
International Standard



5608

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Turning and copying tool holders and cartridges for indexable (throwaway) inserts — Designation

Porte-plaquette de tournage et de copiage et cartouches — Désignation

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5608 was developed by Technical Committee ISO/TC 29, *Small tools*, and was circulated to the member bodies in October 1977.

It has been approved by the member bodies of the following countries :

Australia	India	South Africa, Rep. of
Belgium	Israel	Spain
Brazil	Italy	Sweden
Chile	Korea, Dem.P.Rep. of	Switzerland
Czechoslovakia	Korea, Rep. of	United Kingdom
France	Mexico	USA
Germany, F.R.	Netherlands	USSR
Hungary	Romania	Yugoslavia

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Japan
Poland

Turning and copying tool holders and cartridges for indexable (throwaway) inserts — Designation

1 SCOPE AND FIELD OF APPLICATION

This International Standard establishes a code of symbolization intended for the designation of turning and copying tool holders and cartridges with a rectangular shank having a standardized dimension f^1 , intended for indexable (throwaway) inserts. Thus orders and specifications for such tools are simplified.

The designation of tool holders with cylindrical shank and of boring bars will be specified in a forthcoming International Standard.

2 REFERENCES

ISO 1832, *Indexable (throwaway) inserts — Designation.*

ISO 5610, *Single point tool holders for turning and copying, for indexable (throwaway) inserts — Dimensions.*²⁾

ISO 5611, *Cartridges type A, for indexable (throwaway) inserts — Dimensions.*²⁾

3 EXPLANATION OF THE CODE

The code includes ten symbols, for the designation of dimensions and other characteristics of the tool and the insert, of which the first nine symbols must be used in any designation. The last symbol may be used when necessary.

In addition to the standardized designation (symbols ① to ⑩), a supplementary symbol consisting of a maximum of three letters or numbers may be added by the manufacturer for a better description of his products, on condition that this symbol is separated from the standardized designation by a dash and that it does not contain letters specified for reference ⑩.

No addition to or extension of the code given in this International Standard shall be made without consultation with Technical Committee ISO/TC 29 and its agreement. Rather than adding symbols not provided for in this system, it is preferable to add to the designation conforming to this International Standard all necessary explanations in detailed sketches or specifications.

1) Definition and values of dimension f are specified in ISO 5610 and ISO 5611.

2) At present at the stage of draft.

The significance of the nine compulsory symbols and one optional symbol constituting the code is as follows :

- ① Letter symbol identifying the method of holding the insert (see 4.1)
- ② Letter symbol identifying insert shape (see 4.2)¹⁾
- ③ Letter symbol identifying tool style (see 4.3)
- ④ Letter symbol identifying insert normal clearance (see 4.4)¹⁾
- ⑤ Letter symbol identifying hand of tool (see 4.5)
- ⑥ Number symbol identifying tool height (shank height of tool holders and height of cutting edge) (see 4.6)
- ⑦ Number symbol identifying tool holder shank width or, for cartridges, letter C followed by a letter symbol identifying the cartridge type (see 4.7)
- ⑧ Letter symbol identifying tool length (see 4.8)
- ⑨ Number symbol identifying indexable insert size (see 4.9)¹⁾
- ⑩ Letter symbol indicating special tolerances (see clause 5)

Compulsory symbols

Optional symbol

Example :

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
 C T G N R 32 25 M 16 Q

4 COMPULSORY SYMBOLS

4.1 Symbol for the method of holding the horizontally mounted insert – Reference ①

Letter symbol	Method of holding
C	Top clamping (insert without hole)
M	Top and hole clamping (insert with hole)
P	Hole clamping (insert with hole)
S	Screw clamping through hole (insert with hole)

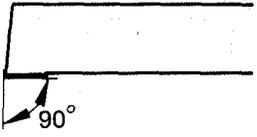
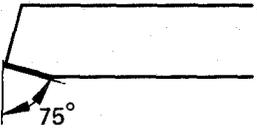
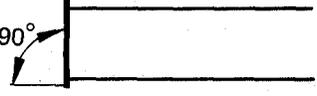
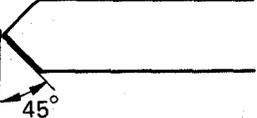
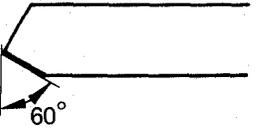
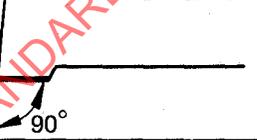
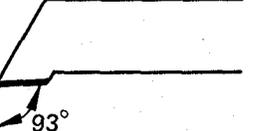
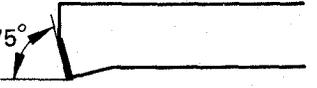
1) According to ISO 1832.

