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

*Documentation technique de produits — Symboles utilisés dans la
documentation technique de produits — Proportions et dimensions*

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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.

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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.

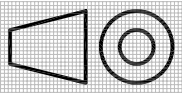
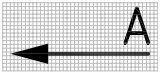
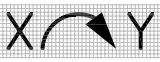
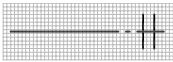
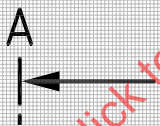
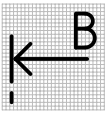
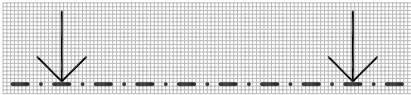
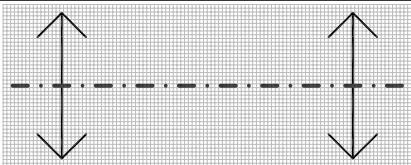
The symbols in ISO 128-2:2020 are shown in [Table 3](#).

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

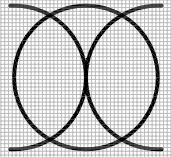
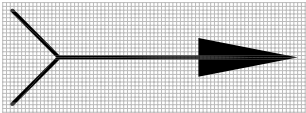
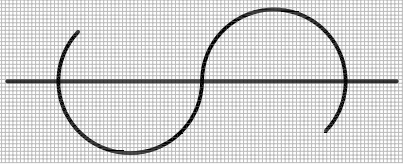
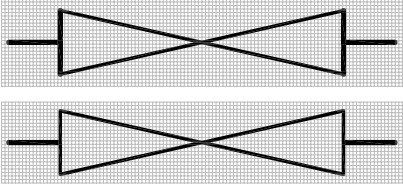
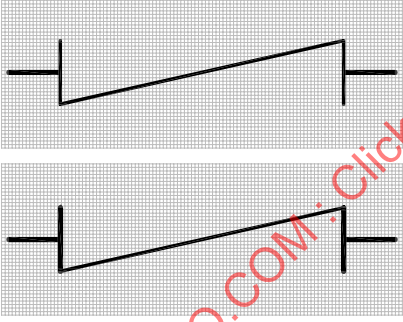
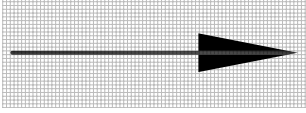
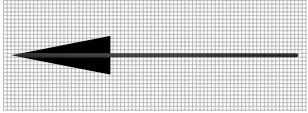
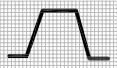
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
14			Amidship ISO 128-15
15			Generic seam ISO 128-15
16			Segmentation seam ISO 128-15
17			Small opening section ISO 128-15
18			Small opening section ISO 128-15
19		 (see ISO 3098-1)	Centre line ISO 128-15
20		 (see ISO 3098-1)	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)

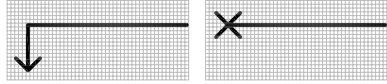
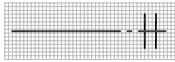
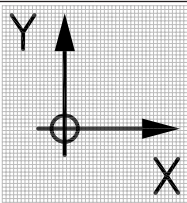
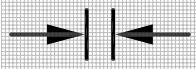
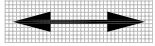
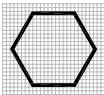
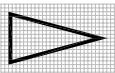
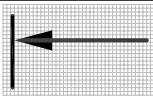
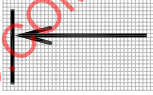
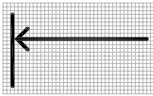
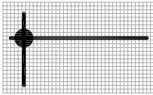
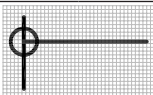
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
39			Indication of level ISO 129-1
40		 (see ISO 3098-1)	Out-of-scale ISO 129-1 The number 50 is shown as an example of application.
41		 (see ISO 3098-1)	Auxiliary dimension ISO 129-1 The number 50 is shown as an example of 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

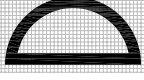
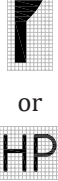
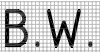
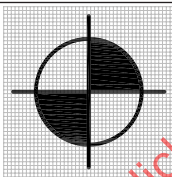
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
65			Flanged plate ISO 129-4
66			Flat bar ISO 129-4
67			Round steel bar ISO 129-4
68			Steel pipe ISO 129-4
69			Square steel bar ISO 129-4
70			Square hollow section ISO 129-4
71			Half round steel ISO 129-4
72			Bulb flat 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)

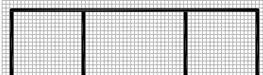
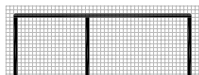
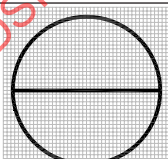
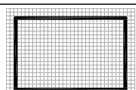
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
122			Perpendicularity ISO 1101
123			Angularity ISO 1101
124			Position ISO 1101
125			Coaxiality (for median line), concentricity (for centre points) ISO 1101
126			Symmetry ISO 1101
127			Circular run-out ISO 1101
128			Total 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)

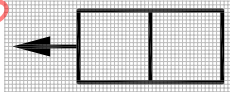
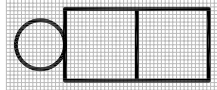
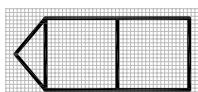
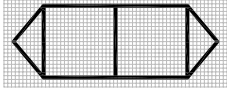
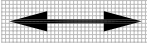
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
166		 (see ISO 3098-1)	Unequal zone specification elements – specified tolerance zone offset ISO 1101
167		 (see ISO 3098-1)	Unspecified linear tolerance zone offset (offset zone) ISO 1101
168		 (see ISO 3098-1)	Unspecified angular 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

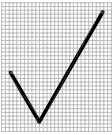
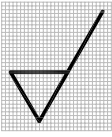
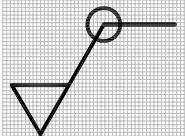
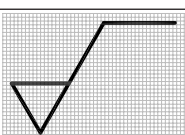
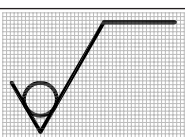
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
179			Surface texture, basic ISO 1302
180			Surface texture, material removal required ISO 1302
181			Surface texture, material removal not permitted ISO 1302
182			Surface texture, basic, complete ISO 1302
183			Surface texture, 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

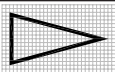
The symbols in ISO 2692:2014 are shown in [Table 14](#).

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

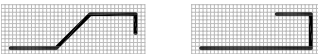
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
201			Reinforcement without prestressing: views: general representation of bar ISO 3766
202			Reinforcement without prestressing: views: bent reinforcing bar, representation as a polygonal continuous line ISO 3766
203			Reinforcement 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)

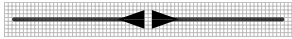
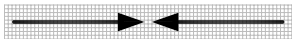
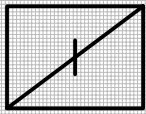
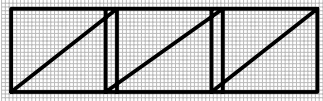
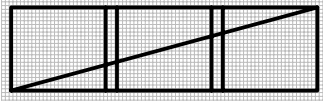
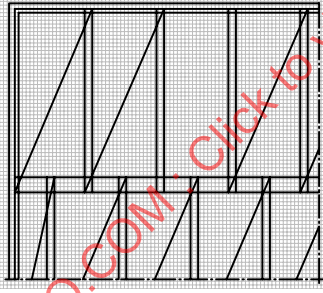
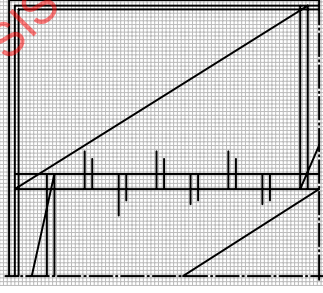
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
218			Reinforcement without prestressing: bars joined by mechanical couplers — general representation: tension coupler ISO 3766
219			Reinforcement without prestressing: bars joined by mechanical couplers — general representation: 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)

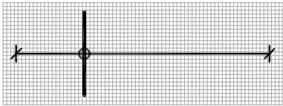
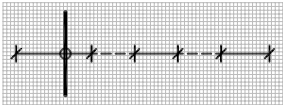
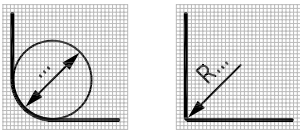
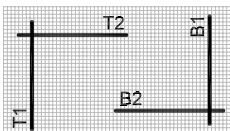
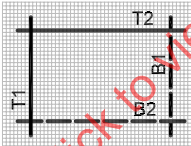
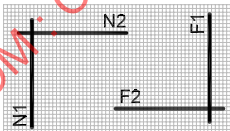
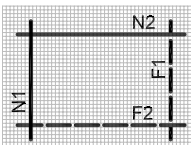
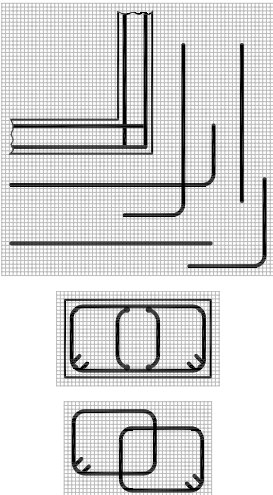
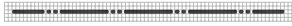
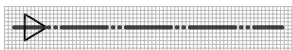
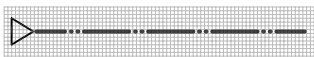
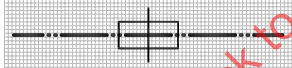
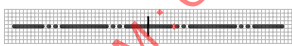
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
227			Reinforcement without prestressing: set of identical bars: each set of identical bars indicated by one scaled-drawn reinforcement bar and a line terminated by oblique lines to mark extreme bars ISO 3766
228			Reinforcement 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 prestressed 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

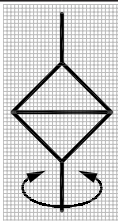
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
245			Pairs with one degree of freedom, revolute pair: turning pair liaison pivot, for planar mechanism ISO 3952-1:1981/Amd 1:2002

Table 17 (continued)

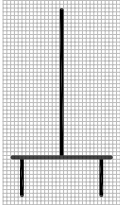
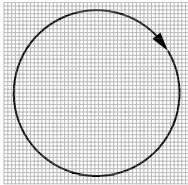
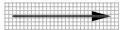
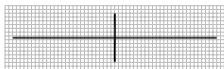
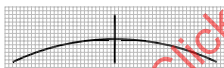
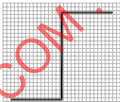
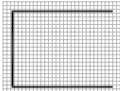
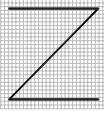
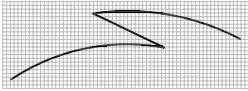
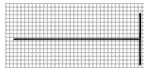
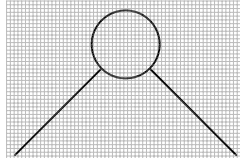
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
246			End effector; terminal ISO 3952-1:1981/Amd 1:2002
247			Trace of motion - straight line motion ISO 3952-1:1981/Amd 1:2002
248			Trace of motion - rotational motion ISO 3952-1:1981/Amd 1:2002
249			Trace of motion - permissible 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)

