INTERNATIONAL STANDARD

ISO 5610-9

First edition
2010-08-01

Tool holders with rectangular shank for indexable inserts —

Part 9: **Style L**

Porte-plaquette à queue rectangulaire pour plaquettes amovibles —

Partie 9: Forme L

Reference number
ISO 5610-9:2010(E)

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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.

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 5610-9 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 5610-9, together with ISO 5610-1, ISO 5610-2, ISO 5610-3, ISO 5610-4, ISO 5610-5, ISO 5610-6, ISO 5610-7, ISO 5610-8, 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 9:
Style L

1 Scope

This part of ISO 5610 specifies tool holders with rectangular shank, style L, i.e. with offset shank and cutting edge angle $\kappa_r = 95°$ for end cutting.

These tool holders are primarily intended for indexable inserts made of hardmetal or other cutting materials to be mounted by clamping and to be 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

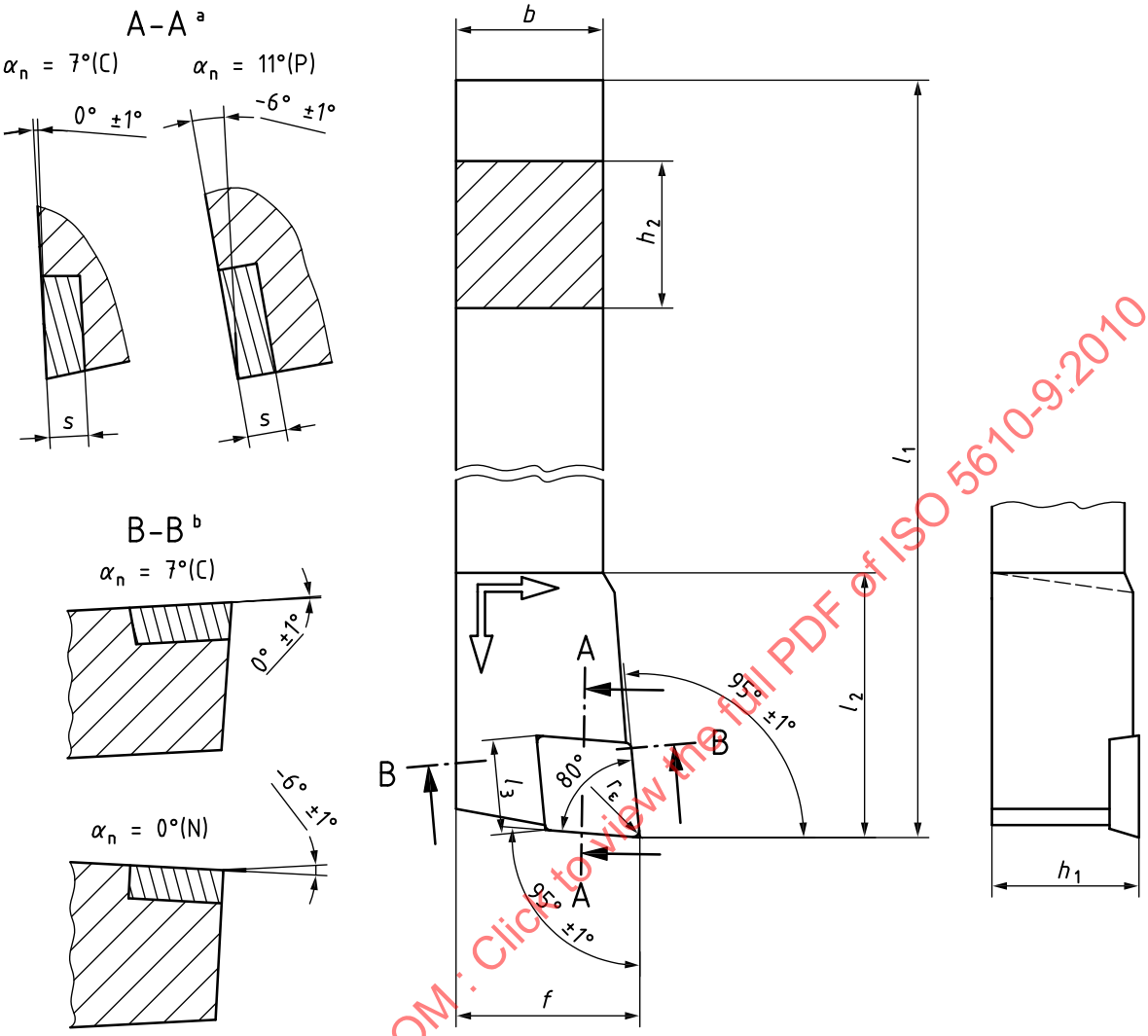
It is not necessary for tool holders to comply with the pictorial representation; only the dimensions given shall be observed.