4.2 Symbol for insert shape – Reference ②

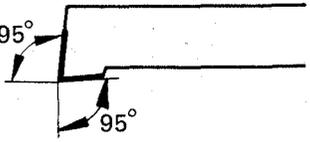
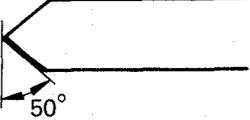
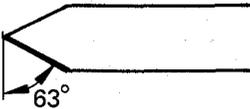
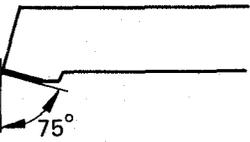
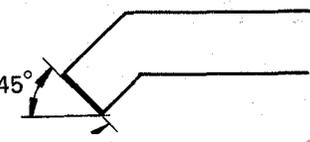
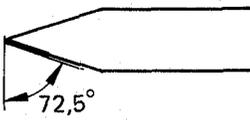
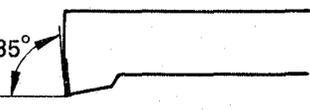
Letter symbol	Insert shape	Insert type
H O P S T	Hexagonal Octogonal Pentagonal Square Triangular	Equilateral and equiangular
C D E M V W	Rhombic with 80° included angle Rhombic with 55° included angle Rhombic with 75° included angle Rhombic with 86° included angle Rhombic with 35° included angle Hexagonal with 80° included angle	Equilateral and non-equiangular
L	Rectangular	Non-equilateral and equiangular
A B K	Parallelogram-shaped with 85° included angle Parallelogram-shaped with 82° included angle Parallelogram-shaped with 55° included angle	Non-equilateral and non-equiangular
R	Round	Round

NOTE – The included angle is always the smaller angle.

4.3 Symbol for tool style – Reference ③

Letter symbol	Tool style	
A		90° cutting edge angle, straight shank, for side cutting
B		75° cutting edge angle, straight shank, for side cutting
C		90° cutting edge angle, straight shank, for end cutting
D		45° cutting edge angle, straight shank, for side cutting
E		60° cutting edge angle, straight shank, for side cutting
F		90° cutting edge angle, offset shank, for end cutting
G		90° cutting edge angle, offset shank, for side cutting
J		93° cutting edge angle, offset shank, for side cutting
K		75° cutting edge angle, offset shank, for end cutting

NOTE – Tools of style D may be equipped also with round inserts (shape R)

Letter symbol	Tool style	
L		95° cutting edge angles on both cutting edges, offset shank, for side and end cutting
M		50° cutting edge angle, straight shank, for side cutting
N		63° cutting edge angle, straight shank, for side cutting
R		75° cutting edge angle, offset shank, for side cutting
S		45° cutting edge angle, offset shank, for side and end cutting
T		60° cutting edge angle, offset shank, for side cutting
U		93° cutting edge angle, offset shank, for end cutting
V		72,5° cutting edge angle, straight shank, for side cutting
W		60° cutting edge angle, offset shank, for end cutting
Y		85° cutting edge angle, offset shank, for end cutting

NOTE — Tools of style S may be equipped also with round inserts (shape R).

4.4 Symbol for the insert normal clearance – Reference ④

Letter symbol	Insert normal clearance
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°

For non-equilateral inserts, the symbol applies to the normal clearance of the longer side.

4.5 Symbol for hand of tool – Reference ⑤

Letter symbol	Hand of tool
R	Right hand
L	Left hand
N	Either hand

4.6 Symbol for tool height – Reference ⑥

4.6.1 Tool holders with rectangular shank cross-section and height of cutting edge h_1 equal to shank height h (figure 1) : shank height h in millimetres.¹⁾

Example : For $h = 32$, the symbol is 32.

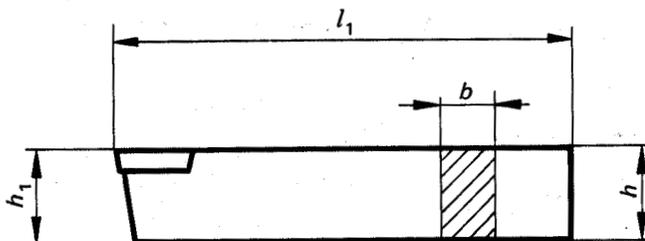


FIGURE 1

1) One-digit values are to be preceded by 0 (zero); for example, for the dimension 8 mm, the symbol is 08.

4.6.2 Cartridges with height of cutting edge h_1 not equal to shank height h (figure 2) :

height of cutting edge h_1 in millimetres.¹⁾

Example : For $h_1 = 12$, the symbol is 12.

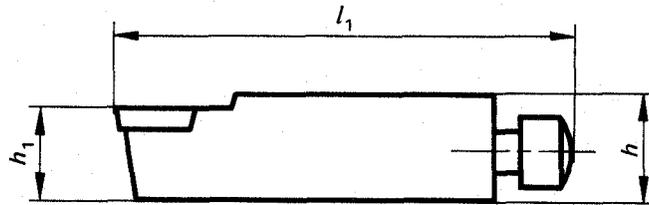


FIGURE 2

4.7 Symbol for tool width -- Reference ⑦

4.7.1 Tool holders with rectangular shank cross-section (figure 1) :

shank width b in millimetres.¹⁾

Example : For $b = 25$ mm, the symbol is 25.

4.7.2 Cartridges (figure 2) :

No indication of shank width; instead, a letter symbol with two letters is indicated : the first letter is always **C** (cartridge), and the second letter identifies the cartridge type and is stated in the dimensional standards, for example type **A** according to ISO 5611.

1) One-digit values are to be preceded by 0 (zero); for example, for the dimension 8 mm, the symbol is 08.