



BSI Standards Publication

Technical product documentation — Symbols used in technical product documentation — Proportions and dimensions

National foreword

This British Standard is the UK implementation of EN ISO 7083:2021. It is identical to ISO 7083:2021. It supersedes BS EN ISO 7083:1995, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee TPR/1, Technical Product Realization.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Amendments/corrigenda issued since publication

Date	Text affected
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English Version

Technical product documentation - Symbols used in
technical product documentation - Proportions and
dimensions (ISO 7083:2021)

Documentation technique de produits - Symboles
utilisés dans la documentation technique de produits -
Proportions et dimensions (ISO 7083:2021)

Technische Produktdokumentation - Symbole für die
Technische Produktdokumentation -
Größenverhältnisse und Maße (ISO 7083:2021)

This European Standard was approved by CEN on 24 April 2021.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN ISO 7083:2021) has been prepared by Technical Committee ISO/TC 10 "Technical product documentation" in collaboration with CCMC.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2021, and conflicting national standards shall be withdrawn at the latest by November 2021.

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

This document supersedes EN ISO 7083:1994.

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Endorsement notice

The text of ISO 7083:2021 has been approved by CEN as EN ISO 7083:2021 without any modification.

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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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 10, *Technical product documentation*, Subcommittee SC 1, *Basic conventions*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/SS F01, *Technical drawings*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 7083:1983), which has been technically revised.

The main changes to the previous edition are as follows:

- added symbols for standards under ISO/TC 10 and ISO/TC 213.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document is a collection of all the current symbols used in technical product documentation, predominantly created in ISO/TC 10 and ISO/TC 213. The symbols are indexed to the individual standards in which they were created and implemented. The ISO/TC 10/SC 1 validation process ensures the harmonization of symbols.

When developing new symbols for use in technical drawings, new symbols are submitted to ISO/TC 10 for review. ISO/TC 10 will confirm that a duplicate symbol with a different meaning does not exist and will add the new symbol to this document once the originating standard has been approved and published.

The following is a description of the process used for incorporating a new symbol:

- a) The originator fills in the new symbol application form.
- b) The originator attaches the symbol graphics file per the accepted graphics formats in the form.
- c) The originator sends the application and graphics file to ISO/TC 10/SC 1.
- d) ISO/TC 10/SC 1 forwards the documents to the validation team (appointed group of experts).
- e) The validation team reviews the application and symbol according to the following areas:
 - justification for new symbol;
 - design;
 - conformity with ISO 81714-1;
 - duplication and similarity to existing and registered symbols.
- f) The validation team prepares their report and sends the application documents back to ISO/TC 10/SC 1. Rejected proposals are sent back to the originator with an attached cause of rejection.
- g) If the new symbol request is approved, the originator is notified and the symbol is appointed a registry number and submitted to ISO Central Secretariat for registration and publication on the ISO Online browsing platform: <https://www.iso.org/obp>.
- h) The approved new symbol is added to the list of symbols to be added to the next revision of this document.

Technical product documentation — Symbols used in technical product documentation — Proportions and dimensions

1 Scope

This document specifies the recommended proportions for the symbols used in technical product documentation. It gives recommended dimensions based on the grid related to the line width to be used.

This document does not apply to symbols used in process plant documentation, which are covered in ISO 81714-1.

The proportions of the symbols are based on the standard heights of lettering given in ISO 3098-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 3098-1, *Technical product documentation — Lettering — Part 1: General requirements*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 General conditions

The lettering used with the symbols shall be in accordance with the specifications of ISO 3098-1.

On any one drawing the height, line width and type of lettering of the symbols should be equal to those applied for the dimensioning and other indications on that drawing.

The symbols and their lettering are produced by digital means or may be hand-written (using a rule for drawing the frames) or executed by other appropriate methods (e.g. stencils, transfers, mechanical drawing).

5 Dimensions

Recommended dimensions of the symbols with lettering type A are specified in [Table 1](#); dimensions for those with lettering type B are specified in [Table 2](#).

Table 1 — Lettering type A

Dimensions in millimetres

Characteristic	Recommended dimensions					
Height of frame (H)	7	10	14	20	28	40
Height of characters (h)	3,5	5	7	10	14	20
Datum target indicator diameter (D) ^a	14	20	28	40	58	80
Line width (d)	0,25	0,35	0,5	0,7	1	1,4
^a See Table 10 .						

Table 2 — Lettering type B

Dimensions in millimetres

Characteristic	Recommended dimensions						
Height of frame (H)	5	7	10	14	20	28	40
Height of characters (h)	2,5	3,5	5	7	10	14	20
Datum target indicator diameter (D) ^a	10	14	20	28	40	56	80
Line width (d)	0,25	0,35	0,5	0,7	1	1,4	2
^a See Table 10 .							

