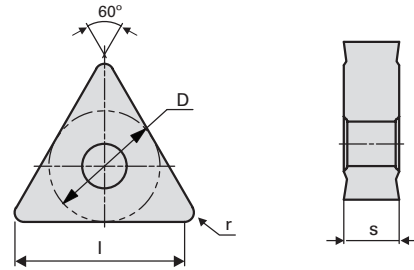
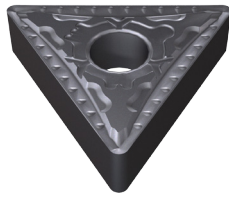


TNMG 1604



Designation	Grade	Dimensions			
		l	D	s	r
TNMG 160404-UF	YG801	15.51	9.53	4.76	0.4
TNMG 160408-UG	YG801	14.53	9.53	4.76	0.8
TNMG 160412-UR	YG801	13.54	9.53	4.76	1.2

TNMG 160404

Recommended Cutting Condition

Material			Cutting Conditions								
Group	Sub Group	Hardness (HB)	Feed (mm/rev.)			Vc (m/min.)			Depth Of Cut (mm)		
			Min.	Max.	Recommend	Min.	Max.	Recommend	Min.	Max.	Recommend
P	Non Alloys	120	0.11	0.23	0.17	180	330	300	0.2	3.0	2.0
	Low Alloys	200	0.10	0.20	0.15	120	280	250	0.2	2.5	2.0
	High Alloys	220	0.09	0.18	0.14	70	190	170	0.2	2.5	2.0
M	Austenitic	190	0.10	0.18	0.14	170	270	250	0.2	2.5	2.0
K	Grey Cast Iron	140	0.08	0.20	0.14	170	250	240	0.2	3.0	2.0
S	Heat Resistant and Super Alloys	240	0.09	0.15	0.12	25	50	35	0.2	2.0	2.0
H	Hardened Materials	45HRc	0.05	0.12	0.09	50	100	75	0.2	1.8	1.5

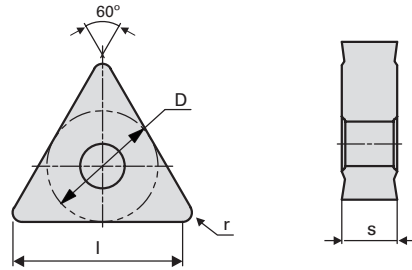
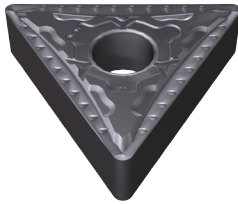
TNMG 160408
Recommended Cutting Condition

Material			Cutting Conditions								
Group	Sub Group	Hardness (HB)	Feed (mm/rev.)			Vc (m/min.)			Depth Of Cut (mm)		
			Min.	Max.	Recommend	Min.	Max.	Recommend	Min.	Max.	Recommend
P	Non Alloys	120	0.21	0.50	0.35	180	330	250	0.5	5.0	3.0
	Low Alloys	200	0.21	0.45	0.33	120	280	200	0.5	5.0	3.0
	High Alloys	220	0.18	0.40	0.29	70	190	130	0.5	4.0	2.5
M	Austenitic	190	0.20	0.40	0.30	170	270	220	0.5	5.0	3.0
K	Grey Cast Iron	140	0.15	0.60	0.38	170	250	210	0.5	5.0	3.0
S	Heat Resistant and Super Alloys	240	0.20	0.35	0.28	25	45	35	0.5	3.0	2.0
H	Hardened Materials	45HRc	0.11	0.30	0.21	50	100	75	0.5	2.5	2.0

TNMG 160412
Recommended Cutting Condition

Material			Cutting Conditions								
Group	Sub Group	Hardness (HB)	Feed (mm/rev.)			Vc (m/min.)			Depth Of Cut (mm)		
			Min.	Max.	Recommend	Min.	Max.	Recommend	Min.	Max.	Recommend
P	Non Alloys	120	0.26	0.68	0.47	180	330	250	0.7	5.0	4.0
	Low Alloys	200	0.26	0.61	0.44	120	280	200	0.7	5.0	4.0
	High Alloys	220	0.23	0.54	0.39	70	190	130	0.7	4.0	3.4
M	Austenitic	190	0.25	0.54	0.40	170	270	220	0.7	5.0	4.0
K	Grey Cast Iron	140	0.20	0.81	0.51	170	250	210	0.7	5.0	4.0
S	Heat Resistant and Super Alloys	240	0.25	0.47	0.36	25	45	35	0.7	3.0	2.7
H	Hardened Materials	45HRc	0.14	0.41	0.28	50	100	75	0.7	2.5	2.2