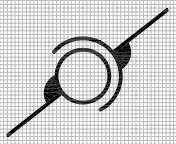
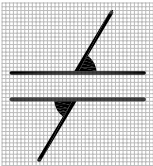
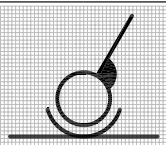
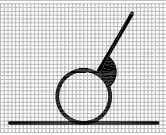
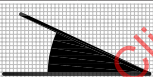
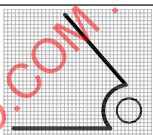
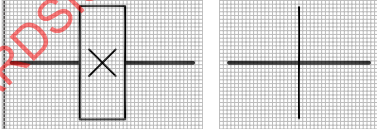
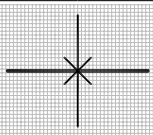
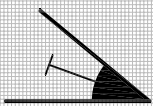
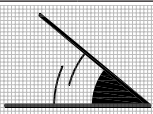
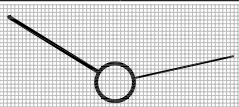
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
272			Pairs with three degrees of freedom; spherical pair ISO 3952-1
273			Planar contact pair ISO 3952-1
274			Pairs with four degrees of freedom; ball-and-cylindrical pair ISO 3952-1
275			Pairs with five degrees of freedom; 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

Table 17 (continued)

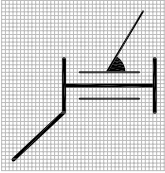
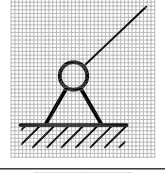
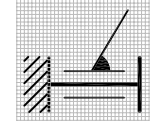
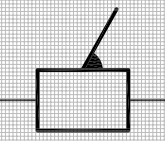
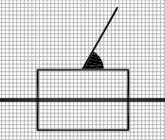
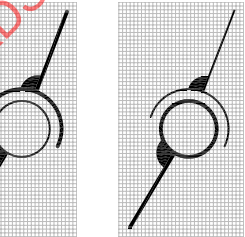
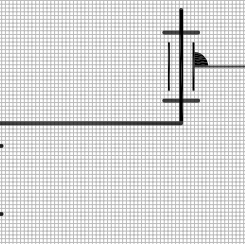
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
285			Single-element link; the link is part of a revolute pair; for spatial mechanisms ISO 3952-1
286			Single-element link; the frame is part of a revolute pair; for planar mechanisms ISO 3952-1
287			Single-element link; the frame is part of a revolute pair; for planar mechanisms - permissible symbol ISO 3952-1
288			Single-element link; the frame is part of a revolute pair; for spatial mechanisms ISO 3952-1
289			Single-element link; the link is part of a prismatic pair ISO 3952-1
290			Single-element link; the link is part of a prismatic pair - permissible symbol ISO 3952-1
291			Single-element link; the link is part of a cylindrical pair ISO 3952-1
292			Single-element link; the link is part of a spherical pair ISO 3952-1
293			Double-element link (binary link); the link forms the connection between revolute pairs; coupler ISO 3952-1

Table 17 (continued)

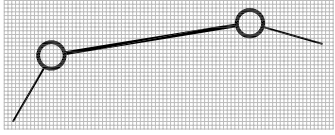
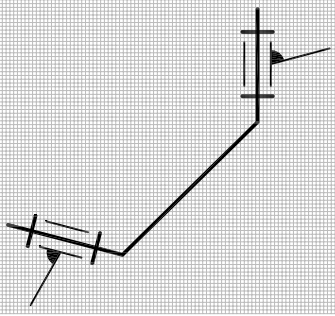
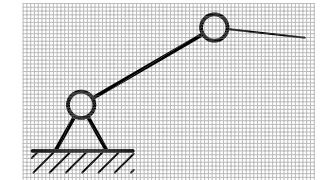
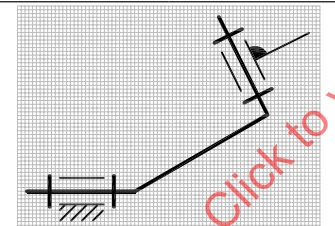
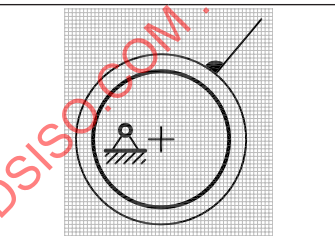
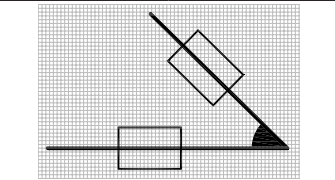
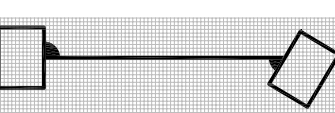
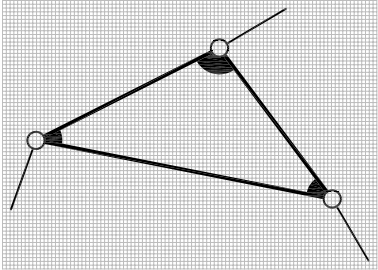
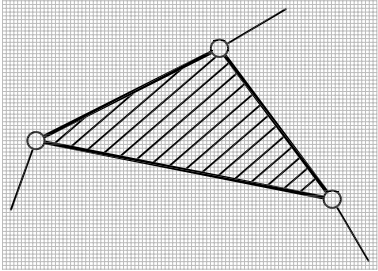
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
294			Double-element link (binary link); the link forms the connection between revolute pairs; coupler; for planar mechanisms ISO 3952-1
295			Double-element link (binary link); the link forms the connection between revolute pairs; coupler; for spatial mechanisms ISO 3952-1
296			Double-element link (binary link); the link forms the connection between revolute pairs; crank (or rocker); for planar mechanisms ISO 3952-1
297			Double-element link (binary link); the link forms the connection between revolute pairs; crank (or rocker); for spatial mechanisms ISO 3952-1
298			Double-element link (binary link); the link forms the connection between revolute pairs; eccentric ISO 3952-1
299			Double-element link (binary link); the link forms the connection between two prismatic pairs ISO 3952-1
300			Double-element link (binary link); the link forms the connection between two prismatic pairs; common case ISO 3952-1

Table 17 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
301			Double-element link (binary link); the link forms the connection between two prismatic pairs; slider ISO 3952-1
302			Double-element link (binary link); the link forms the connection between two prismatic pairs; slider - permissible symbol ISO 3952-1
303			Double-element link (binary link); the link forms the connection between a revolute and a prismatic pair; common case ISO 3952-1
304			Double-element link (binary link); the link forms the connection between a revolute and a prismatic pair; slotted link (slotted lever) ISO 3952-1
305			Double-element link (binary link); the link forms the connection between a revolute and a prismatic pair; slotted link (slotted lever) ISO 3952-1
306			Double-element link (binary link); the link forms the connection between a revolute and a prismatic pair; slotted link (slotted lever) - permissible symbol ISO 3952-1
307			Double-element link (binary link); the link forms the connection between a revolute and a prismatic pair; slider ISO 3952-1

Table 17 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
308			Ternary link ISO 3952-1
309			Ternary link – permissible symbol ISO 3952-1

The symbols in ISO 3952-2:1981 are shown in [Table 18](#).

Table 18 — ISO 3952-2:1981 symbols

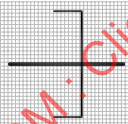
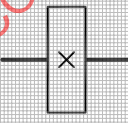
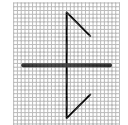
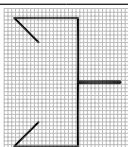
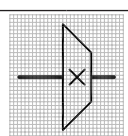
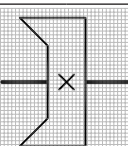
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
310			Friction mechanisms; friction wheels; cylindrical ISO 3952-2
311			Friction mechanisms; friction wheels; cylindrical – permissible symbol ISO 3952-2
312			Friction mechanisms; friction wheels; bevel ISO 3952-2
313			Friction mechanisms; friction wheels; bevel ISO 3952-2
314			Friction mechanisms; friction wheels; bevel – permissible symbol ISO 3952-2
315			Friction mechanisms; friction wheels; bevel – permissible symbol ISO 3952-2

Table 18 (continued)

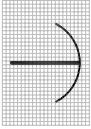
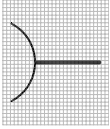
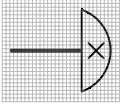
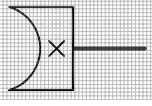
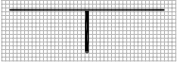
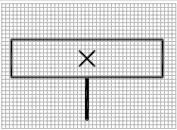
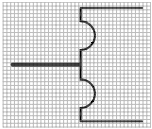
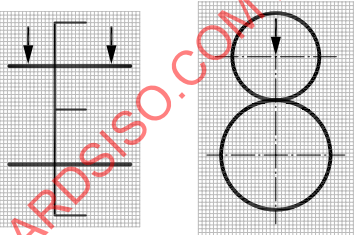
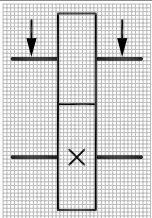
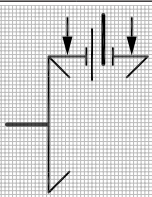
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
316			Friction mechanisms; friction wheels; curvilinear ISO 3952-2
317			Friction mechanisms; friction wheels; curvilinear ISO 3952-2
318			Friction mechanisms; friction wheels; curvilinear - permissible symbol ISO 3952-2
319			Friction mechanisms; friction wheels; curvilinear - permissible symbol ISO 3952-2
320			Friction mechanisms; friction wheels; crown wheel (face wheel) ISO 3952-2
321			Friction mechanisms; friction wheels; crown wheel (face wheel) - permissible symbol ISO 3952-2
322			Friction mechanisms; friction wheels; flexible ISO 3952-2
323			Friction transmissions; with cylindrical wheels ISO 3952-2
324			Friction transmissions; with cylindrical wheels - permissible symbol ISO 3952-2
325			Friction transmissions; with bevel wheels ISO 3952-2

Table 18 (continued)