The recommended widths of tolerance indicators frame are:

- first compartment, equal to height of frame (H);
- second compartment, to suit the length of the inscription;
- third and subsequent compartments, if required, to suit the width of the reference letter (or letters).

The distances between the vertical strokes of the compartments and the inscriptions shall be at least twice the line width, with a minimum of 0,7 mm.

6 Proportions

Examples for the proportions of the symbols for use with lettering type B, vertical or inclined, are shown in [Table 3](#) to [Table 50](#). The values are not part of the symbols.

The configurations are depicted on a grid with a spacing equal to the line width. The design of the inscribed characters is mostly not shown but shall be the same as in ISO 3098-1 for lettering type B, vertical or inclined.

For the alternative lettering type A, vertical or inclined, appropriate grids should be used.

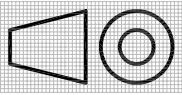
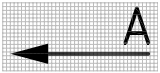
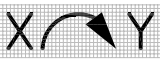
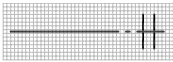
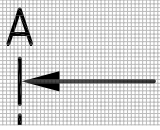
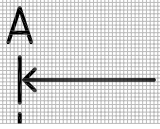
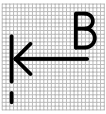
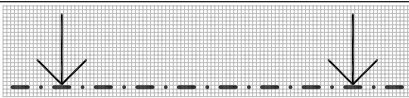
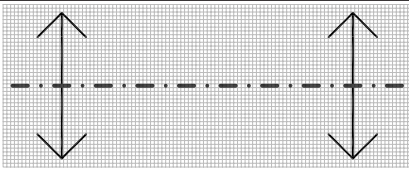
The symbols in ISO 128-2:2020 are shown in [Table 3](#).

Table 3 — ISO 128-2:2020 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
1			Dot ISO 128-2

The symbols in ISO 128-3:2020 are shown in [Table 4](#).

Table 4 — ISO 128-3:2020 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
2			First angle projection ISO 128-3 ISO 5456-2
3			Third angle projection ISO 128-3 ISO 5456-2
4			Reference arrow ISO 128-3 Letter A shown as an example.
5			Arc arrow ISO 128-3 Letter X and Y shown as examples.
6			Symmetry ISO 128-3 ISO 129-1 The symbol is the two vertical lines (shown applied to a centreline).
7			30° cuts and section arrows ISO 128-3 Letter A shown as an example.
8			90° cuts and section arrows ISO 128-3 Letter A shown as an example.
9			Direction of view ISO 128-3
10			Cutting plane ISO 128-3 Letter B shown as an example.
11			Location of detail ISO 128-3
12			Direct orthographic projection ISO 128-3
13			Mirrored orthographic projection ISO 128-3

The symbols in ISO 128-15:2013 are shown in [Table 5](#).

Table 5 — ISO 128-15:2013 symbols

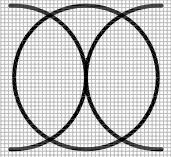
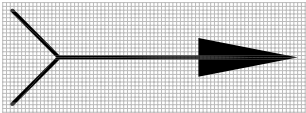
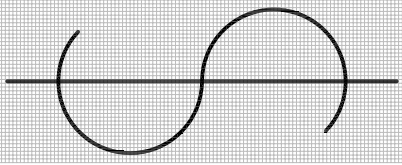
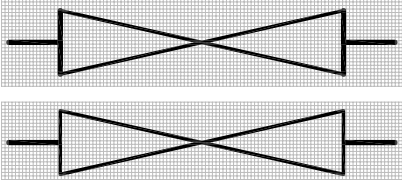
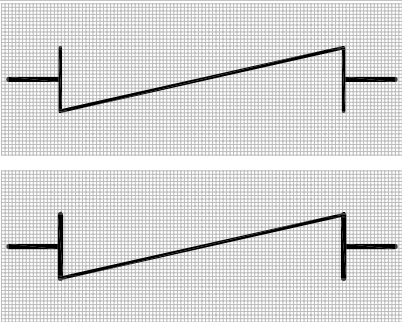
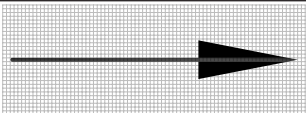
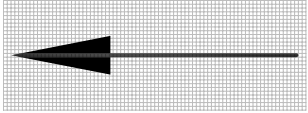
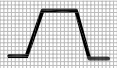
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
14			Amidship ISO 128-15
15			Generic seam ISO 128-15
16			Segmentation seam ISO 128-15
17			Small opening section ISO 128-15
18			Small opening section ISO 128-15
19		 (see ISO 3098-1)	Centre line ISO 128-15
20		 (see ISO 3098-1)	Rounded line ISO 128-15
21		 (see ISO 3098-1)	Frame number ISO 128-15
22		 (see ISO 3098-1)	Moulded base line ISO 128-15
23		 (see ISO 3098-1)	Waterline ISO 128-15
24			Projection direction (bow direction) ISO 128-15

