



Data Sheet

Indexable carbide inserts and tooling

Introduction

Originally developed in the 1950s, tungsten carbide inserts are preformed shapes made from a mixture of cemented carbides. They are manufactured by a 'sintering' rather than a melting process.

Commonly known as 'tooling systems' the basic principle uses replacement carbide inserts fitted into a specific type of toolholder.

Toolholders and the insert clamping system can vary in detail from different manufacturers but all follow standard ISO (International Standards Organisation) identification codes. However, without exception, all standard carbide inserts conform to ISO codes in relation to shapes and profiles etc.

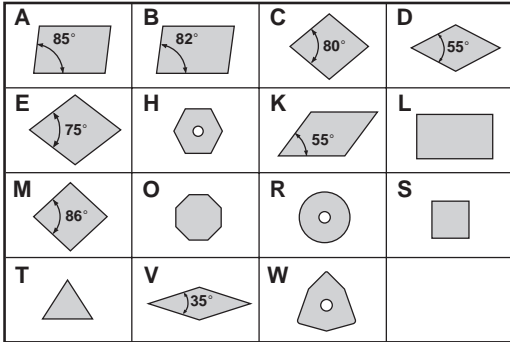


CODE KEY

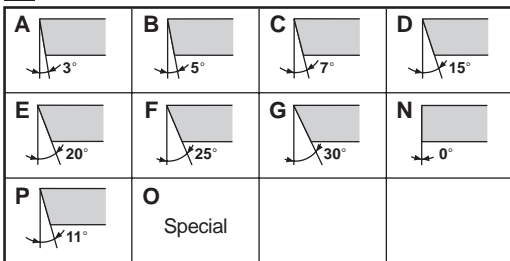
Inserts

According to ISO-standard

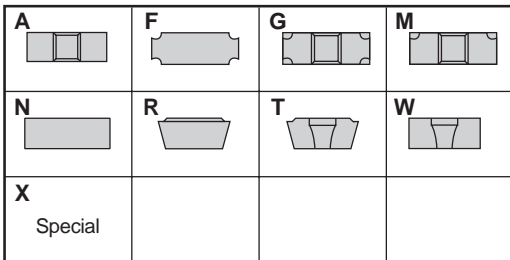
1 Shape



2 Clearance angle



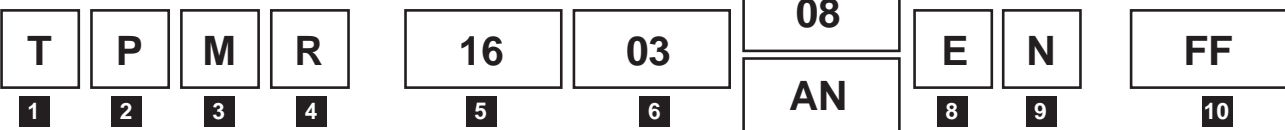
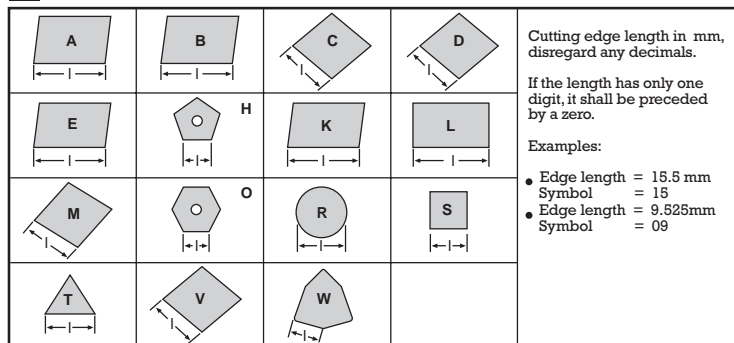
4 Type



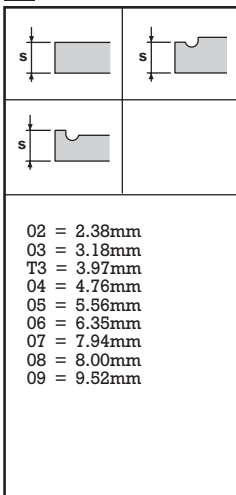
3 Tolerances

Tol. class	±in mm			For d, dimension (mm)					
	m	s	d	6.35	9.525	12.7	15.875	19.05	25.4
A	0.005	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	•	•	•	•	•	•
J	0.005	0.025	0.05	•	•	•	•	•	•
	0.005	0.025	0.08						
	0.005	0.025	0.10						
	0.005	0.025	0.13						
K	0.013	0.025	0.05	•	•	•	•	•	•
	0.013	0.025	0.08						
	0.013	0.025	0.10						
	0.013	0.025	0.13						
M	0.08	0.13	0.05	•	•	•	•	•	•
	0.13	0.13	0.08						
	0.15	0.13	0.10						
	0.18	0.13	0.13						
U	0.13	0.13	0.08	•	•	•	•	•	•
	0.20	0.13	0.13						
	0.27	0.13	0.18						
	0.38	0.13	0.25						