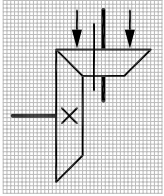
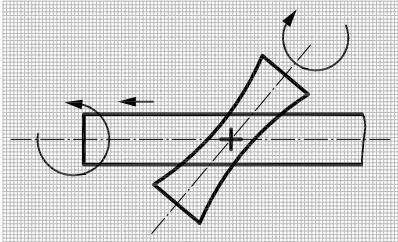
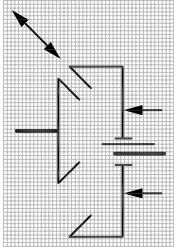
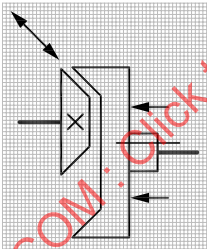
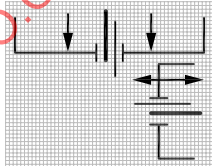
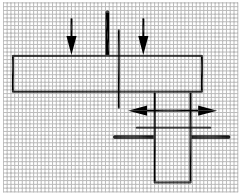
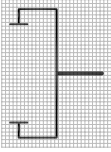
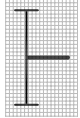
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
326			Friction transmissions; with bevel wheels – permissible symbol ISO 3952-2
327			Friction transmissions; with hyperboloidal wheels – permissible symbol ISO 3952-2
328			Friction transmissions; with bevel wheels, adjustable ISO 3952-2
329			Friction transmissions; with bevel wheels, adjustable – permissible symbol ISO 3952-2
330			Friction transmissions; crown wheel (face wheel) ISO 3952-2
331			Friction transmissions; crown wheel (face wheel) – permissible symbol ISO 3952-2
332			Gear mechanisms; gear (without specification of tooth form); cylindrical ISO 3952-2
333			Gear mechanisms; gear (without specification of tooth form); cylindrical ISO 3952-2

Table 18 (continued)

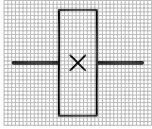
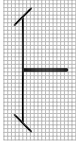
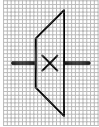
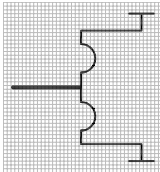
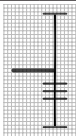
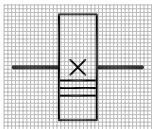
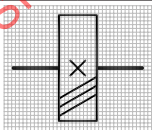
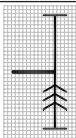
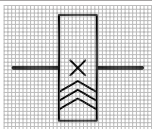
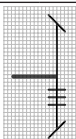
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
334			Gear mechanisms; gear (without specification of tooth form); cylindrical – permissible ISO 3952-2
335			Gear mechanisms; gear (without specification of tooth form); bevel ISO 3952-2
336			Gear mechanisms; gear (without specification of tooth form); bevel – permissible symbol ISO 3952-2
337			Gear mechanisms; gear (without specification of tooth form); flexible ISO 3952-2
338			Gear mechanisms; gear (designation of tooth type); cylindrical wheels; straight spur ISO 3952-2
339			Gear mechanisms; gear (designation of tooth type); cylindrical wheels; straight spur – permissible symbol ISO 3952-2
340			Gear mechanisms; gear (designation of tooth type); cylindrical wheels; helical ISO 3952-2
341			Gear mechanisms; gear (designation of tooth type); cylindrical wheels; helical – permissible symbol ISO 3952-2
342			Gear mechanisms; gear (designation of tooth type); cylindrical wheels; double helical ISO 3952-2
343			Gear mechanisms; gear (designation of tooth type); cylindrical wheels; double helical – permissible symbol ISO 3952-2
344			Gear mechanisms; gear (designation of tooth type); bevel wheels; straight toothed ISO 3952-2

Table 18 (continued)

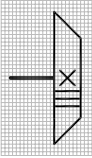
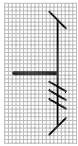
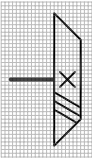
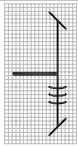
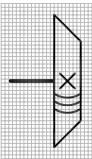
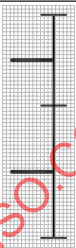
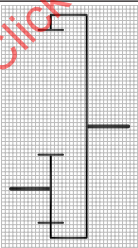
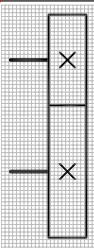
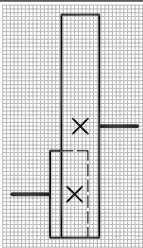
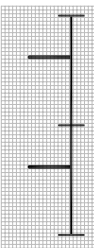
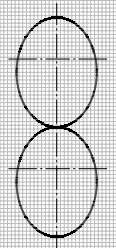
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
345			Gear mechanisms; gear (designation of tooth type); bevel wheels; straight toothed – permissible symbol ISO 3952-2
346			Gear mechanisms; gear (designation of tooth type); bevel wheels; spiral ISO 3952-2
347			Gear mechanisms; gear (designation of tooth type); bevel wheels; spiral – permissible symbol ISO 3952-2
348			Gear mechanisms; gear (designation of tooth type); cylindrical wheels; circular (zerol) ISO 3952-2
349			Gear mechanisms; gear (designation of tooth type); cylindrical wheels; circular (zerol) – permissible symbol ISO 3952-2
350		 	Gear transmission (without specification of tooth form); cylindrical with circular gears ISO 3952-2
351		 	Gear transmission (without specification of tooth form); cylindrical with circular gears – permissible symbol ISO 3952-2
352		 	Gear transmission (without specification of tooth form); cylindrical with non-circular gears ISO 3952-2

Table 18 (continued)

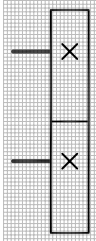
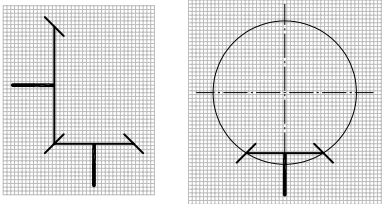
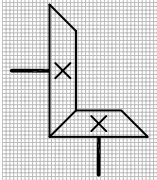
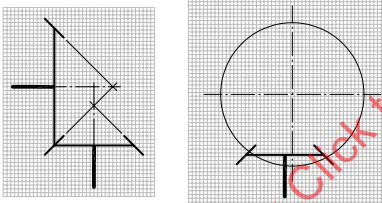
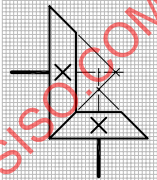
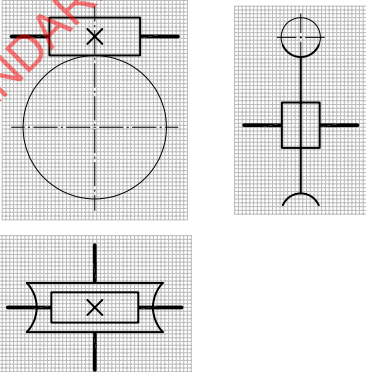
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
353			Gear transmission (without specification of tooth form); cylindrical with non-circular gears - permissible symbol ISO 3952-2
354			Gear transmission (without specification of tooth form); bevel ISO 3952-2
355			Gear transmission (without specification of tooth form); bevel - permissible symbol ISO 3952-2
356			Gear transmission (without specification of tooth form); hypoid ISO 3952-2
357			Gear transmission (without specification of tooth form); hypoid - permissible symbol ISO 3952-2
358			Gear transmission (without specification of tooth form); worm-gear with cylindrical worm ISO 3952-2

Table 18 (continued)

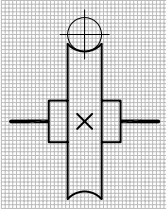
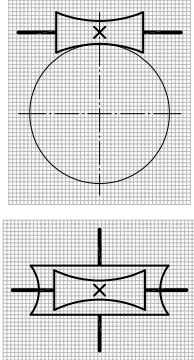
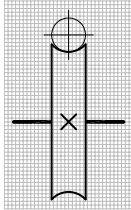
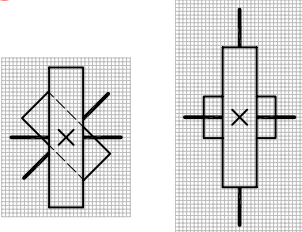
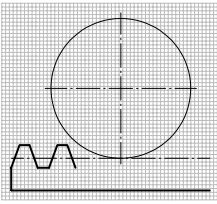
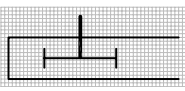
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
359			Gear transmission (without specification of tooth form); worm-gear with cylindrical worm - permissible symbol ISO 3952-2
360			Gear transmission (without specification of tooth form); double enveloping worm-gear pair (globoidal) ISO 3952-2
361			Gear transmission (without specification of tooth form); double enveloping worm-gear pair (globoidal) - permissible symbol ISO 3952-2
362			Gear transmission (without specification of tooth form); crossed helical gears ISO 3952-2
363			Gear transmission (without specification of tooth form); crossed helical gears - permissible symbol ISO 3952-2
364			Rack-type transmission; general designation ISO 3952-2
365			Rack-type transmission; general designation - permissible symbol ISO 3952-2

Table 18 (continued)

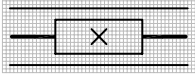
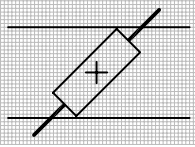
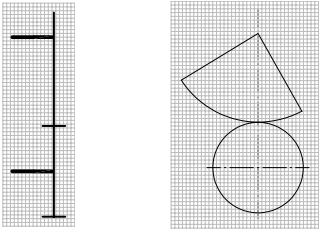
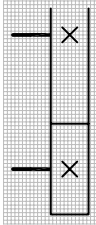
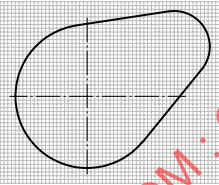
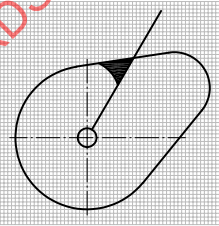
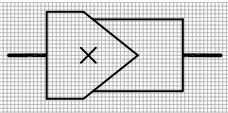
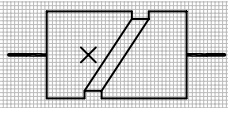
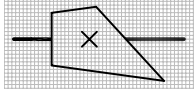
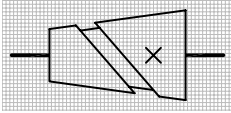
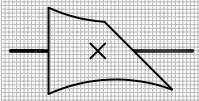
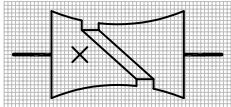
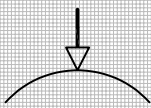
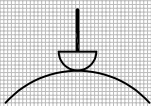
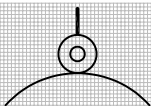
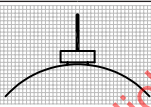
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
366			Rack-type transmission; worm and worm - permissible ISO 3952-2
367			Rack-type transmission; toothed rack and worm - permissible ISO 3952-2
368			Transmission with sector gear ISO 3952-2
369			Transmission with sector gear - permissible symbol ISO 3952-2
370			Rotating cam plate ISO 3952-2
371			Rectilinearly moving cam plate ISO 3952-2
372			Fixed connection of cam with bar ISO 3952-2
373			Spatial rotating cam; cylindrical ISO 3952-2
374			Spatial rotating cam; cylindrical - permissible symbol ISO 3952-2
375			Spatial rotating cam; conical ISO 3952-2

Table 18 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
376			Spatial rotating cam; conical – permissible symbol ISO 3952-2
377			Spatial rotating cam; globoidal ISO 3952-2
378			Spatial rotating cam; globoidal – permissible symbol ISO 3952-2
379			Cam follower; knife-edge ISO 3952-2
380			Cam follower; arcuate ISO 3952-2
381			Cam follower; roller ISO 3952-2
382			Cam follower; flat-faces (or mushroom) ISO 3952-2

The symbols in ISO 3952-3:1979 are shown in [Table 19](#).

