

**Turning inserts**

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

LNUX	L	I.C	S	d
19 19	19.05	10	19.05	6.35
30 19	30	10	19.05	6.35

LN** negative insert				HC <sup>1</sup> (CVD)								HC <sup>1</sup> (PVD)				HT	HC <sup>2</sup>	HW									
				P	M	K	N	S	H																		
ISO	r	a <sub>p</sub>	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
RF  Heavy Turning	<b>LNUX191940-RF</b>	4	1,0-5,5	0,20-0,60	●	●																					
	<b>LNUX301940-RF</b>	4	1,0-6,0	0,20-0,70	●	○																					
RH  Heavy Turning	<b>LNUX191940-RH</b>	4	1,5-7,0	0,35-1,20	●	●																					
	<b>LNUX301940-RH</b>	4	1,5-8,0	0,35-1,40	●	●																					

● Ex stock   ○ On demand

HC<sup>1</sup> Coated carbide  
HT Uncoated cermet  
HC<sup>2</sup> Coated cermet  
HW Uncoated carbide

Tool holder	
PLANR/L	PLFNR/L
Kr: 90°	Kr: 90°
A316	A317

System code > A48

Grade selection > A42

Technical info > A501

Cutting data > A366



**A**

Turning

**P Negative inserts**

Chip breaker	Application		Application fields	Cutting edge design
DR (single sided)	Roughing			
LR (single sided)	Roughing			
HDR (single sided)	Roughing			
HPR (single sided)	Roughing			

**B**

Milling

**C**
**P Negative inserts (rail technology)**

Chip breaker	Application		Application fields	Cutting edge design
RF	Finishing			
RH	Roughing			

Drilling

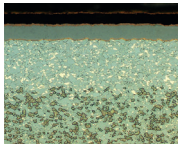
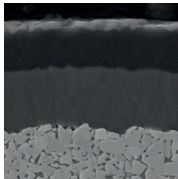
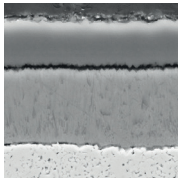
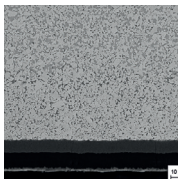
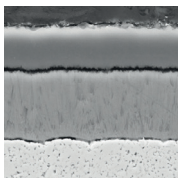
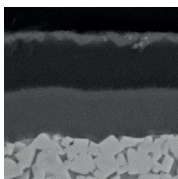
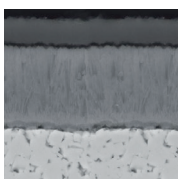
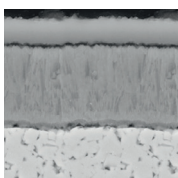
**D**

 Technical  
Information

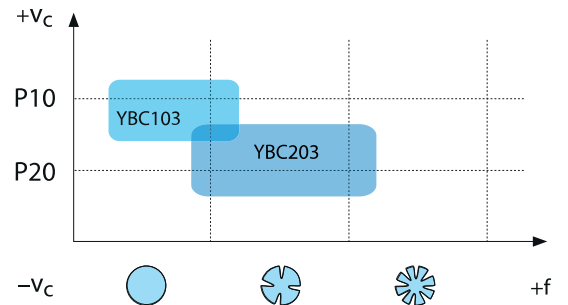
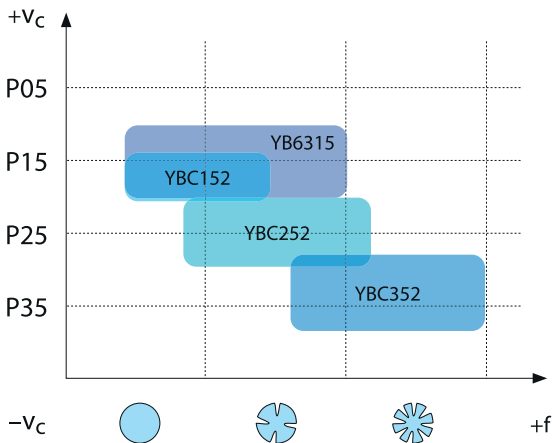
**E**

