INTERNATIONAL STANDARD

ISO 5610-2

Second edition
2014-09-01

Tool holders with rectangular shank for indexable inserts —

Part 2: **Style A**

Porte-plaquette à queue rectangulaire pour plaquettes amovibles —

Partie 2: Forme A

Reference number
ISO 5610-2:2014(E)

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Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 29, *Small tools*, Subcommittee SC 9, *Tools with defined cutting edges, cutting items*.

This second edition cancels and replaces the first edition (ISO 5610-2:2010), of which it constitutes a minor revision.

ISO 5610 consists of the following parts, under the general title *Tool holders with rectangular shank for indexable inserts*:

— *Part 1: General survey, correlation and determination of dimensions*

— *Part 2: Style A*

— *Part 3: Style B*

— *Part 4: Style D*

— *Part 5: Style F*

— *Part 6: Style G*

— *Part 7: Style J*

— *Part 8: Style K*

— *Part 9: Style L*

— *Part 10: Style N*

— *Part 11: Style R*

— *Part 12: Style S*

— *Part 13: Style T*

— *Part 14: Style H*

— *Part 15: Style V*

Tool holders with rectangular shank for indexable inserts —

Part 2: Style A

1 Scope

This part of ISO 5610 specifies tool holders with rectangular shank, style A, i.e. with straight shank and cutting edge angle $\kappa_r = 90°$ for side cutting.

These tool holders are primarily intended for indexable inserts made of hard metal or other cutting materials intended to be mounted by clamping and used for turning operations.

NOTE The symbols for the dimensions shown in the tables of this part of ISO 5610 and the corresponding preferred symbols of properties defined in ISO/TS 13399-2 and ISO/TS 13399-3 are given in ISO 5610-1:2014, Table A.1.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5608:2012, *Turning and copying tool holders and cartridges for indexable inserts — Designation*

ISO 5610-1:2014, *Tool holders with rectangular shank for indexable inserts — Part 1: General survey, correlation and determination of dimensions*

3 Dimensions

3.1 General

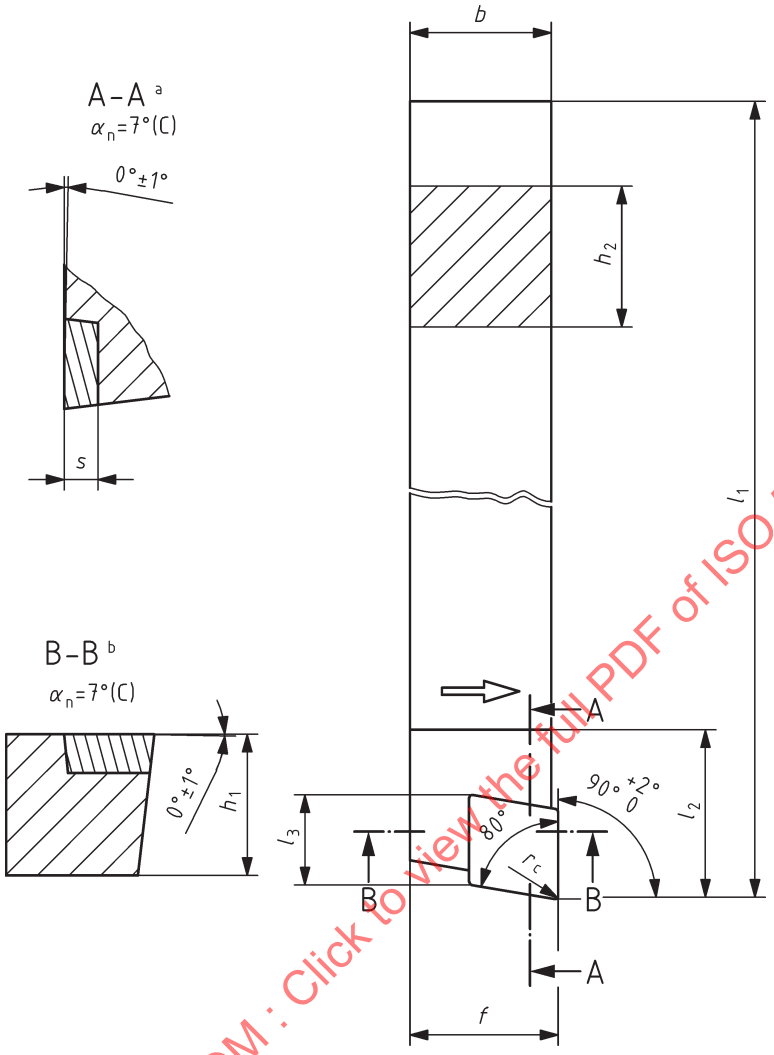
It is not necessary for tool holders to comply with the pictorial representation; only the dimensions given shall be observed.

For determination of dimensions h_1, f, and l_1, see ISO 5610-1.