Table 19 — ISO 3952-3:1979 symbols

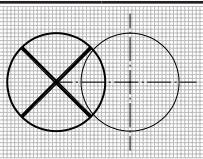
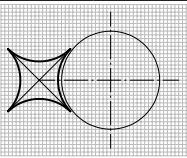
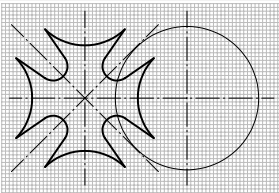
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
383			Geneva mechanism – general symbol ISO 3952-3
384			Geneva mechanism; with external engagement ISO 3952-3
385			Geneva mechanism; with external engagement – Permissible ISO 3952-3

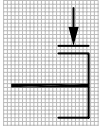
Table 19 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
386			Geneva mechanism; with internal engagement ISO 3952-3
387			Geneva mechanism; with internal engagement - permissible symbol ISO 3952-3
388			Ratchet mechanism with pawl; with external engagement ISO 3952-3
389			Ratchet mechanism with pawl; with external engagement - permissible symbol ISO 3952-3
390			Ratchet mechanism with pawl; With internal engagement ISO 3952-3
391			Ratchet mechanism with pawl; with internal engagement - permissible symbol ISO 3952-3
392			Ratchet mechanism with pawl; with rack engagement ISO 3952-3
393			Couplings - general symbol ISO 3952-3
394			Couplings; fixed couplings ISO 3952-3
395			Couplings; compensating couplings ISO 3952-3
396			Couplings; elastic couplings ISO 3952-3
397			Controllable clutches ISO 3952-3

Table 19 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
398			Gear clutches; one-way ISO 3952-3
399			Gear clutches; one-way - permissible symbol ISO 3952-3
400			Gear clutches; two-way ISO 3952-3
401			Friction (asynchronous) clutch; one-way ISO 3952-3
402			Friction (asynchronous) clutch; one-way - permissible symbol ISO 3952-3
403			Friction (asynchronous) clutch; two-way ISO 3952-3
404			Friction (asynchronous) clutch; two-way - permissible symbol ISO 3952-3
405			Hydraulic clutches - general symbol ISO 3952-3
406			Electric clutches ISO 3952-3
407			Automatic (self-acting) clutches; general symbol ISO 3952-3
408			Automatic (self-acting) clutches; centrifugal friction clutch ISO 3952-3
409			Automatic (self-acting) clutches; overrunning clutch ISO 3952-3
410			Automatic (self-acting) clutches; slip clutch; with destructible element ISO 3952-3
411			Automatic (self-acting) clutches; slip clutch; with non-destructible element ISO 3952-3

Table 19 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
412			Brakes; general symbol ISO 3952-3
413		M (see ISO 3098-1)	Brakes; qualifying symbol added to general symbol if needed; mechanical ISO 3952-3
414		H (see ISO 3098-1)	Brakes; qualifying symbol added to general symbol if needed; hydraulic ISO 3952-3
415		P (see ISO 3098-1)	Brakes; qualifying symbol added to general symbol if needed; pneumatic ISO 3952-3
416		E (see ISO 3098-1)	Brakes; qualifying symbol added to general symbol if needed; electrical ISO 3952-3

The symbols in ISO 3952-4:1984 are shown in [Table 20](#).

Table 20 — ISO 3952-4:1984 symbols

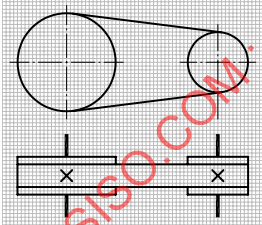
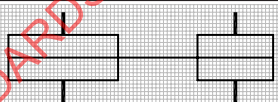
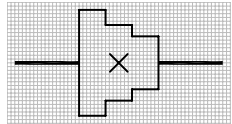
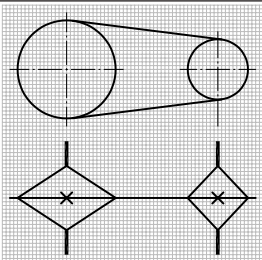
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
417			Belt drive; general symbol without type specification ISO 3952-4
418			Belt drive; general symbol without type specification, alternate ISO 3952-4
419			Stepped pulley mounted on a shaft ISO 3952-4
420			Chain drive; general symbol without type specification ISO 3952-4

Table 20 (continued)

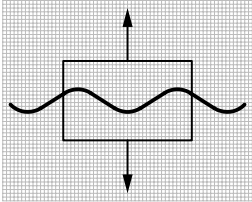
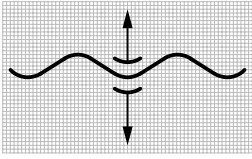
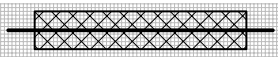
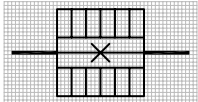
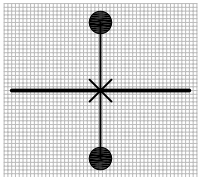
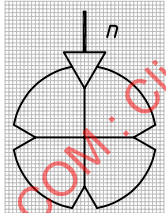
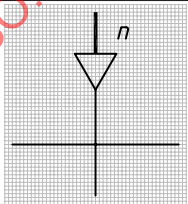
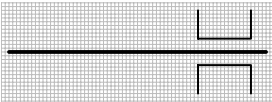
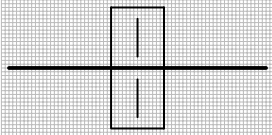
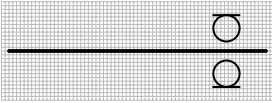
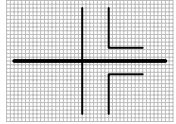
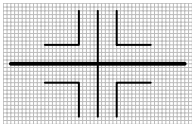
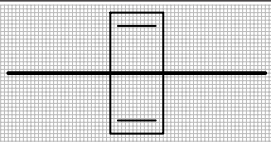
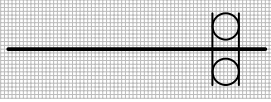
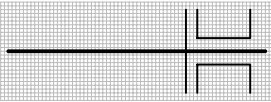
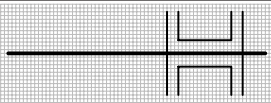
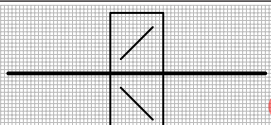
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
421			Lead screw drive with a split nut ISO 3952-4
422			Lead screw drive with a split nut - permissible symbol ISO 3952-4
423			Flexible shaft for transmission of rotational moment ISO 3952-4
424			Flywheel on a shaft ISO 3952-4
425			Flywheel on a shaft - permissible symbol ISO 3952-4
426			Dividing head ISO 3952-4
427			Dividing head - permissible symbol ISO 3952-4
428			Radial bearing; plain ISO 3952-4
429			Radial bearing; rolling ISO 3952-4
430			Radial bearing; rolling - permissible symbol ISO 3952-4

Table 20 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
431			Thrust bearing; plain; single-sided ISO 3952-4
432			Thrust bearing; plain; double-sided ISO 3952-4
433			Thrust bearing; rolling ISO 3952-4
434			Thrust bearing; rolling - permissible symbol ISO 3952-4
435			Radial thrust bearing; plain; single-sided ISO 3952-4
436			Radial thrust bearing; plain; double-sided ISO 3952-4
437			Radial thrust bearing; rolling ISO 3952-4
438			Radial thrust bearing; rolling - permissible symbol ISO 3952-4

The symbols in ISO 5261:1995 are shown in [Table 21](#).

Table 21 — ISO 5261:1995 symbols

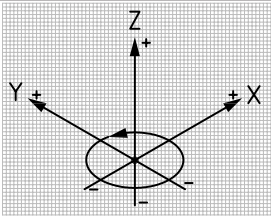
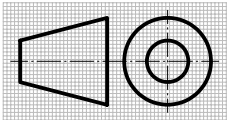
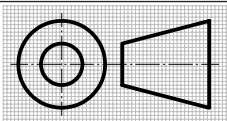
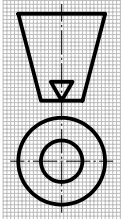
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
439			Cylindrical (diameter) ISO 5261 ISO 129-1
440			Square bar section ISO 5261 ISO 129-1
441			Rectangular bar section ISO 5261

Table 21 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
442			Hexagonal bar section ISO 5261
443			Triangular bar section ISO 5261
444			Semi-circular bar section ISO 5261
445			Angle profile section ISO 5261 ISO 129-5
446			T-section profile section ISO 5261 ISO 129-5
447			I-beam profile section ISO 5261 ISO 129-5
448			H-beam profile section ISO 5261 ISO 129-5
449			Channel profile section ISO 5261 ISO 129-5
450			Z profile section ISO 5261 ISO 129-5
451			Rail profile section ISO 5261
452			Bulb angle profile section ISO 5261
453			Bulb flat profile section ISO 5261

The symbols in ISO 5456-1:1996 and ISO 5456-2:1996 are shown in [Table 22](#).

Table 22 — ISO 5456-1:1996 and ISO 5456-2:1996 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
454			Coordinate system ISO 5456-1
455			First angle projection ISO 5456-2 ISO 128-3
456			Third angle projection ISO 5456-2 ISO 128-3
457			Mirrored orthographic representation ISO 5456-2

The symbols in ISO 5457:1999 are shown in [Table 23](#).

Table 23 — ISO 5457:1999 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
458			Trimming mark ISO 5457

The symbols in ISO 5459:2011 are shown in [Table 24](#).