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 L for rhombic indexable insert shape C



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 L 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]
SCLCR 0808 — 06	8	8	6,4	10	8	—	12	2,38
SCLCL 0808 — 06								
SCLCR 1010 — 06	10	10	6,4	12	10	—	12	2,38
SCLCL 1010 — 06								
SCLCR 1212 — 09	12	12	9,7	16	12	—	32	3,97
SCLCL 1212 — 09								
SCLCR 1616 — 09	16	16	9,7	20	16	—	32	3,97
SCLCL 1616 — 09								
SCLCR 1616 — 12	16	16	12,9	20	16	—	36	4,76
SCLCL 1616 — 12								
PCLNR 1616 — 12								
PCLNL 1616 — 12								
SCLCR 2020 — 12	20	20	12,9	25	20	—	36	4,76
SCLCL 2020 — 12								
PCLNR 2020 — 12								
PCLNL 2020 — 12								
CCLNR 2525 — 12	25	25	12,9	32	25	—	36	7,95
CCLNL 2525 — 12								
SCLCR 2525 — 12								4,76
SCLCL 2525 — 12								
PCLNR 2525 — 12								
PCLNL 2525 — 12								
CCLNR 2525 — 16	25	25	16,1	32	25	—	40	7,95
CCLNL 2525 — 16								
PCLNR 2525 — 16								6,35
PCLNL 2525 — 16								
CCLNR 3225 — 12	32	25	12,9	32	32	—	36	7,95
CCLNL 3225 — 12								
SCLCR 3225 — 12								4,76
SCLCL 3225 — 12								
PCLNR 3225 — 12								
PCLNL 3225 — 12								

Table 1 (*continued*)

