

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

WNUMG	L	I.C	S	d
06 04	6.5	9.525	4.76	3.81
08 04	8.7	12.7	4.76	5.16

Turning inserts

WN** negative insert					HC ¹ (CVD)								HC ¹ (PVD)			HT	HC ²	HW													
					P	●	●	●	●	●	●	●	●	●	●	●	●	●	●												
					M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●											
					K	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●										
					N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●										
					S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●										
					H	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●										
ISO	r	a _p	f	YBC103	YB6315	YBC152	YBC203	YBC252	YBC352	YBM153	YBM253	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG205	YB9320	YPD201	YBS103	YNG151	YNT251	YNG151C	YD101	YD201				
XF Finishing	WNMG060404-XF	0.4	0.5-2.0	0.1-0.25	●																										
	WNMG060408-XF	0.8	0.5-2.0	0.1-0.30	●																										
	WNMG080408-XF	0.8	0.5-2.5	0.1-0.30	●																										
	WNMG080412-XF	1.2	0.5-2.5	0.1-0.35	●																										
XM Medium Cut	WNMG060404-XM	0.4	1-2.1	0.2-0.4	●	○																									
	WNMG060408-XM	0.8	1-2.1	0.2-0.4	●	●																									
	WNMG060412-XM	1.2	1-2.1	0.2-0.6	●	●																									
	WNMG080404-XM	0.4	1-2.8	0.2-0.4	●	●																									
	WNMG080408-XM	0.8	1-2.8	0.2-0.4	●	●																									
	WNMG080412-XM	1.2	1-2.8	0.2-0.6	●	●																									
	WNMG080416-XM	1.6	1-2.8	0.2-0.65	○	○																									

● Ex stock ○ On demand

HC¹ Coated carbide
 HT Uncoated cermet
 HC² Coated cermet
 HW Uncoated carbide

Tool holder			
DWLNLR/L	PWLNLR/L	MWLNLR/L	S***-PWLNLR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
A236	A251	A266	A332

P Negative inserts

Chip breaker	Application	Application fields	Cutting edge design
SF	Fine-finishing		
DF	Finishing		
XF	Finishing		
ADF	Finishing		
DM	Medium machining		
PM	Medium machining		
ZM	Medium machining		
XM	Medium machining		
WG	Medium machining		
Basic	Medium machining		
DR	Roughing		

A

Turning

B

Milling

C

Drilling

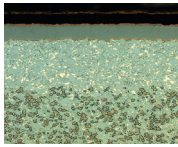
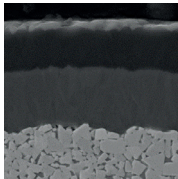
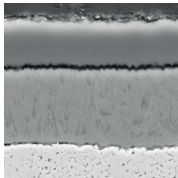
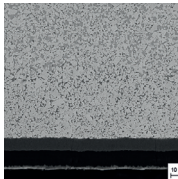
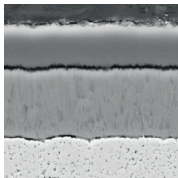
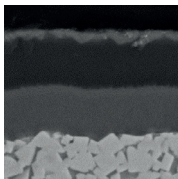
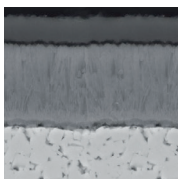
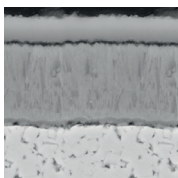
D

