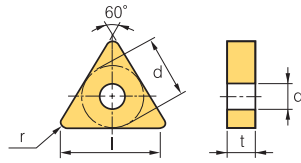


TN ○ ○

Triangular 60° Negative



Dimensions (mm)			
Size	d	t	d ₁
11	6.35	3.18	2.40
16	9.525	3.18~4.76	3.81
22	12.7	4.76	5.16
27	15.875	6.35	6.35

Workpiece	Machining types															
	P	M	K	N	S	H	●	●	●	●	●	●	●	●	●	●
Steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Stainless steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Cast iron	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Non-ferrous metal	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Heat resistant alloy, Titanium alloy	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Hardened steel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Inserts	Designation	Cermet		Coated		Coated										Uncoated		Cutting Condition										
		CN1500	CN2000	CN2500	CC1500	CC2500	NC3215	NC3120	NC3225	NC3030	NC5330	NC6310	NC6315	NC9115	NC9125	NC9135	PC5300	PC5400	PC8105	PC8110	PC8115	PC9030	H01	H05	f _n (mm/rev)	a _p (mm)		
Roughing		TNGA 110302																							0.05~0.30	0.20~3.00		
		110304																								0.05~0.30	0.40~3.00	
		160304																								0.10~0.35	0.40~4.00	
		160402																								0.10~0.30	0.20~4.00	
		160404																								0.10~0.35	0.40~5.00	
		160408																								0.12~0.40	0.50~5.00	
		220304																								0.10~0.35	0.50~5.00	
		220402																									0.05~0.30	0.20~3.00
		220404																									0.10~0.35	0.40~5.00
		220408																									0.10~0.40	0.50~5.00
		220412																									0.12~0.45	1.00~5.50
		270612																									0.12~0.45	1.00~7.00
		270624																									0.20~0.55	2.00~7.00
Finishing		TNGG 160402R-SC	●																						0.03~0.20	0.10~1.50		
		160404R-SC	●																							0.05~0.25	0.30~2.00	
		160402L-SC																								0.03~0.20	0.10~1.50	
		160404L-SC																									0.05~0.25	0.30~2.00
Medium cutting		TNGG 110304R																							0.05~0.30	0.50~2.50		
		160402R	●																							0.08~0.30	0.50~3.50	
		160404R	●	●																						0.12~0.30	1.00~3.50	
		160408R	●																							0.15~0.35	1.30~3.50	
		220404R	●																							0.12~0.30	1.00~5.00	
		220408R	●																							0.15~0.35	1.30~5.00	
		220412R																								0.17~0.40	1.50~5.00	
		110304L																								0.05~0.30	0.50~2.50	
		160402L																									0.08~0.30	0.50~3.50
		160404L	●	●																							0.12~0.30	1.00~3.50
		160408L	●																								0.15~0.35	1.30~3.50
		220404L																									0.12~0.30	1.00~5.00
		220408L																									0.15~0.35	1.30~5.00
220412L																									0.17~0.40	1.50~5.00		
Medium cutting		TNGG 160404-VP3																	●	●	●	●	●	0.05~0.30	0.10~3.00			
		160408-VP3																		●	●	●	●	●	0.10~0.45	0.50~5.00		

Cutting edge geometry **A52~A61**
 Recommended chip breaker **B04~B11**
 Code system **B26~B27**
 ● : Stock item

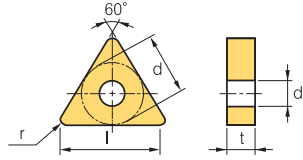
Available tool holders					
Designation	Page	Designation	Page	Designation	Page
MTENN	B175	PTFNR/L	B165, 199	WTJNR/L	B167
MTFNR/L	B175	PTGNR/L	B165	WTXNR/L	B167
MTGNR/L	B176	PTTNR/L	B166		
MTJNR/L	B176	WTENN	B167		



B Turning Insert (Negative)

TN ○ ○

Triangular 60° Negative



Dimensions (mm)			
Size	d	t	d ₁
11	6.35	3.18	2.40
16	9.525	3.18~4.76	3.81
22	12.7	4.76	5.16
27	15.875	6.35	6.35
33	19.05	9.52	7.93

