference   A19/A36-A48      Chipbreaker selection reference   A22-A35      Recommended cutting parameters   A241-A244

General turning

Cemented carbide and cermet inserts