Technical Information

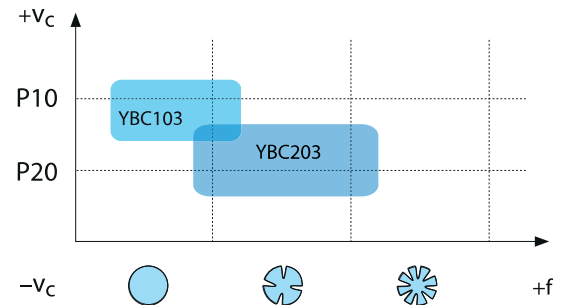
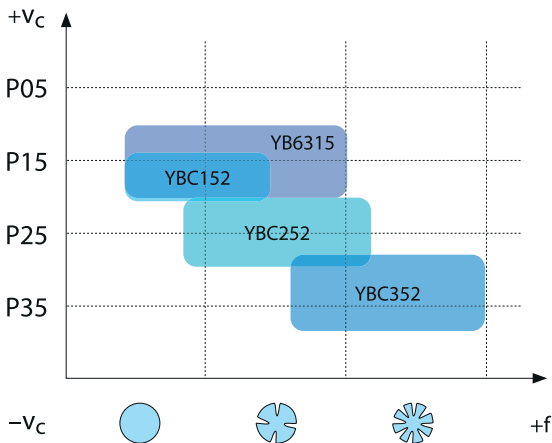
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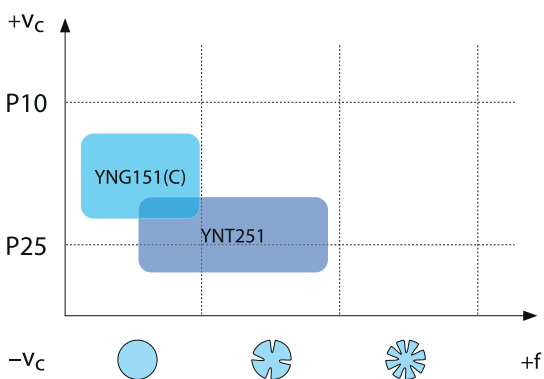
Coated cemented carbide CVD

Grade	ISO	Micro structure	Grade description
A		Turning	
YBC103	P05 – P15		P10 grade with excellent wear resistance at higher cutting speeds. Latest sinter processes and CVD coating technologies enable a wide range of applications in the P material range.
B		Milling	
YB6315	P05 – P20		CVD coated P10–P20 carbide grade for finishing to medium operation of steel, casting steel and high chrome material. Outstanding performance under high cutting speed and temperature with excellent wear resistance.
YBC152	P10 – P20		CVD coated P10–P20 carbide grade for finishing to medium operation of steel and casting steel. Outstanding performance under higher cutting speed and temperature with excellent wear resistance.
C		Drilling	
YBC203	P15 – P25		P20 grade with exceptional wear resistance and toughness for reliable machining operations. Ultra-modern sintering technique and CVD coating technologies allow for a wide range of applications in the P material range.
YBC252	P20 - P35		CVD coated P20–P35 carbide grade for medium operation to roughing of steel and casting steel. Optimal performance of wear resistance and toughness for a wide application field.
D		Technical Information	
YBC352	P20 - P40		CVD coated P20–P40 carbide grade for roughing operation of steel and casting steel. Optimal performance of wear resistance and toughness for a wide application field.
YBM153	M10 - M25		CVD coated M10–M25 carbide grade for finishing to medium application in stainless steel. High wear resistance and capability against plastic deformation at higher cutting speed.
E		Index	
YBM253	M15 - M35		CVD coated M15–M35 carbide grade for medium to roughing operation in stainless steel with wide application field. High wear resistance and capability against plastic deformation at higher cutting speed.

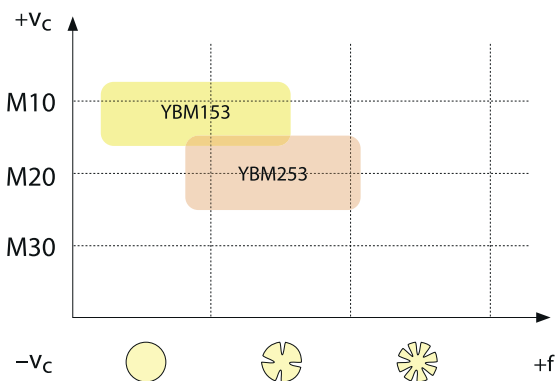
CVD coated carbide grades for steel



Cermet grades for steel



CVD coated carbide grades for stainless steel



A

Turning

B

Milling

C

Drilling

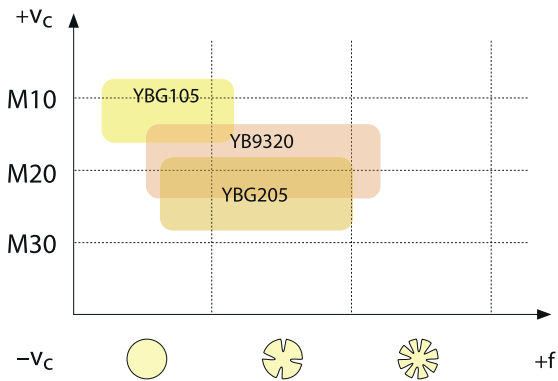
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Technical Information