TNMG 2204



Designation	Grade	Dimensions			
		l	D	s	r
TNMG 220404-UF	YG801	21.01	12.70	4.76	0.4
TNMG 220408-UG	YG801	20.03	12.70	4.76	0.8
TNMG 220412-UR	YG801	19.04	12.70	4.76	1.2

TNMG 220404

Recommended Cutting Condition

Material			Cutting Conditions								
Group	Sub Group	Hardness (HB)	Feed (mm/rev.)			Vc (m/min.)			Depth Of Cut (mm)		
			Min.	Max.	Recommend	Min.	Max.	Recommend	Min.	Max.	Recommend
P	Non Alloys	120	0.11	0.23	0.17	180	330	300	0.2	3.0	2.0
	Low Alloys	200	0.10	0.20	0.15	120	280	250	0.2	2.5	2.0
	High Alloys	220	0.09	0.18	0.14	70	190	170	0.2	2.5	2.0
M	Austenitic	190	0.10	0.18	0.14	170	270	250	0.2	2.5	2.0
K	Grey Cast Iron	140	0.08	0.20	0.14	170	250	240	0.2	3.0	2.0
S	Heat Resistant and Super Alloys	240	0.09	0.15	0.12	25	50	35	0.2	2.0	2.0
H	Hardened Materials	45HRc	0.05	0.12	0.09	50	100	75	0.2	1.8	1.5

TNMG 220408

Recommended Cutting Condition

Material			Cutting Conditions								
Group	Sub Group	Hardness (HB)	Feed (mm/rev.)			Vc (m/min.)			Depth Of Cut (mm)		
			Min.	Max.	Recommend	Min.	Max.	Recommend	Min.	Max.	Recommend
P	Non Alloys	120	0.21	0.50	0.36	180	330	250	0.5	7.0	3.0
	Low Alloys	200	0.21	0.45	0.33	120	280	200	0.5	7.0	3.0
	High Alloys	220	0.18	0.40	0.29	70	190	130	0.5	5.6	2.5
M	Austenitic	190	0.20	0.40	0.30	170	270	200	0.5	7.0	3.0
K	Grey Cast Iron	140	0.15	0.60	0.38	170	250	190	0.5	7.0	3.0
S	Heat Resistant and Super Alloys	240	0.20	0.35	0.28	25	45	35	0.5	4.2	2.0
H	Hardened Materials	45HRc	0.11	0.30	0.21	50	100	75	0.5	3.5	2.0

TNMG 220412

Recommended Cutting Condition

Material			Cutting Conditions								
Group	Sub Group	Hardness (HB)	Feed (mm/rev.)			Vc (m/min.)			Depth Of Cut (mm)		
			Min.	Max.	Recommend	Min.	Max.	Recommend	Min.	Max.	Recommend
P	Non Alloys	120	0.26	0.68	0.45	180	330	250	0.7	7.0	4.0
	Low Alloys	200	0.26	0.61	0.40	120	280	200	0.7	7.0	4.0
	High Alloys	220	0.23	0.54	0.39	70	190	130	0.7	5.6	3.4
M	Austenitic	190	0.25	0.54	0.40	170	270	180	0.7	7.0	4.0
K	Grey Cast Iron	140	0.20	0.81	0.50	170	250	190	0.7	7.0	4.0
S	Heat Resistant and Super Alloys	240	0.25	0.47	0.36	25	45	35	0.7	4.2	2.7
H	Hardened Materials	45HRc	0.14	0.41	0.28	50	100	75	0.7	3.5	2.2

Features of Grades :

YG-1 Universal grades, designs for multi-purpose application and extremely efficient in covering materials including Steels, Stainless Steels and Cast Iron.