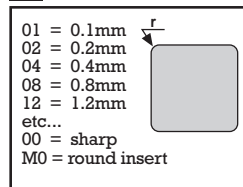
5 Cutting edge length



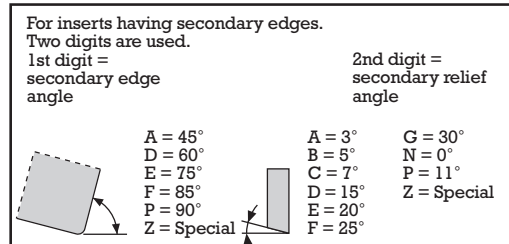
6 Thickness



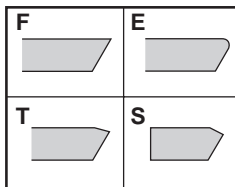
7A Radius



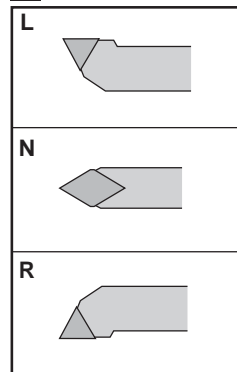
7B Secondary edges



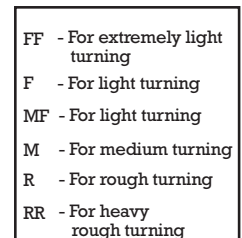
8 Cutting edge condition



9 Hand of tool



10 Internal designation

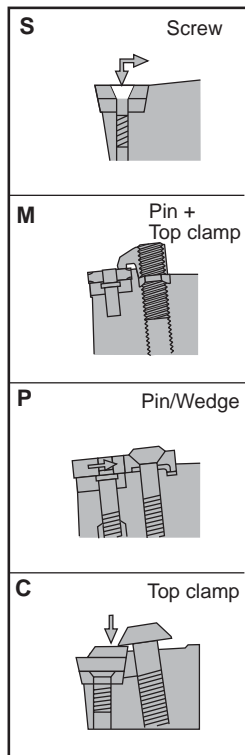


CODE KEY

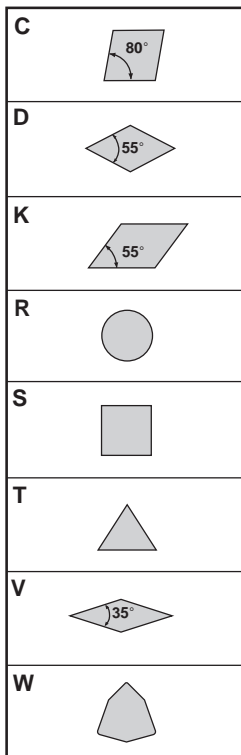
Toolholders

According to ISO-standard

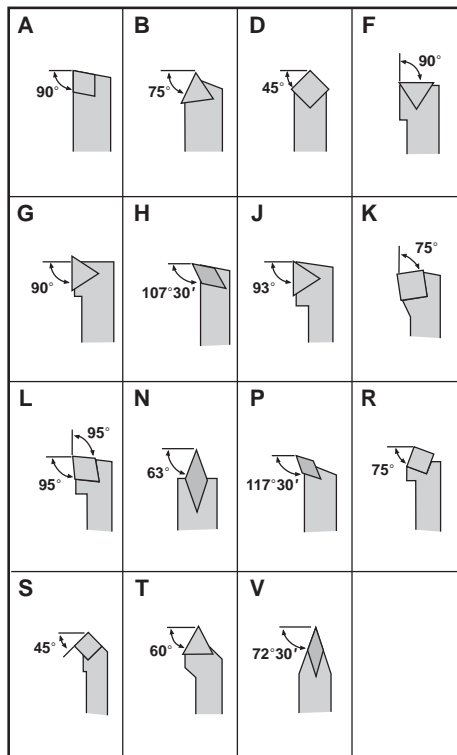
1 Locking system



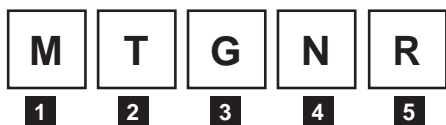
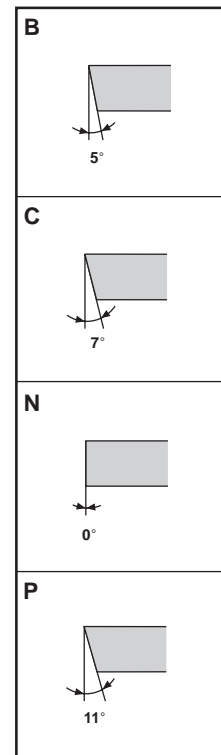
2 Insert shape



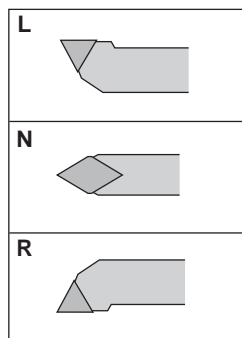
3 Tool style



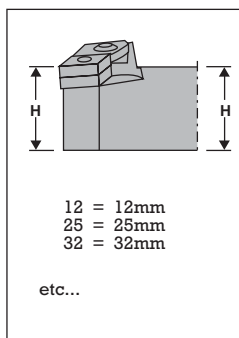
4 Insert clearance



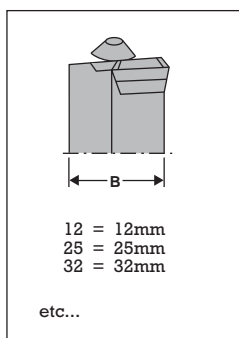
5 Hand of tool



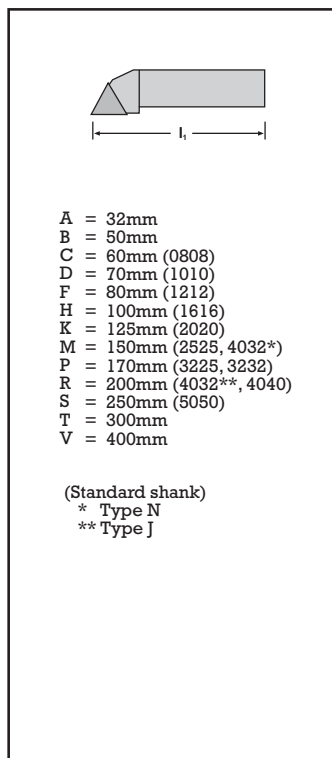
6 Shank height



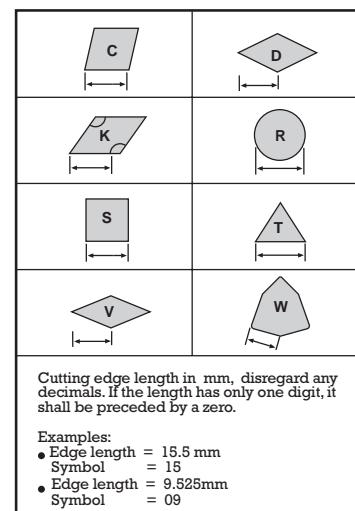
7



8 Tool length