Table 5 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
25			Projection direction (stern direction) ISO 128-15
26			Swage and groove; front side ISO 128-15
27			Swage and groove; back side ISO 128-15
28			Swage and groove; front side ISO 128-15
29			Swage and groove; back side ISO 128-15
30			Swage and groove; front side ISO 128-15
31			Swage and groove; back side ISO 128-15

The symbols in ISO 129-1:2018 are shown in [Table 6](#).

Table 6 — ISO 129-1:2018 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
32			Diameter ISO 129-1 ISO 5261
33		 (see ISO 3098-1)	Radius ISO 129-1
34		 (see ISO 3098-1)	Spherical radius ISO 129-1
35			Square ISO 129-1 ISO 5261
36			Spherical diameter ISO 129-1
37			Repeated spacing ISO 129-1 ISO 6433
38			Indication of a point ISO 129-1

Table 6 (continued)

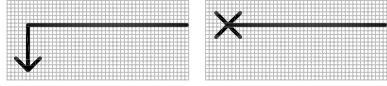
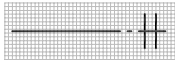
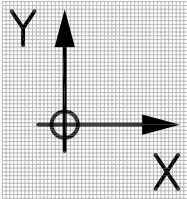
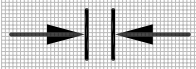
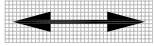
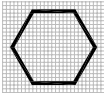
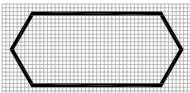
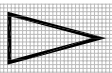
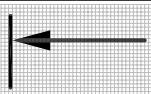
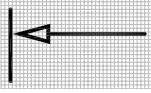
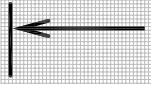
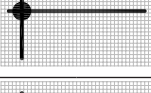
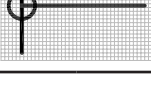
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
39			Indication of level ISO 129-1
40		 (see ISO 3098-1)	Out-of-scale ISO 129-1 The number 50 is shown as an example of application.
41		 (see ISO 3098-1)	Auxiliary dimension ISO 129-1 The number 50 is shown as an example of application.
42			Symmetry ISO 129-1 ISO 128-3 The symbol is the two vertical lines (shown applied to a centreline).
43			Origin of a cartesian coordinate system ISO 129-1
44			Separation symbol (point) ISO 129-1
45			Plus or minus ISO 129-1 ISO 13715
46			Arc length ISO 129-1 ISO 129-5
47			Thickness of thin objects ISO 129-1
48			Depth ISO 129-1
49			Cylindrical counterbore ISO 129-1
50			Countersink ISO 129-1
51			Developed length ISO 129-1
52			Surface indicator ISO 129-1
53			Between ISO 129-1

Table 6 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
54			Flagnote ISO 129-1 ISO/TS 17863 The flagnote symbol is used with a number placed inside of it.
55			Flagnote ISO 129-1 ISO 14405-1 The flagnote symbol is used with a number placed inside of it.
56			Flagnote ISO 129-1 The flagnote symbol is used with a number placed inside of it.
57			Flagnote ISO 129-1 The flagnote symbol is used with a number placed inside of it.
58			Arrowhead, closed and filled ISO 129-1
59			Arrowhead, closed ISO 129-1
60			Arrowhead, open ISO 129-1
61			Arrowhead, open, included angle 90 ISO 129-1
62			Oblique stroke ISO 129-1
63			Point ISO 129-1
64			Origin circle ISO 129-1

The symbols in ISO 129-4:2013 are shown in [Table 7](#).