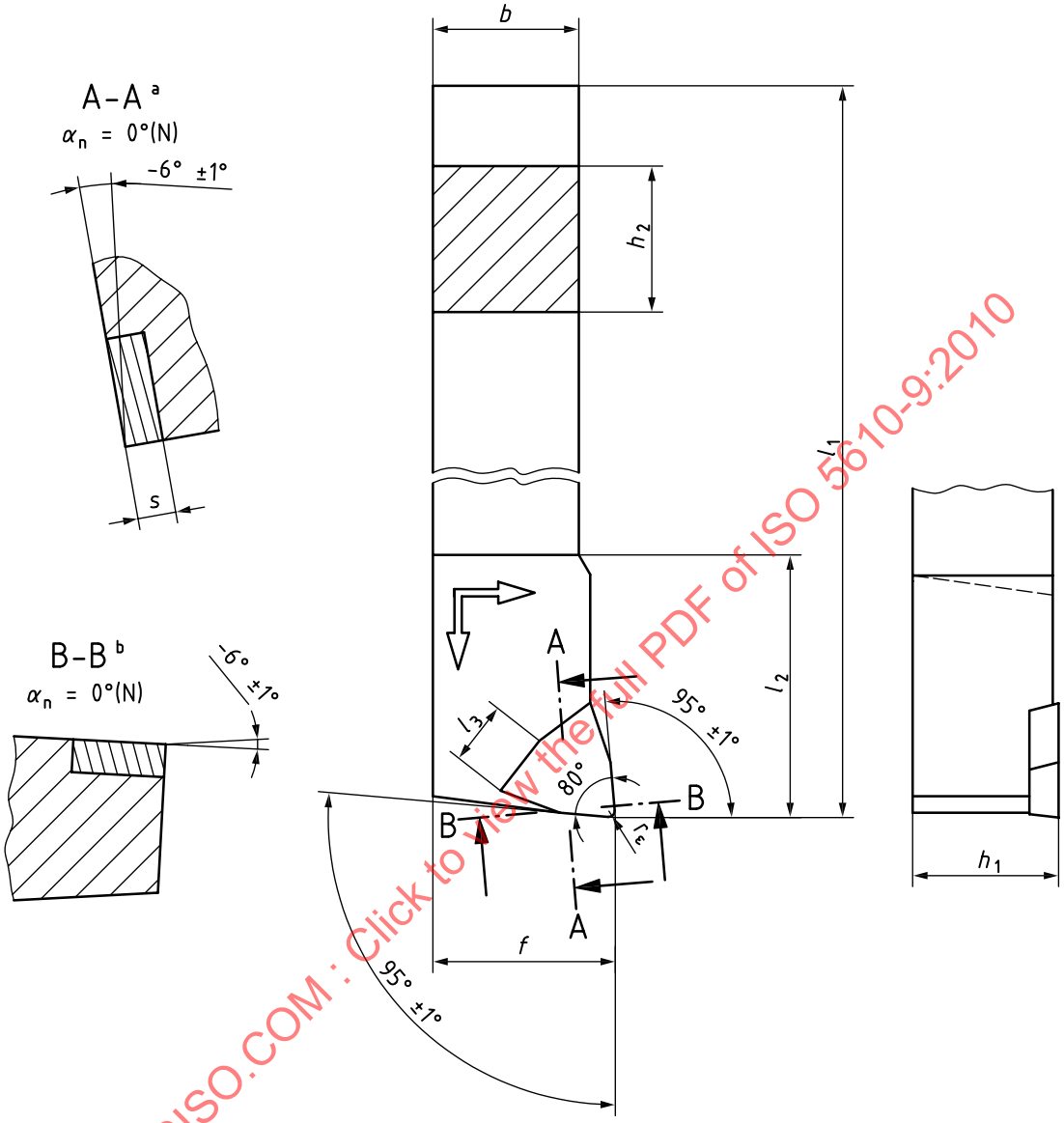
Dimensions in millimetres

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]
CCLNR 3225 — 16	32	25	16,1	32	32	—	40	7,95
CCLNL 3225 — 16								
PCLNR 3225 — 16								6,35
PCLNL 3225 — 16								
PCLNR 3225 — 19	32	32	19,3	40	32	—	45	6,35
PCLNL 3225 — 19								
PCLNR 4040 — 19	40	32	19,3	50	40	—	45	6,35
PCLNL 4040 — 19								

[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 letter symbols identifying the tool length, see ISO 5608:1995, Table 6.

[b] Insert thickness without shim, if any.

3.3 Tool holder style L for hexagonal indexable insert shape W



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 L for hexagonal indexable insert — W

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]
SWLCR 0808 — 04	8	8	4,35	10	8	—	25	2,38
SWLNL 0808 — 04								
SWLCR 1010 — 04	10	10	4,35	12	10	—	25	2,38
SWLCL 1010 — 04								
SWLCR 1212 — 04	12	12	4,35	16	12	—	25	2,38
SWLCL 1212 — 04								
SWLCR 1212 — 06	12	12	6,5	16	12	—	25	4,76
SWLCL 1212 — 06								
PWLNR 1616 — 06	16	16	6,5	20	16	—	36	4,76
PWLNL 1616 — 06								
SWLNR 1616 — 06								3,97
SWLNL 1616 — 06								
PWLNR 2020 — 06	20	20	6,5	25	20	—	36	4,76
PWLCL 2020 — 06								
SWLNR 2020 — 06								
SWLCL 2020 — 06								3,97
PWLNR 2020 — 08			8,7				45	
PWLNL 2020 — 08								
PWLNR 2525 — 06	25	25	6,5	32	25	—	36	4,76
PWLNL 2525 — 06								
SWLCR 2525 — 06								3,97
SWLCL 2525 — 06								
PWLNR 2525 — 08			8,7				45	4,76
PWLNL 2525 — 08								
PWLNR 3225 — 06	32	25	6,5	32	32	—	36	4,76
PWLNL 3225 — 06								
PWLNR 3225 — 08			8,7				45	
PWLNL 3225 — 08								
PWLNR 3232 — 08	32	32	8,7	40	32	—	45	4,76
PWLNL 3232 — 08								

[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 5610-9;

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 horizontally mounted bore-clamped (P) rhombic indexable insert shape C (C), tool holder style L (L), for 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 $l_3 = 12{,}9$ mm (12) is designated as follows:

Tool holder ISO 5610-9 - PCLNR 3225 P12

EXAMPLE 2 Tool holder for a horizontally mounted bore-clamped (P) trigon indexable insert shape W (W), tool holder style L (L), for normal clearance of indexable insert $\alpha_n = 0°$ (N), right-hand type (R), with height $h_1 = 20$ mm and width $b = 20$ mm (2020), length $l_1 = 125$ mm (K), for cutting edge length $l_3 = 8{,}7$ mm (08) is designated as follows:

Tool holder ISO 5610-9 - PWLNR 2020 K08

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.