For explanation of the designation code for tool holders, see ISO 5608.

NOTE The values of rake angles and inclination angles shown in the figures are recommended values; they can vary according to the application.

3.2 Tool holder style A for rhombic indexable insert shape C



Key

a Inclination angle, λ_S.

b Rake angle, γ_O.

NOTE This figure shows a right-hand tool holder (R); left-hand tool holder (L) laterally reversed.

Figure 1 — Tool holder style A for rhombic indexable insert — C

Table 1

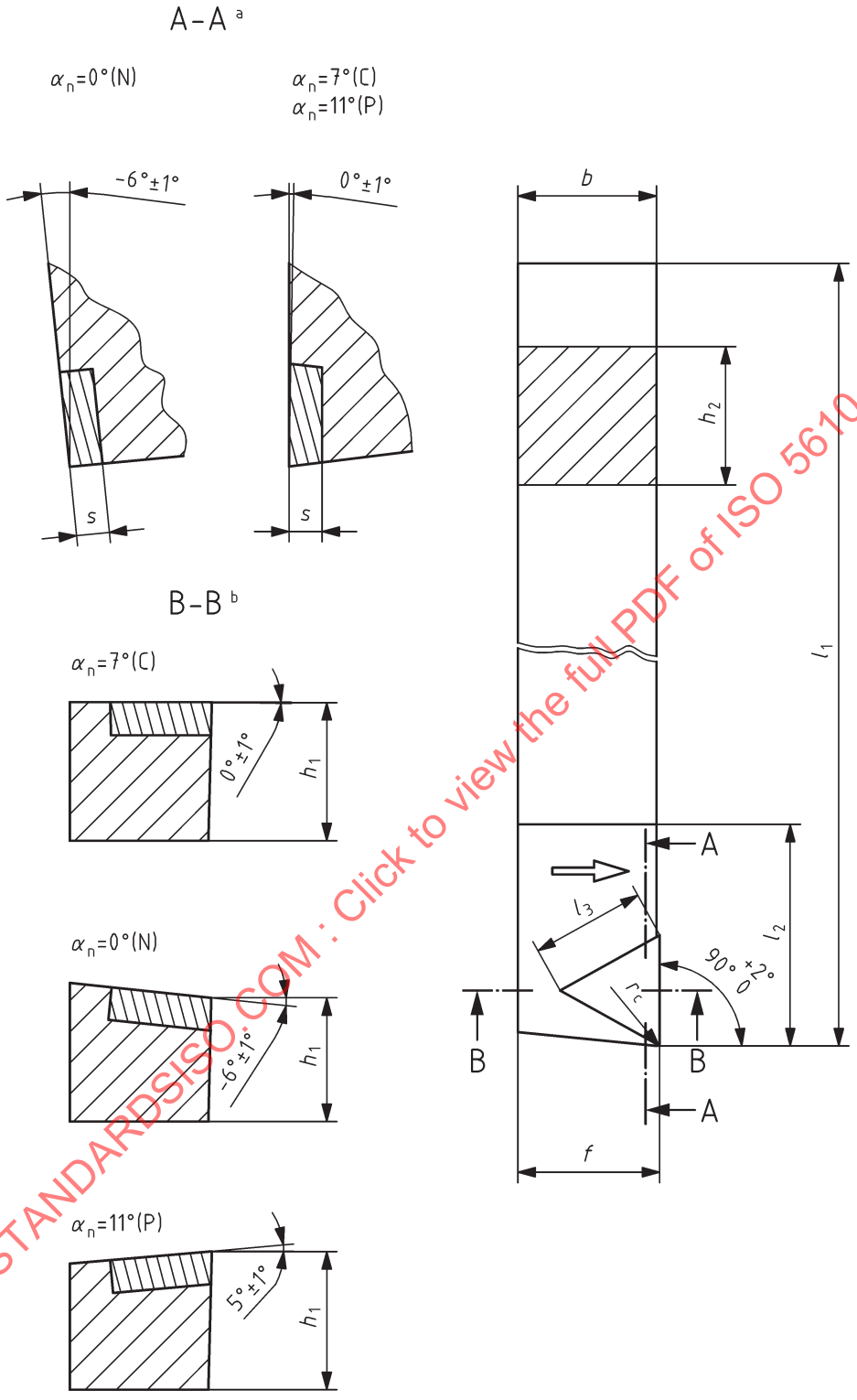
Dimensions in millimetres

Symbol[a]	h_1 js13	b h13	l_3 ≈	f $^{+0,5}_{0}$	h_2 h13	l_1[a] k16	l_2 max.	s[b]
SCACR 0808 — 06	8	8	6,4	8,5	8	—	12	2,38
SCACL 0808 — 06								
SCACR 1010 — 06	10	10	6,4	10,5	10	—	12	2,38
SCACL 1010 — 06								

[a] For the selection of length, l_1, the dash can be replaced by the dimensions of ISO 5610-1:2014, Table 2. For the letter symbols identifying the tool length, see ISO 5608:2012, Table 6.