Table 24 — ISO 5459:2011 symbols

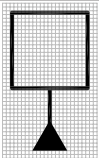
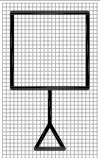
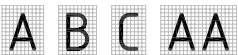
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
459		 or 	Datum feature indicator ISO 5459
460		Capital letters such as: 	Datum feature identifier ISO 5459

Table 24 (continued)

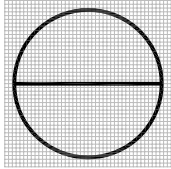
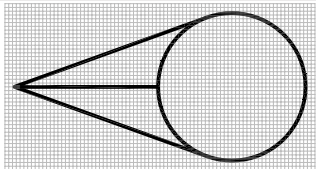
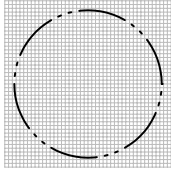
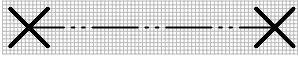
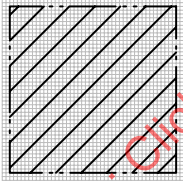
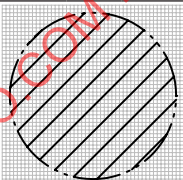
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
461			Single datum target frame ISO 5459
462			Moveable datum target frame ISO 5459
463			Datum target point ISO 5459
464			Closed datum target line ISO 5459
465			Non-closed datum target line ISO 5459
466			Datum target area ISO 5459
467			Datum target area ISO 5459
468		[PD] (see ISO 3098-1)	Pitch diameter ISO 5459
469		[MD] (see ISO 3098-1)	Major diameter ISO 5459
470		[LD] (see ISO 3098-1)	Minor diameter ISO 5459
471		[ACS] (see ISO 3098-1)	Any cross-section ISO 5459 ISO 1101
472		[ALS] (see ISO 3098-1)	Any longitudinal section ISO 5459

Table 24 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
473		 (see ISO 3098-1)	Contacting feature ISO 5459
474		 (see ISO 3098-1)	Variable distance (for common datum) ISO 5459
475		 (see ISO 3098-1)	Point situation feature ISO 5459
476		 (see ISO 3098-1)	Straight line situation feature ISO 5459
477		 (see ISO 3098-1)	Plane situation feature ISO 5459
478			Orientation constraint only ISO 5459
479			Projected ISO 5459 ISO 1101

The symbols in ISO 5845-1:1995 are shown in [Table 25](#).

Table 25 — ISO 5845-1:1995 symbols

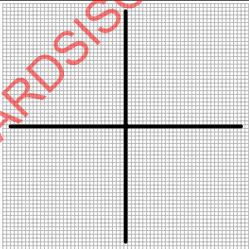
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
480			Fastener position ISO 5845-1
481			Fastener position; with prominent dot ISO 5845-1
482			Hole, bolt or rivet; drilled and fitted into the work-shop; without countersinking ISO 5845-1
483			Hole, bolt or rivet; drilled and fitted into the work-shop; countersunk on near side ISO 5845-1
484			Hole, bolt or rivet; drilled and fitted into the work-shop; countersunk on far side ISO 5845-1

Table 25 (continued)

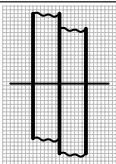
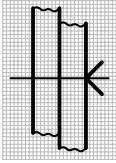
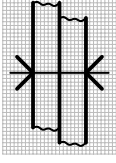
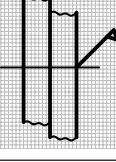
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
485			Hole, bolt or rivet; drilled and fitted into the workshop; countersunk on both sides ISO 5845-1
486			Hole, bolt or rivet; drilled in the workshop and fitted on site; without countersinking ISO 5845-1
487			Hole, bolt or rivet; drilled in the workshop and fitted on site; countersunk on near side ISO 5845-1
488			Hole, bolt or rivet; drilled in the workshop and fitted on site; countersunk on far side ISO 5845-1
489			Hole, bolt or rivet; drilled in the workshop and fitted on site; countersunk on both sides ISO 5845-1
490			Hole, bolt or rivet; drilled and fitted on site; without countersinking ISO 5845-1
491			Hole, bolt or rivet; drilled and fitted on site; countersunk on near side ISO 5845-1
492			Hole, bolt or rivet; drilled and fitted on site; countersunk on far side ISO 5845-1
493			Hole, bolt or rivet; drilled and fitted on site; countersunk on both sides ISO 5845-1
494			Hole; drilled in the workshop; without countersinking ISO 5845-1
495			Hole; drilled in the workshop; countersunk on one side only ISO 5845-1
496			Hole; drilled in the workshop; countersunk on both sides ISO 5845-1
497			Hole; drilled on site; without countersinking ISO 5845-1

Table 25 (continued)

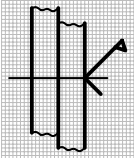
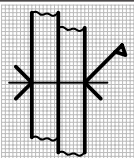
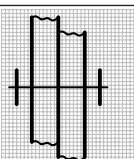
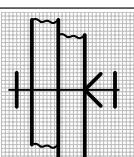
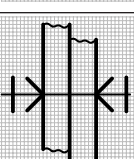
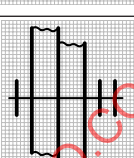
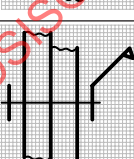
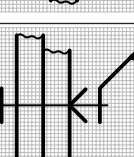
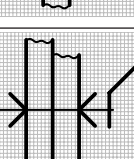
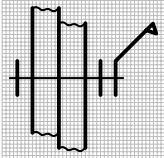
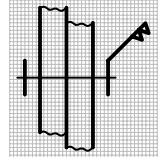
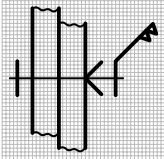
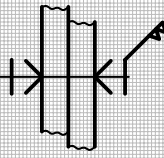
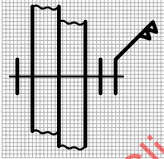
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
498			Hole; drilled on site; countersunk on one side only ISO 5845-1
499			Hole; drilled on site; countersunk on both sides ISO 5845-1
500			Bolt or rivet; Fitted in the workshop; without countersinking ISO 5845-1
501			Bolt or rivet; fitted in the workshop; hole countersunk on one side only ISO 5845-1
502			Bolt or rivet; fitted in the workshop; countersunk on both sides ISO 5845-1
503			Bolt or rivet; fitted in the workshop; bolt with designated nut position ISO 5845-1
504			Bolt or rivet; fitted on site; without countersinking ISO 5845-1
505			Bolt or rivet; fitted on site; hole countersunk on one side only ISO 5845-1
506			Bolt or rivet; fitted on site; countersunk on both sides ISO 5845-1

Table 25 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
507			Bolt or rivet; fitted on site; bolt with designated nut position ISO 5845-1
508			Bolt or rivet; hole drilled on site and bolt or rivet fitted on site; without countersinking ISO 5845-1
509			Bolt or rivet; hole drilled on site and bolt or rivet fitted on site; hole countersunk on one side only ISO 5845-1
510			Bolt or rivet; hole drilled on site and bolt or rivet fitted on site; countersunk on both sides ISO 5845-1
511			Bolt or rivet; hole drilled on site and bolt or rivet fitted on site; bolt with designated nut position ISO 5845-1

The symbols in ISO 5845-2:1995 are shown in [Table 26](#).

Table 26 — ISO 5845-2:1995 symbols

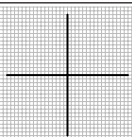
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
512			Countersink; near side ISO 5845-2
513			Countersink; far side ISO 5845-2
514			Dimpling; near side ISO 5845-2
515			Dimpling; far side ISO 5845-2
516			Set rivet, symbolic representation ISO 5845-2

Table 26 (continued)

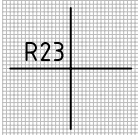
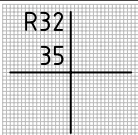
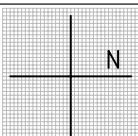
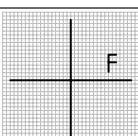
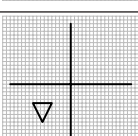
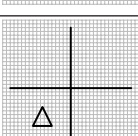
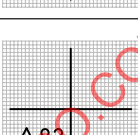
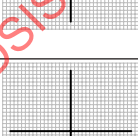
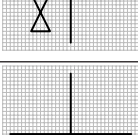
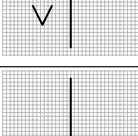
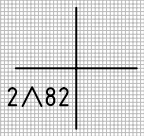
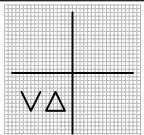
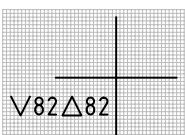
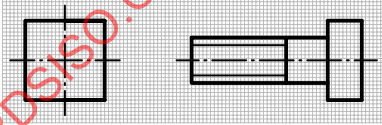
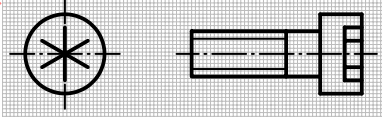
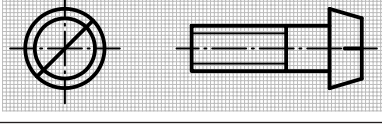
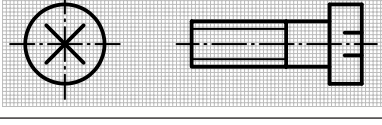
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
517			Rivet; upper lefthand quadrant; item reference number; solid rivet ISO 5845-2
518			Rivet; upper lefthand quadrant; composite rivet with sleeve ISO 5845-2
519			Rivet; upper righthand quadrant; position of preformed head; ear side ISO 5845-2
520			Rivet; upper righthand quadrant; position of preformed head; far side ISO 5845-2
521			Countersink; lower lefthand quadrant; 100° near side ISO 5845-2
522			Countersink; lower lefthand quadrant; 100° far side ISO 5845-2
523			Countersink; lower lefthand quadrant; other than 100° ISO 5845-2 A value other than 100° to be used in the symbol, 82° shown only as an example.
524			Countersink; Lower lefthand quadrant; both sides ISO 5845-2
525			Dimpling; lower lefthand quadrant; near side; 100° ISO 5845-2
526			Dimpling; lower lefthand quadrant; far side; 100° ISO 5845-2

Table 26 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
527			Dimpling; lower lefthand quadrant; two sheets; far side; other than 100° ISO 5845-2 The number of sheets in drawing and a value other than 100° to be used in the symbol, the number 2 and 82° shown only as an example.
528			Combined countersink and dimpling; lower lefthand quadrant; near side; 100° ISO 5845-2
529			Combined countersink and dimpling; lower lefthand quadrant; first sheet, near side; other than 100°; second sheet; far side; other than 100° ISO 5845-2 A value other than 100° to be used in the symbol, 82° shown only as an example.

The symbols in ISO 6410-3:1993¹⁾ are shown in Table 27.

Table 27 — ISO 6410-3:1993 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
530			Hexagon head screw ISO 6410-3
531			Square head screw ISO 6410-3
532			Hexagonal socket screw ISO 6410-3
533			Cylinder screw (pan-head type), slot ISO 6410-3
534			Cylinder screw, cross slot ISO 6410-3

1) Cancelled and replaced by ISO 6410-3:2021.