Table 7 — ISO 129-4:2013 symbols

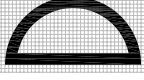
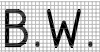
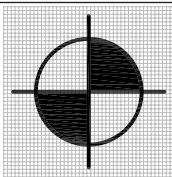
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
65			Flanged plate ISO 129-4
66			Flat bar ISO 129-4
67			Round steel bar ISO 129-4
68			Steel pipe ISO 129-4
69			Square steel bar ISO 129-4
70			Square hollow section ISO 129-4
71			Half round steel ISO 129-4
72		 or 	Bulb flat ISO 129-4
73			Equal L-section ISO 129-4 ISO 129-5 ISO 5261
74			Unequal L-section ISO 129-4
75			T-steel ISO 129-4
76			Steel channel ISO 129-4 ISO 129-5 ISO 5261
77			I profile ISO 129-4 ISO 129-5 ISO 5261
78			Combined flat ball steel ISO 129-4

Table 7 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
79		 (see ISO 3098-1)	Bracket ISO 129-4
80		 (see ISO 3098-1)	Bracket web ISO 129-4
81		 (see ISO 3098-1)	Web ISO 129-4
82		 (see ISO 3098-1)	Face plate ISO 129-4
83		 (see ISO 3098-1)	Flange ISO 129-4
84		 (see ISO 3098-1)	Tripping bracket ISO 129-4
85			Shaft system section ISO 129-4
86		 (see ISO 3098-1)	Coaming height ISO 129-4
87		 (see ISO 3098-1)	Manhole ISO 129-4

The symbols in ISO 129-5:2018 are shown in [Table 8](#)

Table 8 — ISO 129-5:2018 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
88			Arc length ISO 129-1 ISO 129-5
89			Equal or unequal leg angle iron ISO 129-5 ISO 5261
90			I-beam section ISO 129-5 ISO 5261

Table 8 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
91			Channel section ISO 129-5 ISO 5261
92			H-beam section ISO 129-5 ISO 5261
93			T section ISO 129-5
94			Flat bar/plate ISO 129-5
95			Single round-headed flats ISO 129-5
96			Double round-headed flats ISO 129-5
97			Unequal round-headed flats ISO 129-5
98			Chamfered flats ISO 129-5
99			Diamond section ISO 129-5
100			Trapezoidal section ISO 129-5
101			Angle-square section ISO 129-5
102			Oval tube ISO 129-5
103			Slot with round end tube ISO 129-5
104			Right-angled trapezoid tube ISO 129-5
105			Thin-walled equal leg angle with inner edge ISO 129-5
106			Scalene channel section ISO 129-5
107			Channel section with inner edge ISO 129-5
108			Hat section ISO 129-5

Table 8 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
109			Z-section ISO 129-5 ISO 5261
110			Thin-walled lip Z section ISO 129-5
111			Thin-walled oblique lip Z section ISO 129-5
112			Rectangular hollow section/rectangle tube ISO 129-5
113			P section tube ISO 129-5

The symbols in ISO 286-1:2010 are shown in [Table 9](#).

Table 9 — ISO 286-1:2010 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
114			Standard tolerance grade value ISO 286-1

The symbols in ISO 1101:2017 are shown in [Table 10](#).

Table 10 — ISO 1101:2017 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
115			Straightness ISO 1101
116			Flatness ISO 1101
117			Roundness ISO 1101
118			Cylindricity ISO 1101
119			Line profile ISO 1101
120			Surface profile ISO 1101
121			Parallelism ISO 1101

Table 10 (continued)

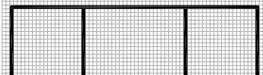
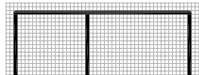
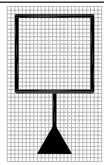
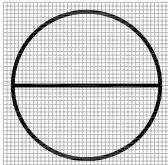
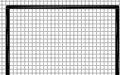
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
122			Perpendicularity ISO 1101
123			Angularity ISO 1101
124			Position ISO 1101
125			Coaxiality (for median line), concentricity (for centre points) ISO 1101
126			Symmetry ISO 1101
127			Circular run-out ISO 1101
128			Total run-out ISO 1101
129			Geometrical specification indication with datums section ISO 1101 ISO 5459
130			Geometrical specification indication without datum section ISO 1101
131			Datum feature indicator ISO 1101 ISO 5459
132			Datum target indicator ISO 1101 ISO 5459
133			Theoretically exact dimension (TED) ISO 1101
134			Minimax (chebyshev) feature ISO 1101
135			Least squares (Gaussian) feature ISO 1101
136			Minimum circumscribed feature ISO 1101

Table 10 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
137			Tangent feature ISO 1101
138			Maximum inscribed feature ISO 1101
139			Derived feature ISO 1101
140			Projected tolerance zone ISO 1101
141			Maximum material requirement ISO 1101 ISO 2692
142			Least material requirement ISO 1101 ISO 2692
143			Reciprocity requirement ISO 1101 ISO 2692
144			Free state condition (non-rigid parts) ISO 1101 ISO 10579 ISO 14405-1
145			Envelope requirement ISO 1101 ISO 14405-1
146			All around (profile) ISO 1101 ISO 10135
147			All over (profile) ISO 1101 ISO 10135
148			Orientation constraint only ISO 1101 ISO 5459
149		 (see ISO 3098-1)	Minimax (chebyshev) feature without constraint ISO 1101
150		 (see ISO 3098-1)	Minimax (chebyshev) feature with external material constraint ISO 1101

