BS EN ISO 780:2015

BSI Standards Publication

Packaging — Distribution packaging — Graphical symbols for handling and storage of packages

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National foreword

This British Standard is the UK implementation of EN ISO 780:2015. It supersedes BS EN ISO 780:1999 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PKW/0, Packaging.

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

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English Version

Packaging - Distribution packaging - Graphical symbols for handling and storage of packages (ISO 780:2015)

Emballages - Emballages de distribution - Symboles graphiques pour la manutention et le stockage des emballages (ISO 780:2015)

Verpackung - Versandverpackung - Graphische Symbole für die Handhabung und Lagerung von Packstücken (ISO 780:2015)

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CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN ISO 780:2015) has been prepared by Technical Committee ISO/TC 122 "Packaging" in collaboration with Technical Committee CEN/TC 261 “Packaging” the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2016, and conflicting national standards shall be withdrawn at the latest by June 2016.

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

This document supersedes EN ISO 780:1999.

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The text of ISO 780:2015 has been approved by CEN as EN ISO 780:2015 without any modification.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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

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

The committee responsible for this document is ISO/TC 122, *Packaging*.

This fifth edition cancels and replaces the fourth edition (ISO 780:1997), which has been technically revised.

All the 17 graphical symbols in this International Standard have already been modified to accord with IEC 80416-1:2008, *Basic principles for graphical symbols for use on equipment — Part 1: Creation of graphical symbols for registration* and submitted to TC 145/SC 3 for registration on ISO 7000, *Graphical symbols for use on equipment — Registered symbols*.

Some of the major modification points are indicated as follows:

a) Title:

New: Packaging – Distribution packaging – Graphical symbols for handling and storage of packages

Old: Packaging – Pictorial marking for handling of goods

"Distribution packaging" is preferred to "transport packaging" in this standard. The reason is that "transport packaging" does not include "stored" packages, for example, in the practice of "transport packaging for dangerous goods". ISO 780 concerns with packages during storage as well as those during transport.

"Pictorial marking" is replaced by "graphical symbols" to coincide with TC 145's way of addressing pictorial marking.

b) Introduction:

Statements on safety issue and hand-written symbols have been added.

c) Handling instructions:

The order of the graphical symbols has been re-arranged in the following order.

1) Graphical symbols used for large-sized packages.

2) Graphical symbols used for middle and small-sized packages:

   — For all types of handling;

   — For manual handling;

   — For handling using machines.

3) Graphical symbols used for both transport and storage.

4) Graphical symbols used for storage.

To make this standard easier to use, the layout of the table has been changed and each graphical symbol has its Reference No. to ISO 7000, Meaning, Requirement, Note and example of application.

Introduction

Packages are often marked with handling instructions in the language of the country of origin. While this may safeguard the consignment in the areas using the same language, it is of little value for goods consigned to, or through, countries using different languages, and of no value at all if people handling the packages are illiterate.

Graphical symbols offer the best possibility of conveying the consignor's intention and their adoption will; therefore, undoubtedly reduce loss and damage through incorrect handling. Moreover, graphical symbols help ensure safety of workers, who cannot grasp such important information as structure, gravity centre, property, and strength of a package while handling distribution packages.

The graphical symbols specified are in accordance with the rules of ISO/TC 145/SC 3, *Graphical symbols for use on equipment*.

The use of graphical symbols does not provide any guarantee of satisfactory handling; safely and properly protective packaging is therefore of primary importance.

Distribution packages could deteriorate as time passes and sometimes cannot withstand normal handling before they reach the final destination. In such case, according to the provisions of the distribution contract, we need to decide whether to stop shipping and storing them or to continue to use them by putting proper graphical symbols on them. In any case, handwritten symbols are partially accepted in this standard so that the proper symbols can be added to do the needful on the spot.

INTERNATIONAL STANDARD **ISO 780:2015(E)**

Packaging — Distribution packaging — Graphical symbols for handling and storage of packages

1 Scope

This International Standard specifies a set of graphical symbols conventionally used for marking of distribution packages in their physical distribution chain to convey handling instructions. The graphical symbols should be used only when necessary.

This International Standard is applicable to packages containing any kind of goods, but does not include instructions specific to handling of dangerous goods.

2 Normative references

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

ISO 2331, *Fork lift trucks — Hook-on type fork arms — Vocabulary*

ISO 4306-1, *Cranes — Vocabulary — Part 1: General*

ISO 5053, *Powered industrial trucks — Terminology*

ISO 7000, *Graphical symbols for use on equipment — Registered symbols*

ISO 21067, *Packaging — Vocabulary*

3 Graphical Symbols

3.1 General

In order to ensure safe, proper and efficient handling of distribution packages, display, colour, size, number and position of graphical symbols shall be considered.