Table 27 (continued)

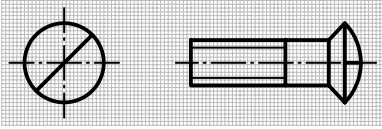
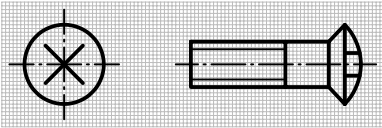
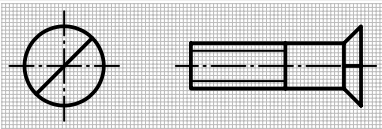
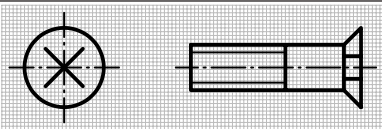
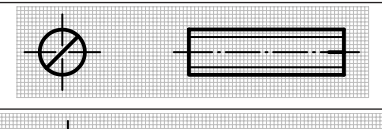
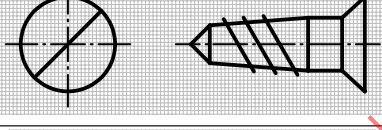
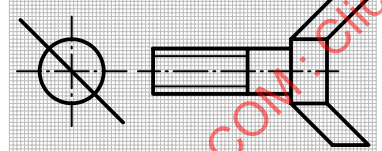
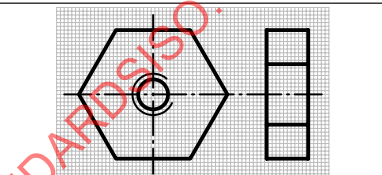
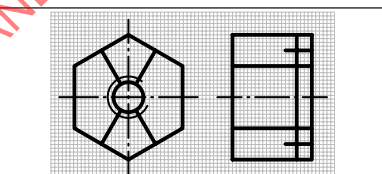
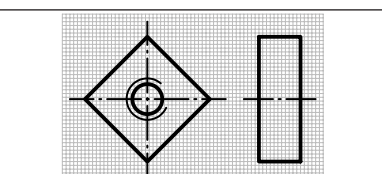
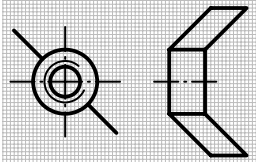
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
535			Oval countersunk screw, slot ISO 6410-3
536			Oval countersunk screw, cross slot ISO 6410-3
537			Countersunk screw, slot ISO 6410-3
538			Countersunk screw, cross slot ISO 6410-3
539			Set screw, slot ISO 6410-3
540			Wood and self-tapping screw, slot ISO 6410-3
541			Wing screw ISO 6410-3
542			Hexagon nut ISO 6410-3
543			Crown nut ISO 6410-3
544			Square nut ISO 6410-3

Table 27 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
545			Wing nut ISO 6410-3

The symbols in ISO 6411:1982 are shown in Table 28.

Table 28 — ISO 6411:1982 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
546			Centre hole ISO 6411
547			Centre hole is required on the finished part ISO 6411
548			Centre hole shall not exist on the finished part ISO 6411

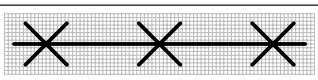
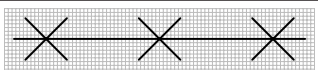
The symbols in ISO 6413:2018 are shown in Table 29.

Table 29 — ISO 6413:2018 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
549			Straight-sided spline joint ISO 6413
550			Involute spline and serrations ISO 6413

The symbols in ISO 7518:1983 are shown in Table 30.

Table 30 — ISO 7518:1983 symbols

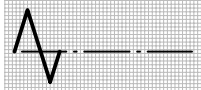
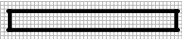
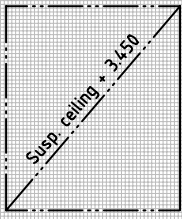
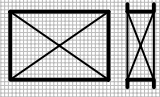
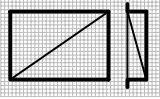
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
551			Indication of item to be removed (cross, line weight varies) ISO 7518
552			Part to be removed, existing drawing ISO 7518
553			Part to be removed, new drawing ISO 7518

The symbols in ISO 7519:1991 are shown in Table 31.

Table 31 — ISO 7519:1991 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
554			Stair, without cutting ISO 7519
555			Stair, with cutting ISO 7519
556			Bottom of a riser or ramp ISO 7519
557			Ramp, riser ISO 7519
558			Door, side-hung, without arc ISO 7519
559			Door, side-hung, with arc ISO 7519
560			Door, swing, without arc ISO 7519
561			Door, swing, with arc ISO 7519
562			Door, sliding, on face ISO 7519
563			Door, sliding, with recess ISO 7519
564			Door, revolving ISO 7519
565			Door, overhead, ISO 7519
566			Door, sliding-folding ISO 7519

Table 31 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
567			Door, sliding-folding ISO 7519
568			Windows ISO 7519
569			Windows ISO 7519
570			Windows ISO 7519
571			Suspended ceiling ISO 7519
572			Openings and holes ISO 7519
573			Recesses ISO 7519
574			Direction ISO 7519
575			Indication of north ISO 7519
576			Entrance ISO 7519
577			Direction of veneer, span, pattern, etc. ISO 7519

The symbols in ISO 8015:2011 are shown in [Table 32](#).

Table 32 — ISO 8015:2011 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
578			Altered default ISO 8015

The symbols in ISO 8560:2019 are shown in [Table 33](#).

Table 33 — ISO 8560:2019 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
579			Identification of a multi-modular grid line ISO 8560
580			Reference for a modular line ISO 8560

The symbols in ISO 8826-1:1989 and ISO 8826-2:1994 are shown in [Table 34](#).

Table 34 — ISO 8826-1:1989 and ISO 8826-2:1994 symbols

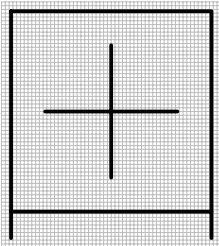
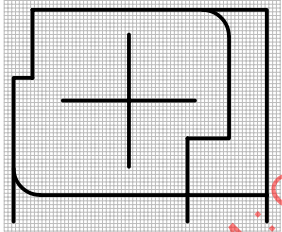
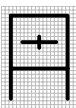
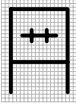
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
581			General purposes, without specified load-bearing characteristics or bearing features ISO 8826-1
582			Showing exact contour with upright cross in the centre position ISO 8826-1
583			Axis ISO 8826-2
584			Axis of rolling element ISO 8826-2
585			Number of rows and positions of the rolling elements ISO 8826-2
586			Ball ISO 8826-2
587			Roller ISO 8826-2
588			Needle-roller pin ISO 8826-2
589			Deep groove ball bearing, single row Cylindrical roller bearing, single row ISO 8826-2
590			Deep groove ball bearing, double row Cylindrical roller bearing, double row ISO 8826-2

Table 34 (continued)

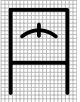
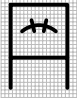
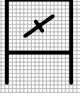
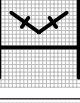
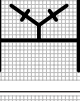
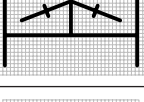
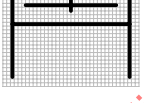
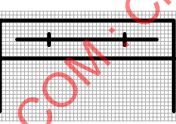
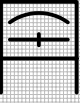
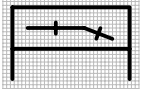
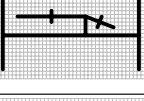
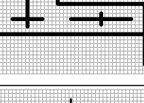
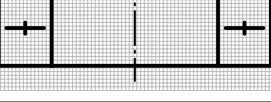
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
591			Spherical roller bearing, single row ISO 8826-2
592			Ball bearing, self-aligning, double row Spherical roller bearing, double row ISO 8826-2
593			Separable ball bearing, angular contact, single row Tapered roller bearing, angular contact, single row ISO 8826-2
594			Non-separable ball bearing, angular contact, double row ISO 8826-2
595			Separable ball bearing, angular contact, double row, two-piece inner ring ISO 8826-2
596			Tapered roller bearing, angular contact, double row, two-piece inner ring ISO 8826-2
597			Needle roller bearings, single row Drawn cup needle roller bearing without inner ring Needle cage ISO 8826-2
598			Needle roller bearings, double row Drawn cup needle roller bearing without inner ring, double row Double row needle cage ISO 8826-2
599			Self-aligning needle roller bearings ISO 8826-2
600			Needle roller bearing and ball bearing, both radial contact ISO 8826-2
601			Needle roller bearing and ball bearing, both radial contact with two-piece inner ring contact ISO 8826-2
602			Needle roller bearing without inner ring with radial contact and ball bearing with axial contact ISO 8826-2
603			Single-direction thrust ball bearing ISO 8826-2

Table 34 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
604			Double-direction thrust ball bearing ISO 8826-2
605			Angular contact thrust ball bearing ISO 8826-2
606			Single-direction thrust ball bearing with one spherical ring ISO 8826-2
607			Double-direction thrust ball bearing with two spherical rings ISO 8826-2
608			Self-aligning thrust roller bearing ISO 8826-2

The symbols in ISO 9222-1:1989 and ISO 9222-2:1989 are shown in [Table 35](#).

Table 35 — ISO 9222-1:1989 and ISO 9222-2:1989 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
609			General purposes, without specified lip configuration ISO 9222-1
610			Need to show sealing direction ISO 9222-1

Table 35 (continued)

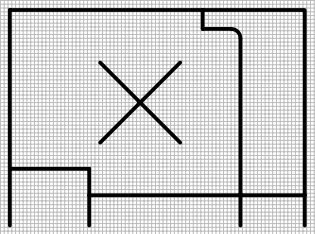
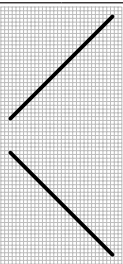
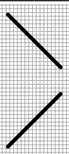
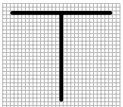
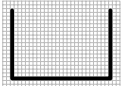
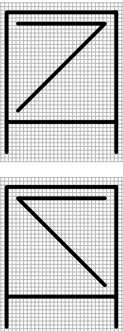
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
611			Necessary to show exact contour ISO 9222-1
612			Static (pressed in, fixed) element (seal or part of the seal or function) ISO 9222-2
613			Dynamic sealing element (lip) or function (part of the seal) ISO 9222-2
614			Dust lips, wipers, etc. ISO 9222-2
615			Sealing lips of U-cups, V-rings, packing sets, etc. ISO 9222-2
616			U-cups, V-rings, packing sets, etc. ISO 9222-2
617			T (male) contactless seals ISO 9222-2
618			U (female) contactless seals ISO 9222-2
619			Rotary shaft lip type seals without dust lip Mechanical seals ISO 9222-2

Table 35 (continued)