Table 10 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
151		 (see ISO 3098-1)	Minimax (chebyshev) feature with internal material constraint ISO 1101
152		 (see ISO 3098-1)	Constrained external to the material ISO 1101
153		 (see ISO 3098-1)	Least squares (Gaussian) feature without constraint ISO 1101
154		 (see ISO 3098-1)	Least squares (Gaussian) feature with external material constraint ISO 1101
155		 (see ISO 3098-1)	Least squares (Gaussian) feature with internal material constraint ISO 1101
156		 (see ISO 3098-1)	Constrained internal to the material ISO 1101
157		 (see ISO 3098-1)	Minimum circumscribed feature ISO 1101
158		 (see ISO 3098-1)	Maximum inscribed feature ISO 1101
159		 (see ISO 3098-1)	Total range of deviations ISO 1101
160		 (see ISO 3098-1)	Peak height ISO 1101
161		 (see ISO 3098-1)	Valley depth ISO 1101
162		 (see ISO 3098-1)	Standard deviation ISO 1101
163		 (see ISO 3098-1)	Contacting feature ISO 1101 ISO 5459
164		 (see ISO 3098-1)	Combination specification elements - combined zone ISO 1101
165		 (see ISO 3098-1)	Combination specification elements - separate zones ISO 1101

Table 10 (continued)

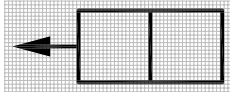
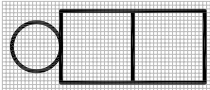
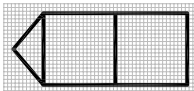
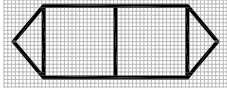
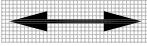
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
166		 (see ISO 3098-1)	Unequal zone specification elements – specified tolerance zone offset ISO 1101
167		 (see ISO 3098-1)	Unspecified linear tolerance zone offset (offset zone) ISO 1101
168		 (see ISO 3098-1)	Unspecified angular tolerance zone offset (variable angle) ISO 1101 ISO 5459
169		 (see ISO 3098-1)	Minor diameter ISO 1101
170		 (see ISO 3098-1)	United feature ISO 1101
171		 (see ISO 3098-1)	Major diameter ISO 1101
172		 (see ISO 3098-1)	Pitch diameter ISO 1101
173		 (see ISO 3098-1)	Any cross-section ISO 1101 ISO 5459
174			Direction feature indicator ISO 1101 ISO 14405-1 The indicator frame is not part of this symbol and is only shown to assist with the understanding of the symbol.
175			Collection plane indicator ISO 1101 The indicator frame is not part of this symbol and is only shown to assist with the understanding of the symbol.
176			Intersection plane indicator ISO 1101 ISO 14405-1 The indicator frame is not part of this symbol and is only shown to assist with the understanding of the symbol.

Table 10 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
177			Orientation plane indicator ISO 1101 The indicator frame is not part of this symbol and is only shown to assist with the understanding of the symbol.
178			Between ISO 1101 ISO 14405-1

The symbols in ISO 1302:2002 are shown in [Table 11](#).

Table 11 — ISO 1302:2002 symbols

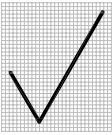
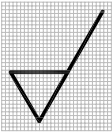
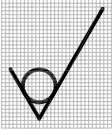
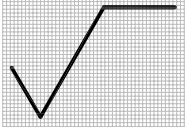
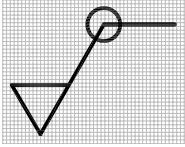
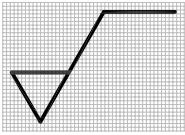
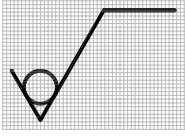
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
179			Surface texture, basic ISO 1302
180			Surface texture, material removal required ISO 1302
181			Surface texture, material removal not permitted ISO 1302
182			Surface texture, basic, complete ISO 1302
183			Surface texture, all surfaces around a workpiece outline (circle), example shown on leader line ISO 1302
184			Surface texture, material removal required, complete ISO 1302
185			Surface texture, material removal not permitted, complete ISO 1302
186			Lay orientation, parallel ISO 1302 ISO 25178-1

Table 11 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
187			Lay orientation, perpendicular ISO 1302 ISO 25178-1
188			Lay orientation, crossed in oblique directions ISO 1302 ISO 25178-1
189			Lay orientation, multi-directional ISO 1302 ISO 25178-1
190			Lay orientation, circular ISO 1302 ISO 25178-1
191			Lay orientation, radial ISO 1302 ISO 25178-1
192			Lay orientation, particulate ISO 1302 ISO 25178-1

The symbols in ISO 2162-1:1993 are shown in [Table 12](#).