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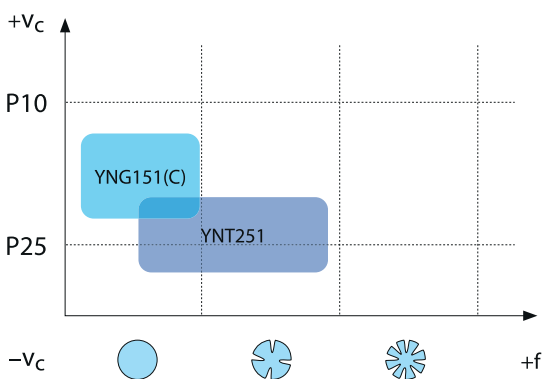
## Coated cemented carbide CVD

Grade	ISO	Micro structure	Grade description
<b>A</b> Turning	<b>YBC103</b>	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>YB6315</b>	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.
<b>B</b> Milling	<b>YBC152</b>	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.
	<b>YBC203</b>	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.
<b>C</b> Drilling	<b>YBC252</b>	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.
	<b>YBC352</b>	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.
<b>D</b> Technical Information	<b>YBM153</b>	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.
	<b>YBM253</b>	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.
<b>E</b> Index			

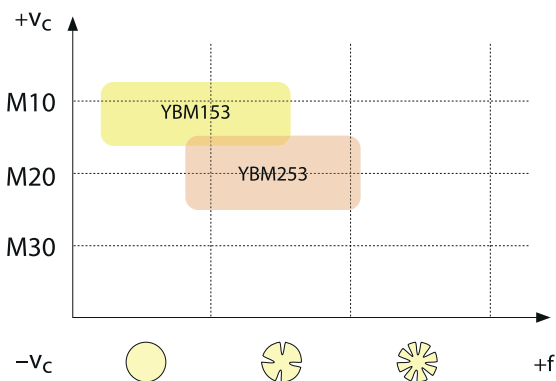
## CVD coated carbide grades for steel



## Cermet grades for steel



## CVD coated carbide grades for stainless steel



A

Turning

B

Milling

C

Drilling

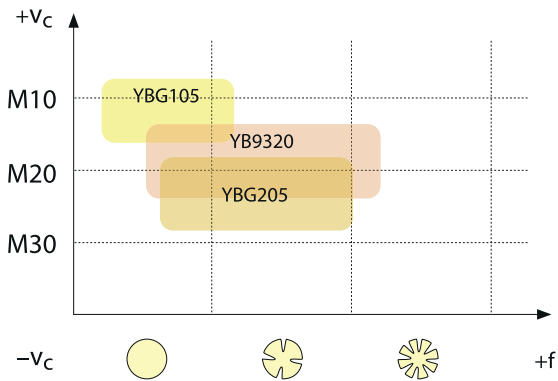
D

Technical Information

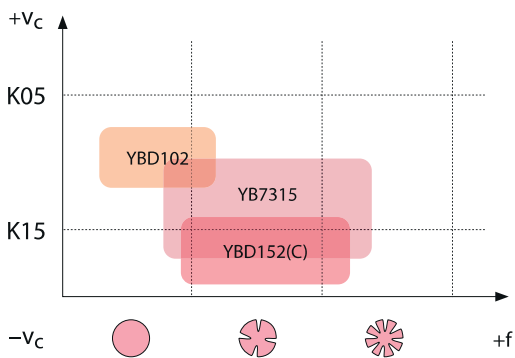
E

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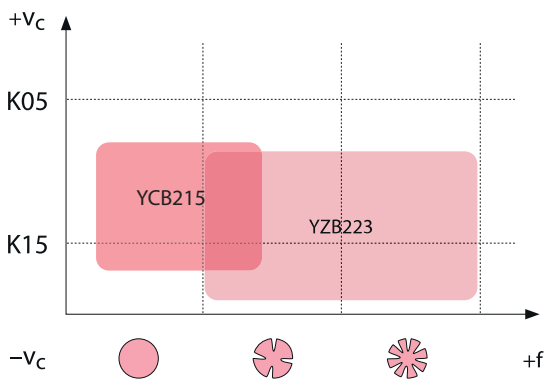
**PVD coated carbide grades for stainless steel**