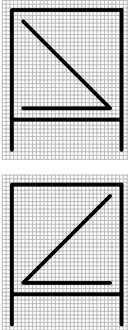
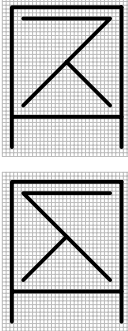
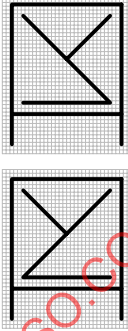
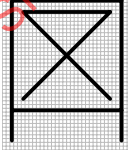
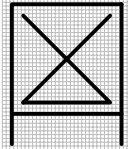
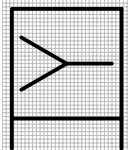
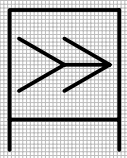
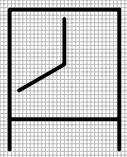
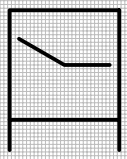
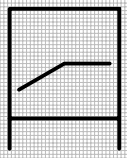
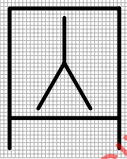
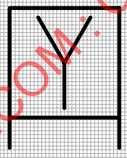
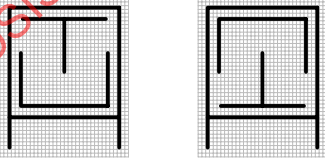
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
620			Rotary shaft lip type seals without dust lip Mechanical seals ISO 9222-2
621			Rotary shaft lip type seals with dust lip ISO 9222-2
622			Rotary shaft lip type seals with dust lip ISO 9222-2
623			Rotary shaft lip type seals without dust lip, double acting Mechanical seals ISO 9222-2
624			Rotary shaft lip type seals without dust lip, double acting Mechanical seals ISO 9222-2
625			Detailed representation of U-cups, packing sets and V-rings ISO 9222-2

Table 35 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
626			Detailed representation of U-cups, packing sets and V-rings ISO 9222-2
627			Detailed representation of U-cups, packing sets and V-rings ISO 9222-2
628			Detailed representation of U-cups, packing sets and V-rings ISO 9222-2
629			Detailed representation of U-cups, packing sets and V-rings ISO 9222-2
630			Detailed representation of U-cups, packing sets and V-rings ISO 9222-2
631			Detailed representation of U-cups, packing sets and V-rings ISO 9222-2
632			Detailed simplified representation of labyrinth seals (irrespective of the number of labyrinths) ISO 9222-2

The symbols in ISO 10135:2007 are shown in [Table 36](#).

Table 36 — ISO 10135:2007 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
633		 (see ISO 3098-1)	Core ISO 10135
634		 (see ISO 3098-1)	Ejector ISO 10135

Table 36 (continued)

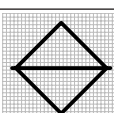
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
635		 (see ISO 3098-1)	Flash ISO 10135
636		 (see ISO 3098-1)	Flash free ISO 10135
637		 (see ISO 3098-1)	Gate ISO 10135
638		 (see ISO 3098-1)	Heat dissipation (chill markings) ISO 10135
639		 (see ISO 3098-1)	Main ISO 10135
640		 (see ISO 3098-1)	Part removal direction ISO 10135
641		 (see ISO 3098-1)	Riser ISO 10135
642		 (see ISO 3098-1)	Slider (side core)
643		 (see ISO 3098-1)	Surface mismatch ISO 10135
644		 (see ISO 3098-1)	Taper (draft) to fit ISO 10135
645		 (see ISO 3098-1)	Taper – ISO 10135
646		 (see ISO 3098-1)	Tool motion direction ISO 10135
647		 (see ISO 3098-1)	Taper + ISO 10135
648		 (see ISO 3098-1)	Vent ISO 10135
649			Parting surface, fixed ISO 10135

Table 36 (continued)

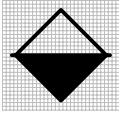
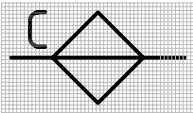
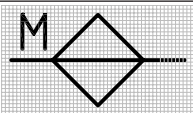
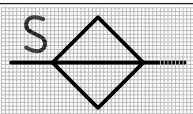
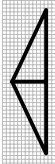
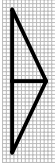
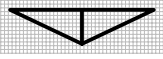
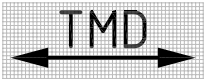
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
650			Parting surface, movable ISO 10135
651			Parting surface letter, cores ISO 10135
652			Parting surface letter, main surface of moulds ISO 10135
653			Parting surface letter, sliders ISO 10135
654			Position of mismatch and flash indication in a parting symbol ISO 10135
655			Tool marking ISO 10135
656		 (see ISO 3098-1)	Tool marking letter, ejector ISO 10135
657		 (see ISO 3098-1)	Tool marking letter, gate ISO 10135
658		 (see ISO 3098-1)	Tool marking letter, heat dissipation (chill markings) ISO 10135
659		 (see ISO 3098-1)	Tool marking letter, riser ISO 10135
660		 (see ISO 3098-1)	Tool marking letter, vent ISO 10135
661			Tool marking elevated ISO 10135
662			Tool marking depressed ISO 10135
663			Ejector ISO 10135
664			Surface mismatch elevation ISO 10135
665			Surface mismatch depression ISO 10135

Table 36 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
666			Surface mismatch elevation and/or depression ISO 10135
667			Extended region; global; all around ISO 10135
668			Extended region; global; all over ISO 10135
669			Extended region; partial; all around ISO 10135
670			Extended region; partial; all over ISO 10135
671			Extended region; global; all about, horizontal axis indicator ISO 10135
672			Extended region; global; all about, vertical axis indicator ISO 10135
673			Extended region; partial; all about, horizontal axis indicator ISO 10135
674			Extended region; partial; all about, vertical axis indicator ISO 10135
675			Draft angle, single inclination symbol - left ISO 10135
676			Draft angle, single inclination symbol - left ISO 10135
677			Draft angle, single inclination symbol - right ISO 10135
678			Draft angle, Single inclination symbol - right ISO 10135
679			Draft angle, Single inclination symbol - up ISO 10135
680			Draft angle, Single inclination symbol - up ISO 10135
681			Draft angle, Single inclination symbol - down ISO 10135
682			Draft angle, Single inclination symbol - down ISO 10135

Table 36 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
683			Draft angle, combined inclination symbol - up/down ISO 10135
684			Draft angle, combined inclination symbol - up/down ISO 10135
685			Draft angle, combined inclination symbol - right/left ISO 10135
686			Draft angle, combined inclination symbol - right/left ISO 10135
687			Tool motion direction ISO 10135
688		 (see ISO 3098-1)	Movable tool letter, cores ISO 10135
689		 (see ISO 3098-1)	Movable tool letter, main part ISO 10135
690		 (see ISO 3098-1)	Movable tool letter, sliders ISO 10135
691		 or 	Part removal direction, left Part removal direction, right ISO 10135
692			Surface enlargement ISO 10135
693			Sinks ISO 10135
694			Undisturbed surface ISO 10135
695			Porosity ISO 10135

The symbols in ISO 11091:1994 are shown in [Table 37](#).

Table 37 — ISO 11091:1994 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
696			Subdivision of plant bed/grasses ISO 11091
697			Tangent point or point of transition ISO 11091
698			Existing contour ISO 11091
699			Proposed contour ISO 11091
700			No-cut or no-fill line ISO 11091
701			Outline of areas to be protected ISO 11091
702			Outline of existing shrub and woodland areas ISO 11091
703			Outline of proposed shrub and woodland areas ISO 11091
704			General area to be removed ISO 11091
705			Embankment ISO 11091
706			Direction of flow ISO 11091
707			Fence ISO 11091
708			Stile ISO 11091
709			Retaining wall ISO 11091
710			Sheet pile ISO 11091
711			Grass ISO 11091
712			Plant bed ISO 11091

Table 37 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
713			Proposed shrub/plant ISO 11091
714			Climber ISO 11091
715			Existing hedge to be retained ISO 11091
716			Proposed hedge, conventional ISO 11091
717			Proposed hedge, alternative showing plant positions ISO 11091
718			Existing tree ISO 11091
719			Proposed tree ISO 11091
720			Tree pit ISO 11091
721			Small unit paving ISO 11091
722			Large unit paving ISO 11091
723			Cobbles ISO 11091
724			Hose point ISO 11091
725			Sign ISO 11091
726			Luminaire, any type ISO 11091
727			Luminaire + wall bracket ISO 11091
728			Pole + arm + luminaire ISO 11091

Table 37 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
729			Bollard + low-level luminaire ISO 11091

The symbols in ISO 13385-1:2019 and ISO 13385-2:2020 are shown in [Table 38](#).

Table 38 — ISO 13385-1:2019 and ISO 13385-2:2020 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
730		 (see ISO 3098-1)	Maximum permissible error ISO 13385-1 ISO 13385-2
731		 (see ISO 3098-1)	Partial surface contact error, E ISO 13385-1 ISO 13385-2
732		 (see ISO 3098-1)	Shift error, S ISO 13385-1 ISO 13385-2

The symbols in ISO 13715:2017 are shown in [Table 39](#).

Table 39 — ISO 13715:2017 symbols

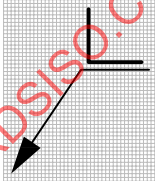
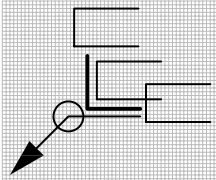
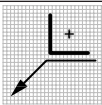
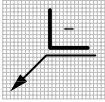
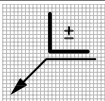
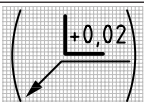
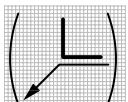
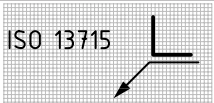
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
733			Edges of undefined shape – basic indication ISO 13715
734			All around symbol, all edges around the profile of the part ISO 13715 ISO 15785
735			Plus, permitted excess material in relation to the ideal shape of the edge ISO 13715
736			External or internal edge; passing permitted; undercut not permitted ISO 13715
737			Minus, required material removal in relation to the ideal shape of the edge ISO 13715

Table 39 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
738			External edge or internal edge; passing not permitted; undercut required ISO 13715
739			Plus or minus ISO 13715 ISO 129-1
740			External edge or internal edge; passing permitted; undercut permitted ISO 13715
741			Reference indication of the state of an edge, parentheses around edge specification ISO 13715
742			Simplified representation of an additional state of edge in the context of a collective indication More than one state of edge is present in the drawing (basic symbol in parentheses). ISO 13715
743			Reference to standard ISO 13715

The symbols in ISO 14253-1:2017 are shown in [Table 40](#).

Table 40 — ISO 14253-1:2017 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
744		 (see ISO 3098-1)	Upper specification limit ISO 14253-1
745		 (see ISO 3098-1)	Lower specification limit ISO 14253-1
746		 (see ISO 3098-1)	Value of characteristic ISO 14253-1
747		 (see ISO 3098-1)	Coverage factor ISO 14253-1
748		 (see ISO 3098-1)	Probability density function ISO 14253-1
749		 (see ISO 3098-1)	Acceptance limits for verifying conformity ISO 14253-1

Table 40 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
750		 (see ISO 3098-1)	Acceptance limits for verifying nonconformity ISO 14253-1

The symbols in ISO 14405-1:2016 are shown in [Table 41](#).