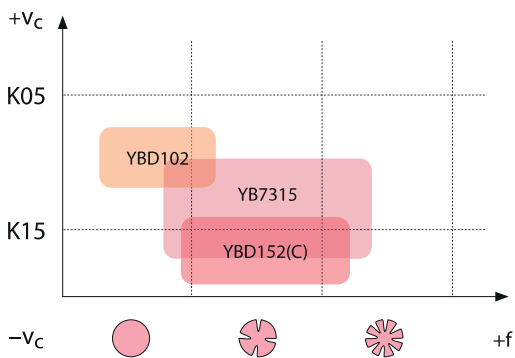
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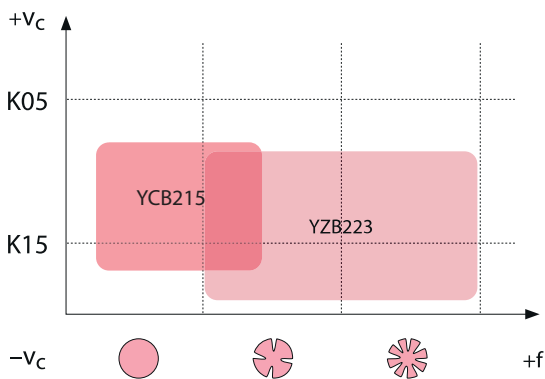
PVD coated carbide grades for stainless steel



CVD coated carbide grades for cast iron



CBN grades for cast iron



A

Turning

B

Milling

C

Drilling

D

Technical Information

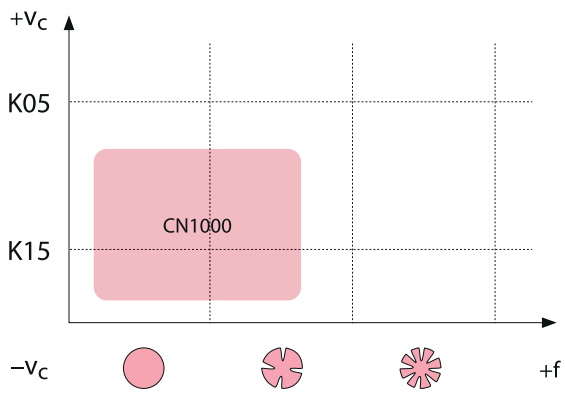
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A

Turning

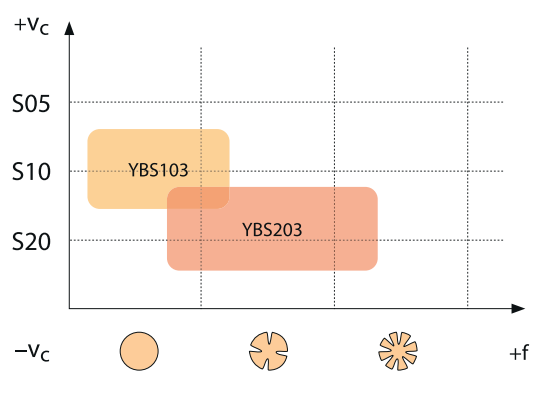
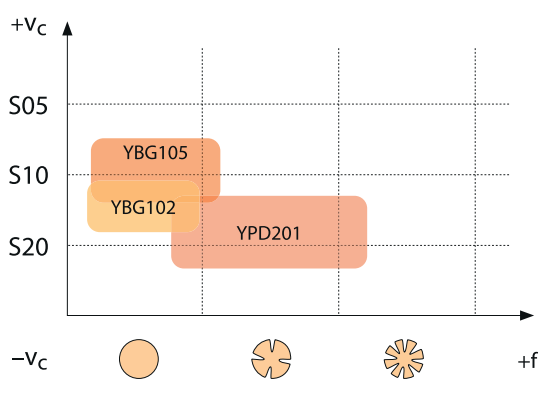
Ceramic grades for cast iron