**CVD coated carbide grades for cast iron**



**CBN grades for cast iron**



**A**

Turning

**B**

Milling

**C**

Drilling

**D**

Technical Information

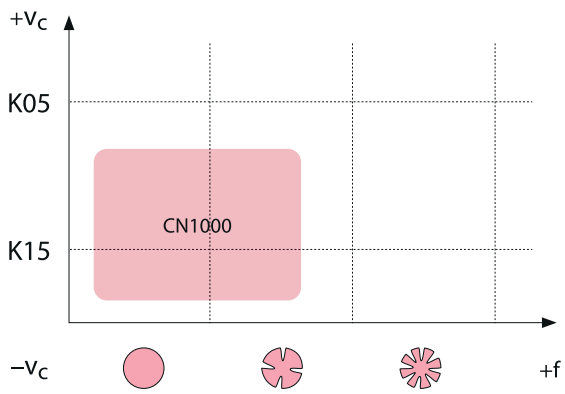
**E**

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**A**

Turning

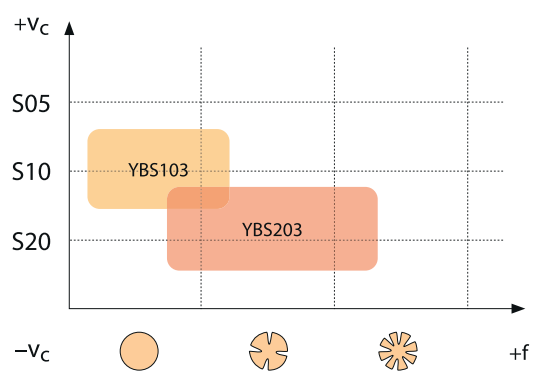
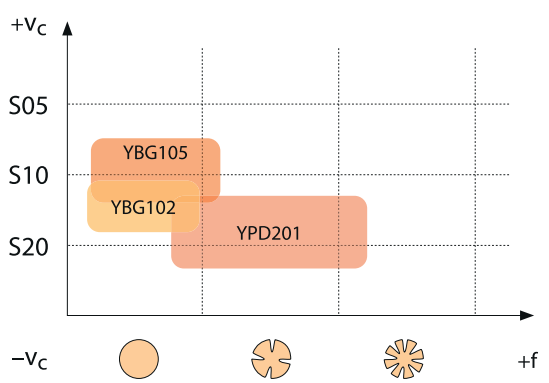
## Ceramic grades for cast iron



**B**

Milling

## PVD coated carbide grades for superalloys



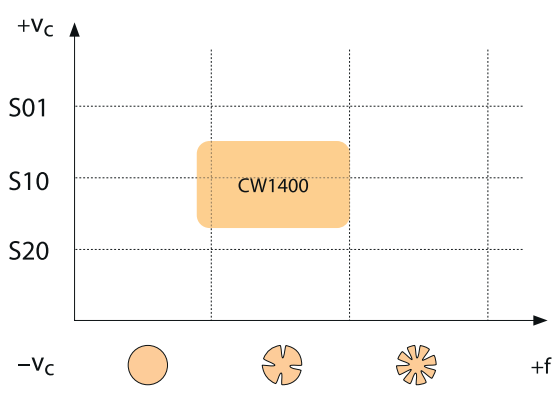
**C**

Drilling

**D**

Technical Information

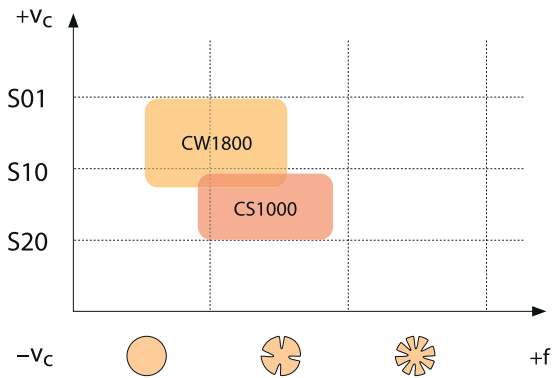
## Ceramic grades for cobalt base alloys/HSS