Workpiece	Material	Machining types															
		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel	P	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Stainless steel	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Cast iron	K	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Non-ferrous metal	N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Heat resistant alloy, Titanium alloy	S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Hardened steel	H	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Inserts	Designation	Cermets		Coated		Coated													Uncoated		Cutting Condition							
		CN1500	CN2000	CN2500	CC1500	CC2500	NC3215	NC3120	NC3225	NC3030	NC5330	NC6310	NC6315	NC9115	NC9125	NC9135	PC5300	PC5400	PC8105	PC8110	PC8115	PC9030	H01	H05	f _n (mm/rev)	a _p (mm)		
Medium cutting	TNGN	110302																								0.05-0.25	0.20-2.50	
		110304																									0.10-0.30	0.50-2.50
		110308																									0.10-0.30	0.80-2.50
		160302																									0.05-0.30	0.20-3.00
		160304																									0.10-0.30	0.50-4.00
		160308																									0.10-0.40	0.80-4.00
		160404																									0.10-0.40	0.50-4.00
		160408																									0.10-0.40	1.00-4.00
		160412																									0.10-0.50	1.50-4.50
		220404																									0.10-0.35	1.00-4.00
		220408																									0.15-0.40	1.50-5.00
		220412																									0.20-0.50	1.50-5.00
		220416																									0.25-0.55	1.50-5.00
		220424																									0.30-0.65	2.00-5.00
	270630																									0.35-0.70	2.00-5.00	
Roughing	TNMA	110308																								0.05-0.30	0.50-3.00	
		160404										●	●													0.10-0.30	1.00-4.00	
		160408										●	●													0.10-0.40	1.00-4.00	
		160412										●														0.10-0.50	1.50-4.50	
		160416										●														0.15-0.55	1.50-4.50	
		220404																								0.10-0.35	1.00-4.00	
		220408										●														0.15-0.40	1.50-5.00	
		220412										●														0.20-0.50	1.50-5.00	
		220416										●														0.25-0.55	1.50-5.00	
		220420																								0.30-0.65	2.00-5.00	
		220432																								0.35-0.70	2.00-5.00	
		270608																								0.20-0.45	2.00-7.00	
		270612																								0.25-0.55	3.00-7.00	
		270616																								0.30-0.65	3.00-7.00	
	330924																								0.35-0.75	3.00-9.00		
Finishing	TNMG	160404-VB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	0.10-0.35	0.30-1.50	
		160408-VB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	0.15-0.45	0.50-7.00	
		160412-VB																										
		220408-VB																									0.15-0.45	0.50-2.50
		220412-VB																									0.20-0.50	0.70-2.50

➤ Cutting edge geometry A52~A61
➤ Recommended chip breaker B04~B11
➤ Code system B26~B27
● : Stock item

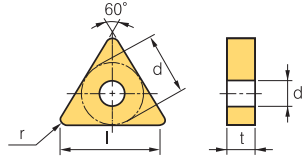
Available tool holders					
Designation	Page	Designation	Page	Designation	Page
MTENN	B175	PTFNR/L	B165, 199	WTJNR/L	B167
MTFNR/L	B175	PTGNR/L	B165	WTXNR/L	B167
MTGNR/L	B176	PTTNR/L	B166		
MTJNR/L	B176	WTENN	B167		



B Turning Insert (Negative)

TN ○ ○

Triangular 60° Negative



Dimensions (mm)			
Size	d	t	d ₁
11	6.35	3.18	2.40
16	9.525	3.18~4.76	3.81
22	12.7	4.76	5.16
27	15.875	6.35	6.35

Workpiece	Machining types											
	P	M	K	N	S	H						
Steel	●	●	●	●	●	●	●	●	●	●	●	●
Stainless steel	●	●	●	●	●	●	●	●	●	●	●	●
Cast iron	●	●	●	●	●	●	●	●	●	●	●	●
Non-ferrous metal	●	●	●	●	●	●	●	●	●	●	●	●
Heat resistant alloy, Titanium alloy	●	●	●	●	●	●	●	●	●	●	●	●
Hardened steel	●	●	●	●	●	●	●	●	●	●	●	●