B

Milling

PVD coated carbide grades for superalloys



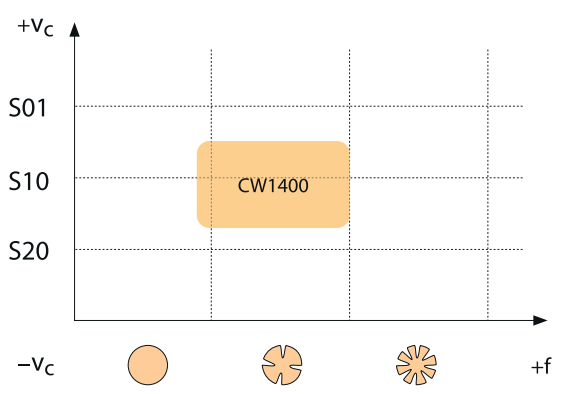
C

Drilling

D

Technical Information

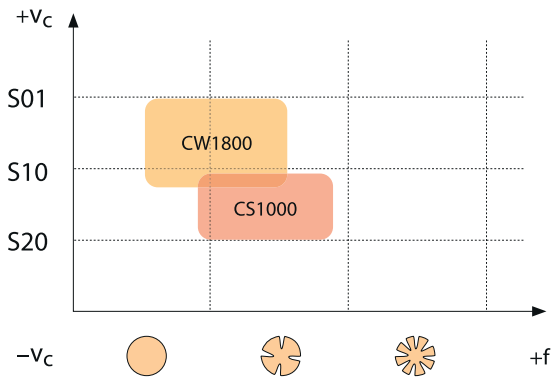
Ceramic grades for cobalt base alloys/HSS



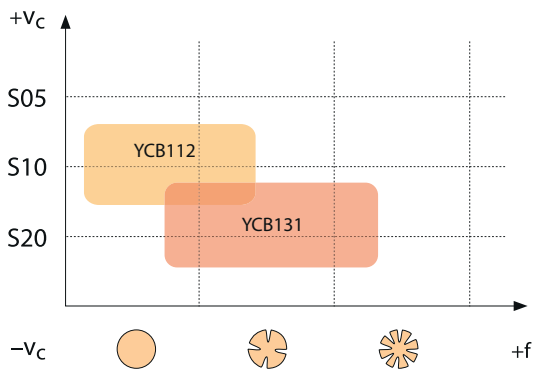
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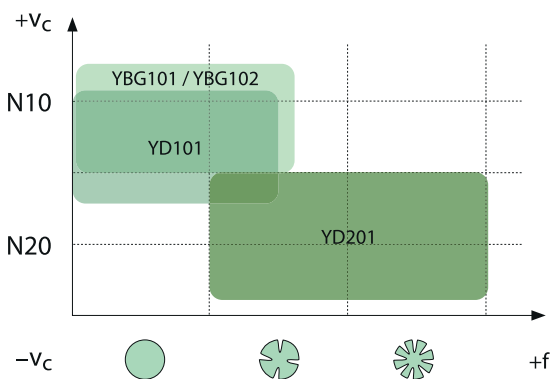
Ceramic grades for nickel base alloys