[b] Insert thickness without shim, if applicable.

3.3 Tool holder style A for triangular indexable insert shape T



Key

a Inclination angle, λ_s.

b Rake angle, γ_o.

NOTE This figure shows a right-hand tool holder (R); left-hand tool holder (L) laterally reversed.

Figure 2 — Tool holder style A for triangular indexable insert — T

Table 2

Dimensions in millimetres

Symbol[a]	h_1 js13	b h13	l_3 ≈	f $^{+0,5}_{0}$	h_2 h13	l_1[a] k16	l_2 max.	s[b]
STACR 1212 — 11	12	12	11	12,5	12	—	25	2,38
STACL 1212 — 11								
PTANR 1212 — 11								3,18
PTANL 1212 — 11								
CTAPR 1212 — 11								
CTAPL 1212 — 11								
STACR 1616 — 11	16	16	11	16,5	16	—	25	2,38
STACL 1616 — 11								
PTANR 1616 — 11								3,18
PTANL 1616 — 11								
CTAPR 1616 — 11								
CTAPL 1616 — 11								
STACR 2020 — 16	20	20	16,5	20,5	20	—	32	3,97
STACL 2020 — 16								
PTANR 2020 — 16								4,76
PTANL 2020 — 16								
CTAPR 2020 — 16								3,18
CTAPL 2020 — 16								
STACR 2525 — 16	25	25	16,5	25,5	25	—	32	3,97
STACL 2525 — 16								
PTANR 2525 — 16								4,76
PTANL 2525 — 16								
CTAPR 2525 — 16								3,18
CTAPL 2525 — 16								
STACR 3225 — 16	32	25	16,5	25,5	32	—	32	3,97
STACL 3225 — 16								
PTANR 3225 — 16								4,76
PTANL 3225 — 16								
CTAPR 3225 — 16								3,18
CTAPL 3225 — 16								

[a] For the selection of length, l_1, the dash can be replaced by the dimensions of ISO 5610-1:2014, Table 2. For the letter symbols identifying the tool length, see ISO 5608:2012, Table 6.

[b] Insert thickness without shim, if applicable.

Table 2

Symbol[a]	h_1 js13	b h13	l_3 ≈	f $^{+0,5}_{0}$	h_2 h13	l_1[a] k16	l_2 max.	s[b]
STACR 3232 — 22	32	32	22	33	32	—	36	4,76
STACL 3232 — 22								
PTANR 3232 — 22								
PTANL 3232 — 22								
CTAPR 3232 — 22								
CTAPL 3232 — 22								
STACR 4040 — 22	40	40	22	41	40	—	36	4,76
STACL 4040 — 22								
PTANR 4040 — 22								
PTANL 4040 — 22								
CTAPR 4040 — 22								
CTAPL 4040 — 22								

[a] For the selection of length, l_1, the dash can be replaced by the dimensions of ISO 5610-1:2014, Table 2. For the letter symbols identifying the tool length, see ISO 5608:2012, Table 6.

[b] Insert thickness without shim, if applicable.

4 Designation

A tool holder in accordance with this part of ISO 5610 shall be designated by the following:

a) "Tool holder";

b) a reference to this part of ISO 5610 (i.e. ISO 5610-2);

c) type of mounting, in accordance with ISO 5608;

d) symbol for indexable insert shape, in accordance with ISO 5608;

e) symbol for tool style, in accordance with ISO 5608;

f) symbol for the indexable insert normal clearance, in accordance with ISO 5608;

g) symbol for hand of tool, in accordance with ISO 5608;

h) its height, h_1, width, b, and length, l_1 (symbol for tool length in accordance with ISO 5608);

i) its cutting edge length l_3.

EXAMPLE 1 Tool holder for a screw-clamped (S) rhombic indexable insert shape C (C), tool holder style A (A), for normal clearance of indexable insert $\alpha_n = 7°$ (C), right-hand type (R), with height $h_1 = 10$ mm, and width $b = 10$ mm (1010), length $l_1 = 70$ mm (E), for cutting edge length $l_3 = 6{,}4$ mm (06) is designated as follows:

Tool holder ISO 5610-2 – SCACR 1010 E06

EXAMPLE 2 Tool holder for a horizontally mounted, bore-clamped (P) triangular indexable insert shape T (T), tool holder style A (A), normal clearance of indexable insert $\alpha_n = 0°$ (N), right-hand type (R), with height $h_1 = 32$ mm, and width $b = 25$ mm (3225), length $l_1 = 170$ mm (P), for cutting edge length $l_3 = 16{,}5$ mm (16) is designated as follows:

Tool holder ISO 5610-2 – PTANR 3225 P16