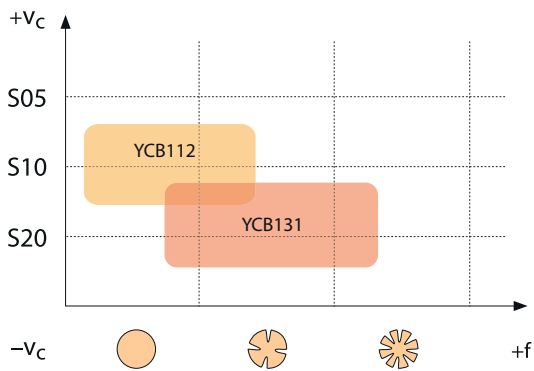
**E**

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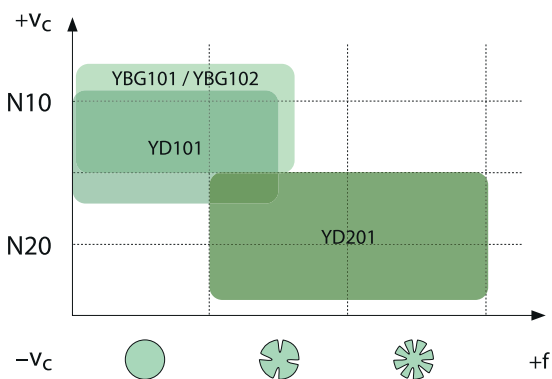
**Ceramic grades for nickel base alloys**



**CBN grades for superalloys**



**Carbide grades for non-ferrous metals**



**A**

Turning

**B**

Milling

**C**

Drilling

**D**

Technical  
Information

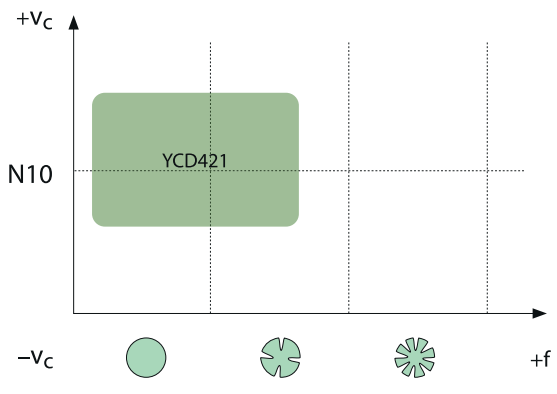
**E**

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**A**

Turning

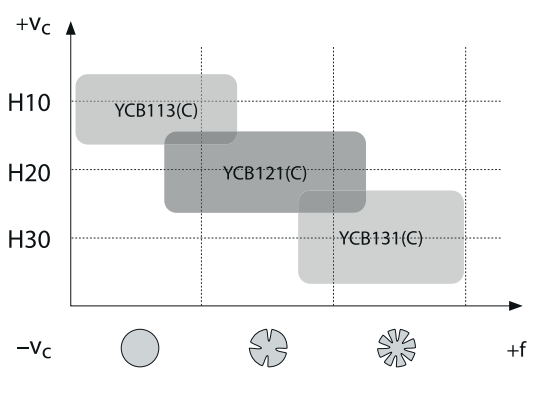
## PCD grades for non-ferrous metals



**B**

Milling

## CBN grades for hardened steel



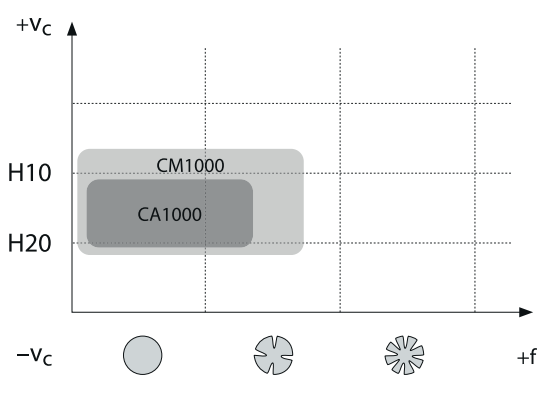
**C**

Drilling

**D**

Technical Information

## Ceramic grades for hardened steel



**E**

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Application fields of grades – general turning