Table 12 — ISO 2162-1:1993 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
193		 (see ISO 3098-1)	Right hand ISO 2162-1
194		 (see ISO 3098-1)	Left hand ISO 2162-1

The symbols in ISO 2203:1973 are shown in [Table 13](#).

Table 13 — ISO 2203:1973 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
195			Helical to the right ISO 2203
196			Helical to the left ISO 2203

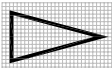
The symbols in ISO 2692:2014 are shown in [Table 14](#).

Table 14 — ISO 2692:2014 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
197			Reciprocity requirement ISO 2692 ISO 1101
198			Maximum material requirement ISO 2692 ISO 1101
199			Least material requirement ISO 2692 ISO 1101

The symbols in ISO 3040:2016 are shown in [Table 15](#).

Table 15 — ISO 3040:2016 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
200			Cone ISO 3040

The symbols in ISO 3766:2003 are shown in [Table 16](#).

Table 16 — ISO 3766:2003 symbols

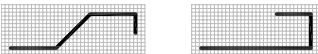
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
201			Reinforcement without prestressing: views: general representation of bar ISO 3766
202			Reinforcement without prestressing: views: bent reinforcing bar, representation as a polygonal continuous line ISO 3766
203			Reinforcement without prestressing: views: bent reinforcing bar, representation as a continuous line made up of straight lines and arcs ISO 3766
204			Reinforcement without prestressing: views: bundle of bars ISO 3766
205			Reinforcement without prestressing: section of bar: section of single reinforcement bar ISO 3766

Table 16 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
206			Reinforcement without prestressing: section of bar: bundle of two reinforcing bars ISO 3766
207			Reinforcement without prestressing: section of bar: bundle of three reinforcing bars ISO 3766
208			Reinforcement without prestressing: bar with hook anchoring: elevation of bar terminating in a 90° bend ISO 3766
209			Reinforcement without prestressing: bar with hook anchoring: elevation of bar terminating in a bend between 90° and 180° ISO 3766
210			Reinforcement without prestressing: bar with hook anchoring: elevation of bar terminating in a 180° bend ISO 3766
211			Reinforcement without prestressing: straight bars lying in a row or a plane to indicate the ends of the bars ISO 3766
212			Reinforcement without prestressing: end anchorage with plates: elevation or plan view ISO 3766
213			Reinforcement without prestressing: end anchorage with plates: section or end view ISO 3766
214			Reinforcement without prestressing: bar bent at right angle way from viewer ISO 3766
215			Reinforcement without prestressing: bar bent at right angle way towards viewer ISO 3766
216			Reinforcement without prestressing: overlapping stack of reinforcement bars: without marking bar ends by a slash or bar marks ISO 3766
217			Reinforcement without prestressing: overlapping stack of reinforcement bars: with marking bar ends by a slash or bar marks ISO 3766

Table 16 (continued)

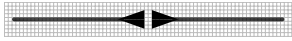
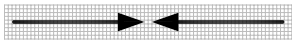
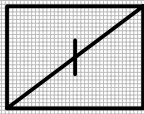
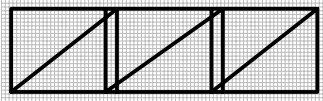
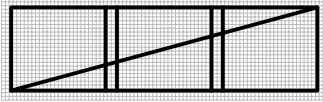
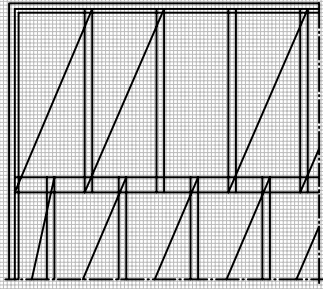
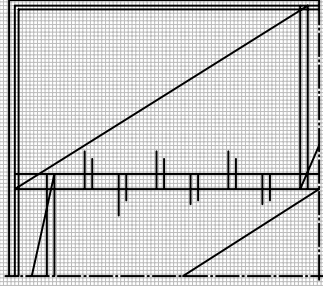
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
218			Reinforcement without prestressing: bars joined by mechanical couplers — general representation: tension coupler ISO 3766
219			Reinforcement without prestressing: bars joined by mechanical couplers — general representation: compression coupler ISO 3766
220			Reinforcement without prestressing: welded fabric, top view ISO 3766
221			Reinforcement without prestressing: welded fabric, identical sheets in a row: with representation of single sheets ISO 3766
222			Reinforcement without prestressing: welded fabric, identical sheets in a row: condensed representation ISO 3766
223			Reinforcement without prestressing: top view of layer containing identical sheets: with representation of single sheets ISO 3766
224			Reinforcement without prestressing: top view of layer containing identical sheets: condensed representation with indication of overlapping ISO 3766
225			Reinforcement without prestressing: welded fabric, section: simplified representation ISO 3766
226			Reinforcement without prestressing: welded fabric, section: conventional representation ISO 3766