9 Cutting edge length



10 Manufacturer's option



CODE KEY

Boring Bars

According to ISO-standard

1 Shank type

S = solid steel
 E = solid carbide with fixed* steel head, coolant
 *Brazed or similar joint

2 Shank diagram

20 = 20mm
 25 = 25mm
 32 = 32mm
 etc...

3 Tool length

K = 125mm
 L = 140mm
 M = 150mm
 N = 160mm
 P = 170mm
 Q = 180mm
 R = 200mm
 S = 250mm
 T = 300mm
 U = 350mm
 V = 400mm

4 Locking system

S Screw

M Pin + Top clamp

P Pin/Wedge

C Top clamp

5 Insert shape

C

D

R

S

T

V

W

S	32	T	P	C	L	N	R	12	
1	2	3	4	5	6	7	8	9	10

6 Tool style

F 	K 	L
Q 	S 	U
Y 		

7 Insert clearance

B

C

N

P

8 Hand of tool

L

R

9 Cutting edge length

C	D
R	S
T	V
W	

Cutting edge length in mm, disregard any decimals. If the length has only one digit, it shall be preceded by a zero.

Examples:
 • Edge length = 15.5 mm
 Symbol = 15
 • Edge length = 9.525mm
 Symbol = 09

10 Manufacturer's option

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