	ISO	HC <sup>1</sup> (CVD)	HC <sup>1</sup> (PVD)	HT	HC <sup>2</sup>	Ceramic	HW	CBN	PCD
<b>P</b>	P01	YBC103							
	P10	YB6315		YNG151	YNG151C				
	P20	YBC152		YNT251					
	P30	YBC203							
	P40	YBC252							
		YBC352							
<b>M</b>	M01		YBG105	YNG151	YNG151C				
	M10	YBM153	YB9320						
	M20	YBM253	YBG205						
	M30								
	M40								
<b>K</b>	K01					CN1000		YCB215	YZB223
	K10	YBD102					YD201		
	K20	YBD152							
	K30	YB7315							
		YBD152C							
<b>N</b>	N01								
	N10		YBG101				YD101		YCD421
	N20		YBG102				YD201		
	N30								
<b>S</b>	S01		YBS103			C51000		YCB112	
	S10		YBG102			CW1400		YCB131	
	S20		YBG105			CW1800			
	S30		YB9320	YPD201					
<b>H</b>	H01								
	H10							YCB113(C)	
	H20							YCB121(C)	
	H30							YCB131(C)	

<b>P</b>	Steel
<b>M</b>	Stainless steel
<b>K</b>	Cast iron

<b>N</b>	Non-ferrous metals
<b>S</b>	Heat-resistant alloys
<b>H</b>	Hardened materials

HC<sup>1</sup> Coated carbide  
 HT Uncoated cermet  
 HC<sup>2</sup> 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							
								
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	16							
19,05	19		19	19	33			
20,0	20							
25,0	25	25	25					
25,4	25							
31,75	31							
32	32							

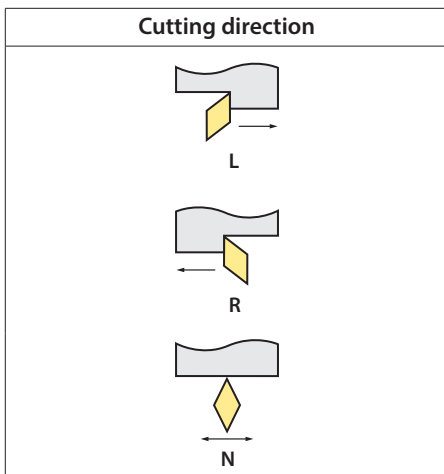
5

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		

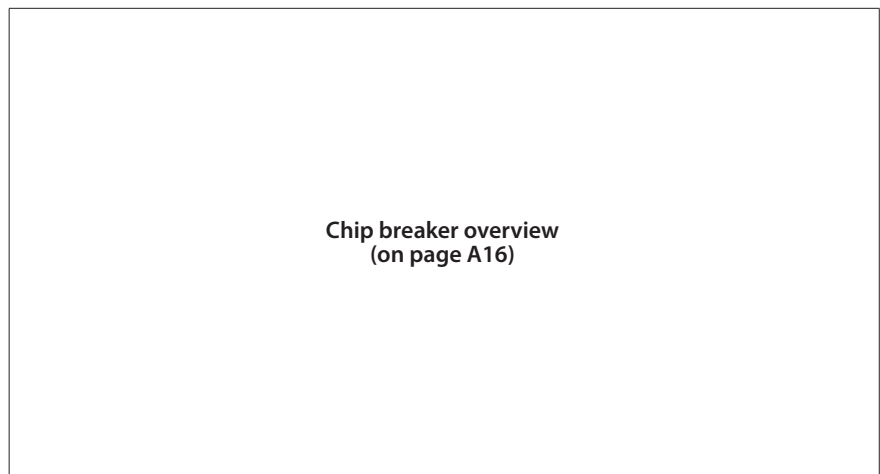
6

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