Table 16 (continued)

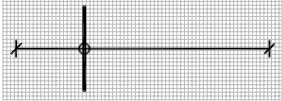
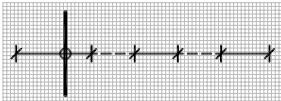
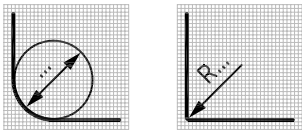
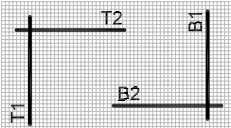
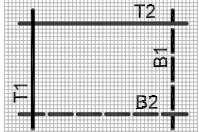
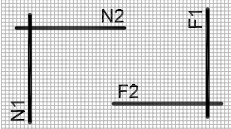
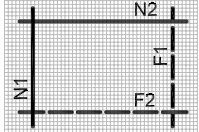
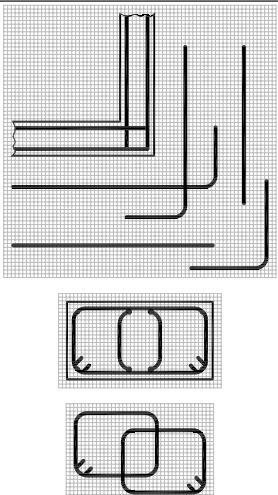
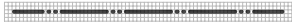
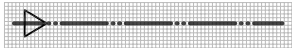
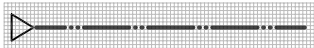
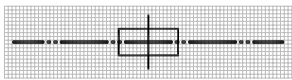
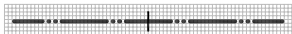
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
227			Reinforcement without prestressing: set of identical bars: each set of identical bars indicated by one scaled-drawn reinforcement bar and a line terminated by oblique lines to mark extreme bars ISO 3766
228			Reinforcement without prestressing: set of identical bars: identical bars placed in groups. ISO 3766
229			Reinforcement without prestressing: bars with a specification of the diameter or radius of mandrel, if differing from the minimum diameter or radius of the mandrel ISO 3766
230			Reinforcement without prestressing: location of layers of reinforcement on plan drawings: bottom and top layers shown on separate plans ISO 3766
231			Reinforcement without prestressing: location of layers of reinforcement on elevation drawings: bottom and top layers shown on the same plane ISO 3766
232			Reinforcement without prestressing: location of layers of reinforcement on elevation drawings: near-face and far-face reinforcement shown on separate elevations ISO 3766
233			Reinforcement without prestressing: location of layers of reinforcement on elevation drawings: near-face and far-face reinforcement shown on the same elevation ISO 3766
234			Reinforcement without prestressing: if the arrangement of the reinforcement is not represented unambiguously by the section, an additional detailed representation of the reinforcement may be given outside of the section ISO 3766

Table 16 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
235			Prestressed reinforcement: Prestressing bar or cable ISO 3766
236			Prestressed reinforcement section of post-tensioned reinforcement in pipes or conduits ISO 3766
237			Prestressed reinforcement: section of pre-stressed reinforcement with immediate bond ISO 3766
238			Prestressed reinforcement: anchorage: anchorage at tensioning end ISO 3766
239			Prestressed reinforcement: anchorage: fixed anchorage ISO 3766
240			Prestressed reinforcement: anchorage: end view of anchorage ISO 3766
241			Prestressed reinforcement: coupling: movable splice ISO 3766
242			Prestressed reinforcement: coupling: fixed splice ISO 3766
243			Alphanumerical bar mark ISO 3766
244		 (see ISO 3098-1)	Position in the component or construction part ISO 3766

The symbols in ISO 3952-1:1981 are shown in [Table 17](#).