CBN grades for superalloys



Carbide grades for non-ferrous metals



A

Turning

B

Milling

C

Drilling

D

Technical
Information

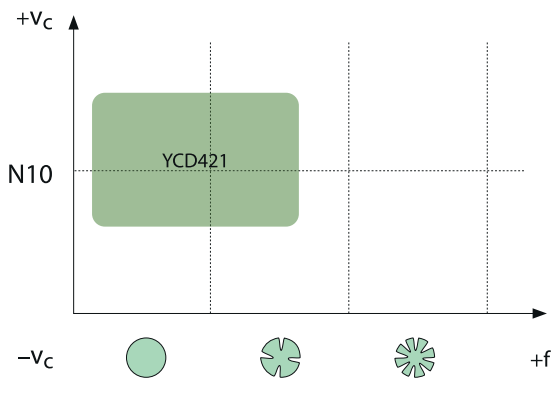
E

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A

Turning

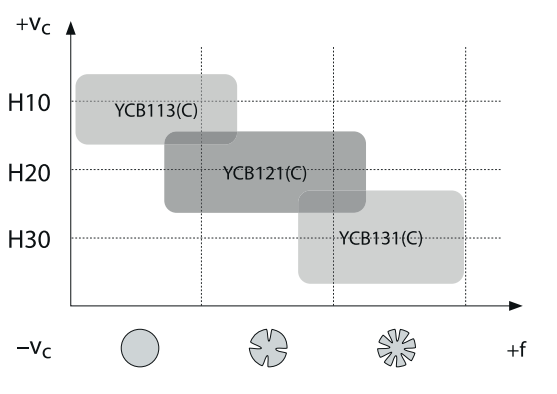
PCD grades for non-ferrous metals



B

Milling

CBN grades for hardened steel



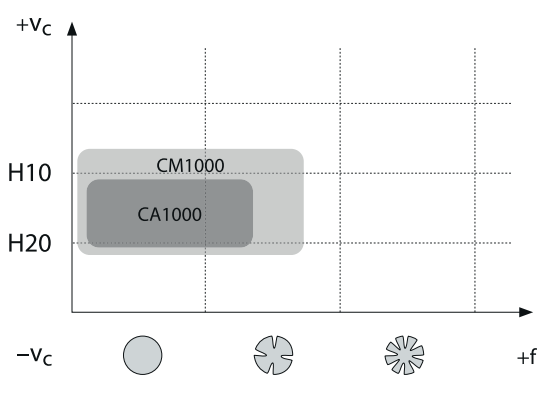
C

Drilling

D

Technical Information

Ceramic grades for hardened steel



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Application fields of grades – general turning

	ISO	HC ¹ (CVD)	HC ¹ (PVD)	HT	HC ²	Ceramic	HW	CBN	PCD
P	P01	YBC103		YNG151	YNG151C				
	P10	YB6315		YNT251					
	P20	YBC152							
	P30	YBC203							
	P40	YBC252							
		YBC352							
M	M01		YBG105	YNG151	YNG151C				
	M10	YBM153	YB9320						
	M20	YBM253	YBG205						
	M30								
	M40								
K	K01					CN1000		YCB215	YZB223
	K10	YBD102					YD201		
	K20	YBD152							
	K30	YB7315							
		YBD152C							
N	N01						YD101		YCD421
	N10		YBG101				YD201		
	N20		YBG102						
	N30								
S	S01		YBS103			CS1000		YCB112	
	S10		YBG102			CW1400		YCB131	
	S20		YBG105			CW1800			
	S30		YB9320	YPD201					
H	H01							YCB113(C)	
	H10							YCB121(C)	
	H20								YCB131(C)
	H30								

P	Steel
M	Stainless steel
K	Cast iron

N	Non-ferrous metals
S	Heat-resistant alloys
H	Hardened materials

HC¹ Coated carbide
 HT Uncoated cermet
 HC² Coated cermet
 HW Uncoated carbide

A
Turning

B
Milling

C
Drilling

















D
Technical Information










E
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ISO standard

T N M G 22 04 08 (N) – DM

1 2 3 4 5 6 7 8 9

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















Clearance angle	
A 	B 
C 	D 
E 	F 
G 	N 
P 	O Special

Tolerance class			
Code	I.C [mm]	m [mm]	S [mm]
A	±0,025	±0,005	±0,025
C	±0,025	±0,013	±0,025
E	±0,025	±0,025	±0,025
F	±0,013	±0,005	±0,025
G	±0,025	±0,025	±0,130
H	±0,013	±0,013	±0,025
J	±0,05–0,15	±0,005	±0,025
K	±0,05–0,15	±0,013	±0,025
L	±0,05–0,15	±0,025	±0,025
M	±0,05–0,15	±0,08–0,20	±0,130
N	±0,05–0,15	±0,08–0,20	±0,025
U	±0,08–0,25	±0,13–0,38	±0,130