	Inserts	Designation	Cermets		Coated		Coated										Uncoated		Cutting Condition											
			CN1500	CN2000	CN2500	CC1500	CC2500	NC3215	NC3120	NC3225	NC3030	NC5330	NC6310	NC6315	NC9115	NC9125	NC9135	PC5300	PC5400	PC8105	PC8110	PC8115	PC9030	H01	H05	f _n (mm/rev)	a _p (mm)			
Medium to finishing	VQ [Cermets]	TNMG 110304-VQ																								0.05~0.30	0.50~3.00			
		160404-VQ	●	●	●	●	●																				0.05~0.30	0.80~3.50		
		160408-VQ	●		●	●	●																					0.08~0.40	0.80~3.50	
		160412-VQ																										0.10~0.40	0.80~3.50	
		220404-VQ																										0.05~0.35	0.80~4.00	
Medium cutting	HM 	TNMG 110308-HM							●																		0.17~0.40	1.50~3.00		
		160404-HM							●	●	●						●						●				0.05~0.30	0.90~4.00		
		160408-HM							●	●	●	●												●				0.10~0.50	1.00~4.00	
		160412-HM																							●				0.13~0.60	1.30~4.00
		220404-HM								●	●	●																	0.15~0.45	0.60~5.00
220408-HM									●																		0.18~0.48	0.80~5.80		
Medium cutting	MK new	TNMG 160404-MK											●	●													0.05~0.30	0.90~3.50		
		160408-MK												●														0.10~0.50	1.00~4.00	
		160412-MK												●														0.12~0.60	1.20~4.50	
		160416-MK												●														0.13~0.60	1.20~4.50	
		220404-MK																										0.17~0.45	1.50~5.00	
		220408-MK																										0.21~0.50	1.30~5.50	
		220412-MK																										0.23~0.52	1.40~5.50	
		220416-MK																										0.25~0.53	1.60~6.00	
270612-MK																										0.25~0.55	3.00~7.00			
Medium cutting	MM new	TNMG 160404-MM												●	●	●	●				●	●	●				0.10~0.40	0.50~4.80		
		160408-MM												●	●	●	●				●	●	●				0.12~0.45	0.50~4.80		
		160412-MM													●	●	●						●				0.18~0.65	0.50~4.80		
		160416-MM													●	●	●							●			0.18~0.65	0.50~4.80		
		220404-MM																									0.10~0.40	0.50~6.50		
		220408-MM													●	●	●							●	●		0.12~0.45	0.50~6.50		
		220412-MM													●	●	●							●	●		0.15~0.60	0.50~6.50		
		220416-MM																									0.18~0.65	0.50~6.50		
Medium cutting	MP new	TNMG 110308-MP							●	●																	0.15~0.42	0.50~3.50		
		160404-MP							●	●	●	●			●	●	●				●	●					0.10~0.40	0.40~3.50		
		160408-MP							●	●	●	●			●	●	●				●	●					0.15~0.45	0.50~4.00		
		160412-MP							●	●	●	●			●	●	●				●	●					0.15~0.50	0.80~4.50		
		160616-MP																										0.18~0.50	1.00~4.50	
		220404-MP								●	●	●			●	●	●										0.10~0.35	0.40~5.00		
		220408-MP								●	●	●	●			●	●	●									0.15~0.45	0.50~5.50		
		220412-MP								●	●	●	●			●	●	●									0.15~0.50	0.80~6.00		
		220416-MP								●	●	●	●															0.20~0.55	1.00~6.00	
		270612-MP																										0.28~0.60	1.20~8.00	

➤ Cutting edge geometry A52~A61
➤ Recommended chip breaker B04~B11
➤ Code system B26~B27
● : Stock item

Available tool holders					
Designation	Page	Designation	Page	Designation	Page
MTENN	B175	PTFNR/L	B165, 199	WTJNR/L	B167
MTFNR/L	B175	PTGNR/L	B165	WTXNR/L	B167
MTGNR/L	B176	PTTNR/L	B166		
MTJNR/L	B176	WTENN	B167		