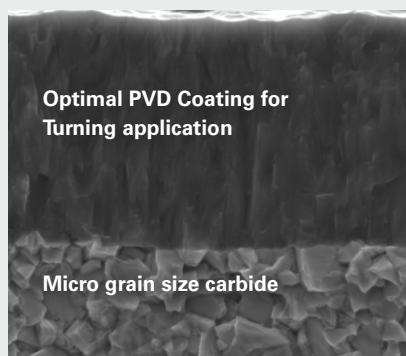
YG602



Exclusive PVD coating / Unique Substrate for MILLING and DRILLING Application

- Ultra dense PVD coating with optimal thermal resistance & added strength
- Sub-micron substrate designed for demanding application

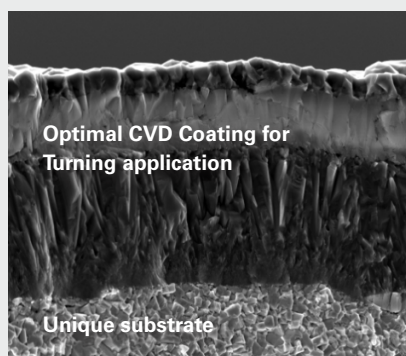
YG801



Exclusive PVD coating / Unique Substrate for TURNING Application

- Unique PVD coating and substrate designed to balance edge strength & wear resistance for continuous machining.
- Excellent cutting performance under harsh machining condition.

YG1001



Unique Substrate / CVD coating for TURNING Application

- Thick coating optimized for Cast iron applications and harsh machining condition.
- Advanced CVD coating with optimal thermal & wear resistance for turning applications.
- Exceptional cutting performance attributed to combination of carbide substrate and coating.

Grade	P	M	K	S
YG602	P30-40	M20-30	K20-30	S10-20
YG801	P20-40	M20-40	K10-25	S05-25
YG1001	-	-	K10-25	-



1 Insert Shape

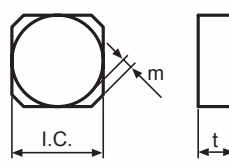
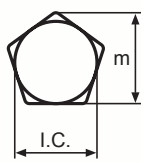
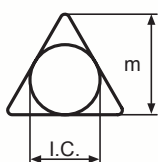
A	B	C	D	E	H	K	L
						Special	
O	P	R	S	T	W	X	

2 Clearance Angle

	5°	7°	15°	20°	25°	30°	0°	11°
B	C	D	E	F	G	N	P	

3 Tolerance

	Tolerance			I.C. Size					
	m	t	I.C.	6.35	9.525	12.7	15.875	19.05	25.4
A	± 0.005	± 0.025	± 0.025	●	●	●	●	●	●
C	± 0.013	± 0.025	± 0.025	●	●	●	●	●	●
E	± 0.025	± 0.025	± 0.025	●	●	●	●	●	●
F	± 0.005	± 0.025	± 0.013	●	●	●	●	●	●
G	± 0.025	± 0.13	± 0.025	●	●	●	●	●	●
H	± 0.013	± 0.025	± 0.013	●	●	●	●	●	●
K	± 0.013	± 0.025	± 0.05	●	●				
			± 0.08			●			
			± 0.10				●	●	
			± 0.13						●
M	± 0.18	± 0.13	± 0.05	●	●				
	± .0050		± 0.08			●			
	± .0060		± 0.10				●	●	
	± .0070		± 0.13						●



4 Cross Section Shape

								Special
A	F	G	M	N	R	T	W	X

TURNING INSERTS DESIGNATION SYSTEM (ISO)

12

5

04

6

08

7

CHIP
BREAKER

8

5

Cutting
Edge
Length

	C	D	S	R	T	V	W	H
I.C. Size								
	Metric							
3.97	03	04	03	03	06		02	
4.76	04	05	04	04	08	08		
5.56	05	06	05	05	09	09	03	
6.35	06	07	06	06	11	11	04	
7.94	08	09	07	07	13	13	05	
9.525	09	11	09	09	16	16	06	
12.7	12	15	12	12	22	22	08	05
15.875	16	19	15	15	27	27	10	09
19.05	19	23	19	19	33	33	13	10
25.4	25	31	25	25	44	44	17	

*() symbol for small size insert

6

Thickness

Symbol(t)	mm
02	2.38
03	3.18
T3	3.97
04	4.76
06	6.35
07	7.94
09	9.52

7

Nose Radius

Symbol(r)	mm
02	0.2
04	0.4
08	0.8
10	1.0
12	1.2
16	1.6
20	2.0

8

Chip Breaker

For Application

YG Turn Chip Breakers
Application area