1

2

3

Fastening features (metric)	
Insert shape	
A 	B 
C 	F 
G 	H 
J 	M 
N 	Q 
R 	T 
U 	W 
X Special	

4

Cutting edge length l [mm]								
I.C [mm]	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							
19,05	19		19	19	33			
20,0	20							
25,0	25	25	25					
25,4	25 25							
31,75	31							
32	32							

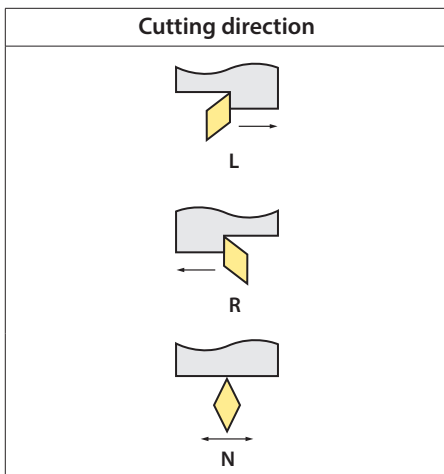
5

Insert thickness S [mm]			
Code	S	Code	S
00	0,79	T5	5,95
T0	0,99	06	6,35
01	1,59	T6	6,75
T1	1,98	07	7,94
02	2,38	09	9,52
T2	2,58	T9	9,72
03	3,18	11	11,11
T3	3,97	12	12,70
04	4,76		
T4	4,96		
05	5,56		

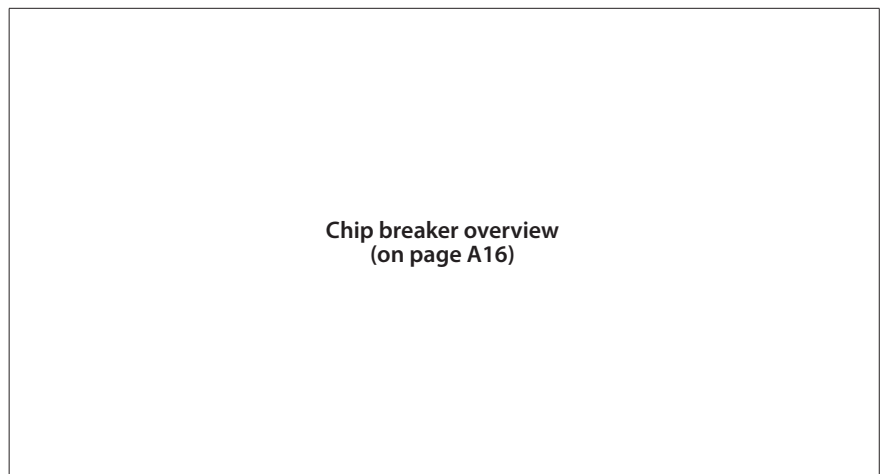
6

Nose radius r [mm]	
Code	r
00	–
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	Special
MO	Round inserts

7

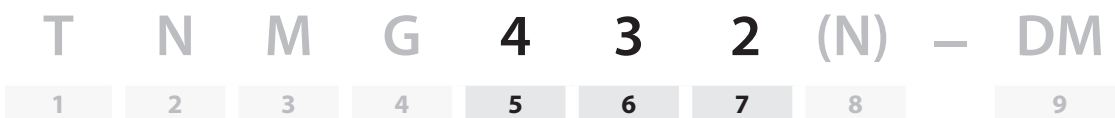


8



9

ANSI standard



Inner circle		
Code	[mm]	Pouce
2	6.35	0.250
3	9.525	0.375
4	12.7	0.500
5	15.875	0.625
6	19.05	0.750
8	25.4	1.000

5

Insert thickness		
Code	[mm]	Pouce
2	3.18	0.125
3	4.76	0.187
4	6.35	0.250
5	7.94	0.313
6	9.52	0.375

6

Nose radius		
Code	[mm]	Pouce
0	0.2	0.008
1	0.4	0.016
2	0.8	0.031
3	1.2	0.047
4	1.6	0.063
5	2.0	0.079
6	2.4	0.094

7