INTERNATIONAL STANDARD

ISO

5610-2

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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 5610-2:2010(E)

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 5610-2 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 9, *Tools with cutting edges made of hard cutting materials*.

This first edition of ISO 5610-2, together with ISO 5610-1, ISO 5610-3, ISO 5610-4, ISO 5610-5, ISO 5610-6, ISO 5610-7, ISO 5610-8, ISO 5610-9, ISO 5610-10, ISO 5610-11, ISO 5610-12, ISO 5610-13, ISO 5610-14 and ISO 5610-15, cancels and replaces ISO 5610:1998.

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 hardmetal 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 5610-1:2010, Table A.1.

2 Normative references

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

ISO 5608:1995, *Turning and copying tool holders and cartridges for indexable inserts — Designation*

ISO 5610-1:2010, *Tool holders with rectangular shank for indexable inserts — Part 1: General survey, correlation and determination of dimensions*

3 Dimensions

3.1 General

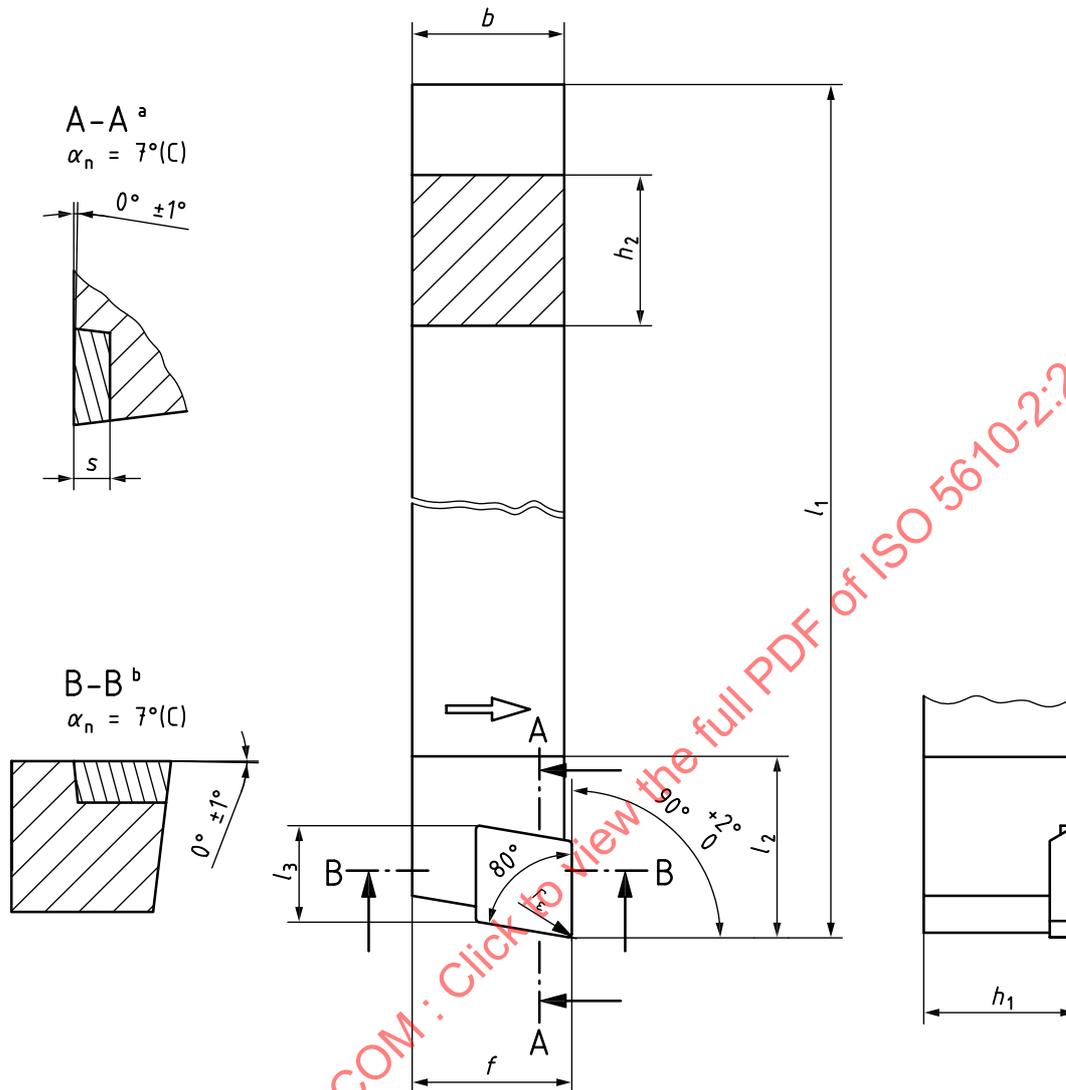It is not necessary for tool holders to comply with the pictorial representation; only the dimensions given shall be observed.

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

$A-A$ [a]
$\alpha_n = 7°(C)$

$0° \pm 1°$

s

$B-B$ [b]
$\alpha_n = 7°(C)$

$0° \pm 1°$

b

h_2

l_1

$90°\ {}^{+2°}_{0}$

l_2

l_3

$80°$

r_ε

f

h_1

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

[a]   Inclination angle λ_n.

[b]   Rake angle γ_n.

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 $\approx$	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 en-dash may be replaced by the dimensions of ISO 5610-1:2010, Table 2. For the letter symbols identifying the tool length, see ISO 5608:1995, Table 6.

[b]   Insert thickness without shim, if any.

3.3 Tool holder style A for triangular indexable insert shape T

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

a   Inclination angle λ_n.

b   Rake angle γ_n.

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								
STACR 3232 — 22	32	32	22	33	32	—	35	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   See Table 1.

b   See Table 1.

4   Designation

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

a)   "Tool holder";

b)   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

5   Material

The material should be steel with a tensile strength of at least 1 200 N/mm^2.

6   Design

6.1   Type of mounting

Standard design of tool holders with indexable insert shall be mounted in accordance with Tables 1 and 2.

Other types of mounting may be left to the manufacturer's discretion or upon agreement. The letter symbol in the designation, symbol 1, shall then be replaced by the respective symbol for the chosen or agreed-upon type of mounting, in accordance with ISO 5608.

For the modified type of mounting deviating from Tables 1 and 2, the relevant indexable insert thickness shall also be considered.

6.2   Corner radius, r_ε

Tool holders in accordance with this part of ISO 5610 may be equipped with indexable inserts with cutting edge lengths, l_3, as specified in Tables 1 and 2 and any corner radius, r_ε.