Table 17 — ISO 3952-1:1981 and ISO 3952-1:1981/Amd 1:2002 symbols

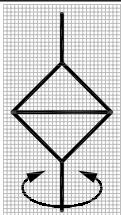
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
245			Pairs with one degree of freedom, revolute pair: turning pair liaison pivot, for planar mechanism ISO 3952-1:1981/Amd 1:2002

Table 17 (continued)

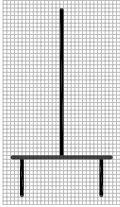
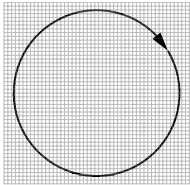
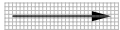
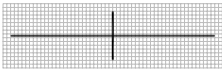
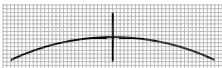
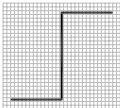
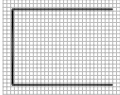
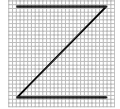
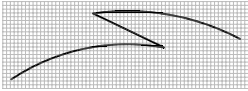
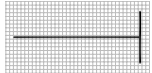
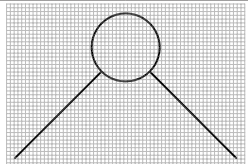
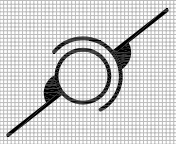
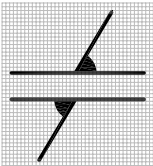
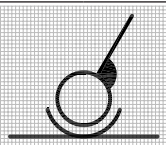
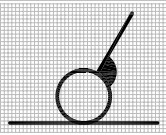
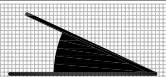
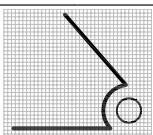
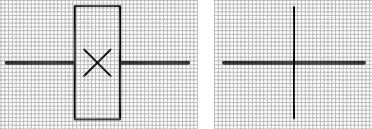
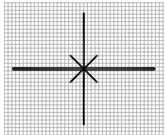
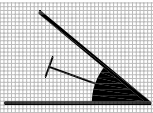
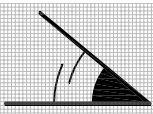
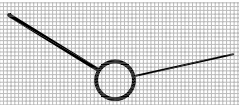
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
246			End effector; terminal ISO 3952-1:1981/Amd 1:2002
247			Trace of motion - straight line motion ISO 3952-1:1981/Amd 1:2002
248			Trace of motion - rotational motion ISO 3952-1:1981/Amd 1:2002
249			Trace of motion -permissible symbol ISO 3952-1
250			Direction of motion ISO 3952-1
251			Instantaneous stop at intermediate position - straight line motion ISO 3952-1
252			Instantaneous stop at intermediate position - rotational motion ISO 3952-1
253			Dwell at intermediate position ISO 3952-1
254			Dwell at extreme position ISO 3952-1
255			Partial reverse motion - straight line motion ISO 3952-1
256			Partial reverse motion - rotational motion ISO 3952-1
257			Stop ISO 3952-1
258			Pairs with one degree of freedom, revolute pair: turning pair liaison pivot, for planar mechanism ISO 3952-1

Table 17 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
259			Pairs with one degree of freedom, revolute pair: turning pair liaison pivot, for spatial mechanism ISO 3952-1
260			Pairs with one degree of freedom, revolute pair: turning pair liaison pivot, permissible symbol ISO 3952-1
261			Prismatic pair ISO 3952-1
262			Prismatic pair - permissible symbol ISO 3952-1
263			Prismatic pair - permissible symbol ISO 3952-1
264			Prismatic pair - permissible symbol ISO 3952-1
265			Screw pair; helical pair ISO 3952-1
266			Screw pair; helical pair - permissible symbol ISO 3952-1
267			Screw pair; helical pair ISO 3952-1
268			Screw pair; helical pair - permissible symbol ISO 3952-1
269			Pairs with two degrees of freedom; cylindrical pair ISO 3952-1
270			Pairs with two degrees of freedom; cylindrical pair - permissible symbol ISO 3952-1
271			Spherical pair with pin ISO 3952-1

Table 17 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
272			Pairs with three degrees of freedom; spherical pair ISO 3952-1
273			Planar contact pair ISO 3952-1
274			Pairs with four degrees of freedom; ball-and-cylindrical pair ISO 3952-1
275			Pairs with five degrees of freedom; ball-and-plane pair ISO 3952-1
276			Frame ISO 3952-1
277			Shaft; bar; axle ISO 3952-1
278			Permanent connection of link components ISO 3952-1
279			Permanent connection of link components - permissible symbol ISO 3952-1
280			Fixed connection of component to shaft (bar, axle) ISO 3952-1
281			Fixed connection of component to shaft (bar, axle) - permissible symbol ISO 3952-1
282			Adjustable connection of link components - permissible symbol ISO 3952-1
283			Adjustable connection of link components - permissible symbol ISO 3952-1
284			Single-element link; the link is part of a revolute pair; for planar mechanisms ISO 3952-1