Table 41 — ISO 14405-1:2016 and ISO 14405-3:2016 symbols

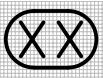
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
751			Base symbol ISO 14405-1
752			Two-point size ISO 14405-1
753			Local size defined by a sphere ISO 14405-1
754			Two-line angular size with minimax association criterion ISO 14405-3
755			Two-line angular size with least squares association criterion ISO 14405-3
756			Global size with least-squares association criterion (linear or angular) ISO 14405-1 ISO 14405-3
757			Maximum inscribed association criterion ISO 14405-1
758			Minimum circumscribed association criterion ISO 14405-1
759			Global size with minimax (chebyshev) association criteria (linear or angular) ISO 14405-1 ISO 14405-3
760			Circumference diameter (calculated size) ISO 14405-1
761			Area diameter (calculated size) ISO 14405-1
762			Volume diameter (calculated size) ISO 14405-1

Table 41 (continued)

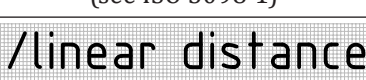
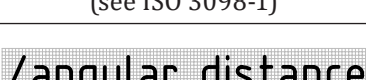
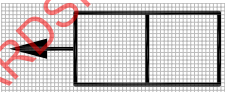
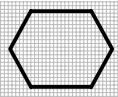
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
763			Maximum size (linear or angular) ISO 14405-1 ISO 14405-3
764			Minimum size (linear or angular) ISO 14405-1 ISO 14405-3
765			Average size (linear or angular) ISO 14405-1 ISO 14405-3
766			Median size (linear or angular) ISO 14405-1 ISO 14405-3
767			Mid-range size (linear or angular) ISO 14405-1 ISO 14405-3
768			Range of sizes (linear or angular) ISO 14405-1 ISO 14405-3
769			Standard deviation of sizes (linear or angular) ISO 14405-1 ISO 14405-3
770		 (see ISO 3098-1)	United feature of size ISO 14405-1
771			Envelope requirement ISO 14405-1 ISO 1101
772		 (see ISO 3098-1)	Any restricted portion of a feature ISO 14405-1 The word length is replaced with a value.
773		 (see ISO 3098-1)	Any restricted portion of angular feature of size ISO 14405-3 The word linear distance is replaced with a value.
774		 (see ISO 3098-1)	Any restricted portion of angular feature of size ISO 14405-3 The word angular distance is replaced with a value in degrees.
775		 (see ISO 3098-1)	Any cross-section ISO 14405-1

Table 41 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
776		 (see ISO 3098-1)	Specific fixed cross section ISO 14405-1 ISO 14405-3
777		 (see ISO 3098-1)	Any longitudinal section ISO 14405-1
778		 (see ISO 3098-1)	More than one feature ISO 14405-1 ISO 14405-3 The word number is to be replaced with the actual value.
779		 (see ISO 3098-1)	Common toleranced feature of size (linear or angular) ISO 14405-1 ISO 14405-3
780			Free-state condition ISO 14405-1 ISO 14405-3 ISO 1101
781			Between ISO 14405-1 ISO 14405-3 ISO 1101
782			Intersection plane ISO 14405-1 ISO 1101
783			Direction feature ISO 14405-1 ISO 1101
784			Flagnote ISO 14405-1 ISO 129-1

The symbols in ISO 15785:2002 are shown in [Table 42](#).

Table 42 — ISO 15785:2002 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
785			Surface joint ISO 15785
786			Inclined joint ISO 15785

Table 42 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
787			Fold joint ISO 15785
788			Pressed joint ISO 15785
789			Indication of joint around periphery ISO 15785 ISO 13715 The leader line and reference line are shown with the symbol for an example of application.

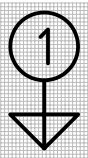
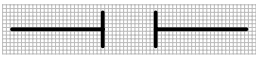
The symbols in ISO 15786:2008 are shown in [Table 43](#).

Table 43 — ISO 15786:2008 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
790			Diameter ISO 15786 ISO 129-1
791			Square ISO 15786 ISO 129-1
792			Sign between nominal size and depth or angle dimensions, number of features and of groups of features Also applies to countersink and chamfer dimensions. ISO 15786
793			Sign between depth dimensions or between number of groups and number of features ISO 15786
794		 (see ISO 3098-1)	Cylindrical counterbore, flat hole bottom ISO 15786
795		 (see ISO 3098-1)	Material-dependent bit (point angle of hole bottom) ISO 15786
796		 (see ISO 3098-1)	Indexable insert bit (hole bottom) ISO 15786

The symbols in ISO 15787:2016 are shown in [Table 44](#).

Table 44 — ISO 15787:2016 symbols

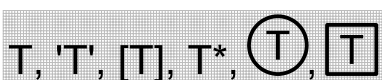
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
797			Test point ISO 15787
798			Measuring point with identification number ISO 15787 The number 1 is shown as an example.
799			Slip zone ISO 15787
800		 (see ISO 3098-1)	Case hardening depth ISO 15787
801		 (see ISO 3098-1)	Carburization depth ISO 15787
802		 (see ISO 3098-1)	Compound layer thickness ISO 15787
803		 (see ISO 3098-1)	Nitriding hardness depth ISO 15787
804		 (see ISO 3098-1)	Surface hardened depth ISO 15787
805		 (see ISO 3098-1)	Heat-treatment document ISO 15787
806		 (see ISO 3098-1)	Heat-treatment order ISO 15787
807			Oxide layer thickness ISO 15787

The symbols in ISO 16016:2016 are shown in [Table 45](#).

Table 45 — ISO 16016:2016 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
808			Copyright ISO 16016
809			Patent ISO 16016

Table 45 (continued)

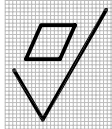
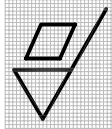
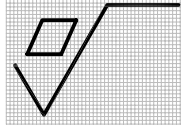
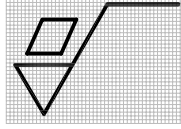
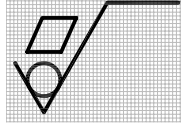
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
810			Utility ISO 16016
811			Designs ISO 16016
812			Registered trademark ISO 16016
813			Protection of topography of semiconductor product ISO 16016

The symbols in ISO 25178-1:2016 are shown in [Table 46](#).

Table 46 — ISO 25178-1:2016 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
814			Parallel to plane of projection of view in which symbol is used ISO 25178-1 ISO 1302
815			Perpendicular to plane of projection of view in which symbol is used ISO 25178-1 ISO 1302
816			Crossed in two oblique directions relative to plane of projection of view in which symbol is used ISO 25178-1 ISO 1302
817			Multi-directional ISO 25178-1 ISO 1302
818			Approximately circular relative to centre of surface to which symbol applies ISO 25178-1 ISO 1302
819			Approximately radial relative to centre of surface to which symbol applies ISO 25178-1 ISO 1302
820			Lay is particulate, non-directional or protuberant ISO 25178-1 ISO 1302

Table 46 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
821			Areal surface texture – basic graphical symbol for areal surface texture ISO 25178-1
822			Areal surface texture – expanded graphical symbol indicating removal of material required ISO 25178-1
823			Areal surface texture – expanded graphical symbol indicating removal of material not permitted ISO 25178-1
824			Areal surface texture – complete graphical symbol. any manufacturing process permitted ISO 25178-1
825			Areal surface texture – complete graphical symbol material shall be removed ISO 25178-1
826			Areal surface texture – complete graphical symbol. material shall not be removed ISO 25178-1
827			Areal surface texture – complete graphical symbol with “all around” modifier ISO 25178-1

The symbols in IEC 81346-1:2009 are shown in [Table 47](#).

Table 47 — IEC 81346-1:2009 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
828			Aspect of an object type IEC 81346-1
829			Occurrence of an object with the same aspect IEC 81346-1
830			Occurrence of an aspect of an object that does not have any further constituents in the actual aspect IEC 81346-1

The symbols in ISO/TS 8062-2:2013 are shown in [Table 48](#).

Table 48 — ISO/TS 8062-2:2013 symbols

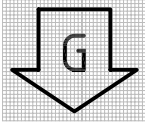
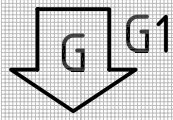
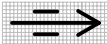
No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
831			Drawing identifier for final moulded part ISO/TS 8062-2
832			Drawing identifier for intermediate machined moulded part ISO/TS 8062-2
833			Drawing identifier for final machined moulded part ISO/TS 8062-2
834			Identifier for machining by the supplier ISO/TS 8062-2
835			Part condition identifier for final moulded part ISO/TS 8062-2
836			Part condition identifier for intermediate machined moulded part ISO/TS 8062-2
837			Part condition identifier for final machined moulded part ISO/TS 8062-2

The symbols in ISO/TS 17863:2013 are shown in [Table 49](#).

Table 49 — ISO/TS 17863:2013 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
838			Force indicator ISO/TS 17863
839			Force indicator including basic indication of specific direction of the force relative to a single datum ISO/TS 17863 The angularity symbol and reference to datum A are shown only as an example for how the symbol is used.
840			Force indicator including basic indication of specific direction of the force relative to a datum system ISO/TS 17863 The angularity symbol and reference to datums A and B are shown only as an example for how the symbol is used.

Table 49 (continued)

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
841			Force indicator including basic indication of specific direction of the force relative to a datum system ISO/TS 17863 The angularity symbol and reference to datum A, B and C are shown only as an example for how the symbol is used.
842			Complementary force indicator ISO/TS 17863
843			Gravity ISO/TS 17863
844			Gravity with related direction ISO/TS 17863
845			Mobility - translational ISO/TS 17863
846			Mobility - rotational ISO/TS 17863
847			Flag ISO/TS 17863 ISO 129-1 The flag symbol is used with a number placed inside of it.
848		 (see ISO 3098-1)	Movable part ISO/TS 17863
849		 (see ISO 3098-1)	Fixed part ISO/TS 17863
850		 (see ISO 3098-1)	Translational mobility in positive direction ISO/TS 17863
851		 (see ISO 3098-1)	Translational mobility in negative direction ISO/TS 17863
852		 (see ISO 3098-1)	Rotational mobility in positive direction ISO/TS 17863
853		 (see ISO 3098-1)	Rotational mobility in negative direction ISO/TS 17863

The symbols in ISO 18391:2016 are shown in [Table 50](#).

Table 50 — ISO 18391:2016 symbols

No.	ISO reg. no.	Symbol	Symbol name or description Standards symbol used in
854			Population specification ISO 18391

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