3.2 Display of graphical symbols

For large packages, graphical symbols should preferably be stencilled directly on the package or may appear on a label. It is recommended that the graphical symbols should be printed, painted or otherwise reproduced as specified in this International Standard. They need not be framed by border lines.

The graphical design of each symbol shall have only one meaning; symbols are purposely designed so that they can also be stencilled without changing the graphics. The change of the graphics, however, is accepted to facilitate the forming of stencil.

3.3 Colour of graphical symbols

The colour used for graphical symbols shall be black.

If the colour of the package is such that the black symbol would not show clearly, a panel of a suitable contrasting colour, preferably white, shall be provided as a background.

Care shall be taken to avoid the use of colours such as red, orange or yellow, which could result in confusion with the labelling of dangerous goods.

3.4 Size of graphical symbols

For normal purposes the overall height of the graphical symbols shall be 100mm, 150mm or 200mm.

Depending on the size or shape of the package; however, the size of the graphical symbols may be larger or smaller provided that the visibility of the graphical symbols is retained.

Different horizontal/vertical ratio may be applied to enhance the visibility of the graphical symbols provided that the original meaning is retained.

3.5 Number of graphical symbols

For graphical symbols No. 1, 2, 3, 8, and 13, how many graphical symbols shall be placed for a package is specified in Clause 4.

A package shall have a minimum number of types of graphical symbols as needed.

3.6 Position of graphical symbols

For graphical symbols No. 1, 2, 3, 5, 7, 8, 10 and 13, at which position graphical symbols shall be placed on a package is specified in Clause 4.

4 Meaning and requirements of the graphical symbols

4.1 General

Meaning and requirements for each symbol shall be indicated on distribution packages by using the corresponding graphical symbols given in Tables 1 to 4.

For graphical symbols No. 4, 5, 6, 7, 9, 15, 16 and 17, the prohibition symbol may be hand written.

For graphical symbols No. 15 and 16, the number “n” may be corrected by hand.

NOTE Distribution packages will deteriorate as time passes and sometimes cannot withstand normal handling before they reach the final destination. In such case, according to the provisions of the distribution contract, we need to decide whether to stop shipping and storing them or to continue to use them by putting proper graphical symbols on them. In any case, handwritten symbols are partially accepted in this standard so that the proper symbols can be added to do the needful on the spot.

4.2 Graphical symbols used for large-sized packages

See Table 1.

4.3 Graphical symbols used for middle and small-sized packages

— For all types of handling: See Table 2.

— For manual handling: See Table 3.

— For mechanical handling: See Table 4.

4.4 Graphical symbols used for both transport and storage

See Table 5.

4.5 Graphical symbols used for storage

See Table 6.

Table 1 — Graphical symbols used for large-sized packages

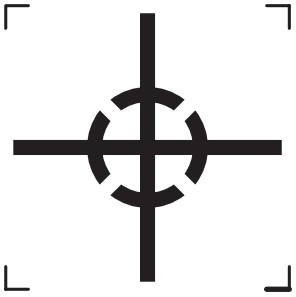
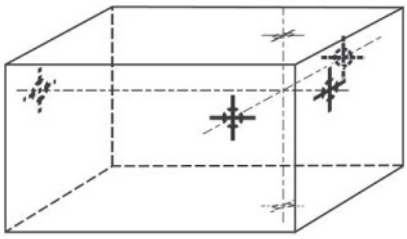
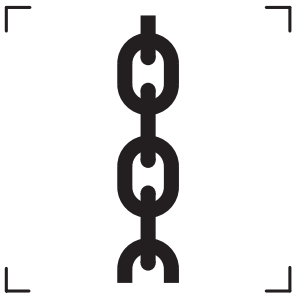
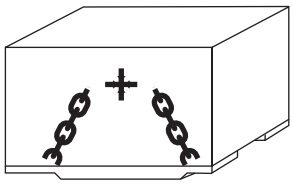
Symbol number and title	**No.1 CENTRE OF GRAVITY**
Example of application: 	***Reference:*** ISO 7000, No.0627 ***Meaning:*** This is the centre of gravity of the distribution packages which will be handled as a single unit. ***Requirements:*** — Heavy packages shall be marked with this symbol. — Where possible, this graphical symbol shall be placed on all six sides but at least on the four lateral sides relating to the actual location of the centre of gravity.
Example of application: 	— This graphical symbol shall be applied to in correct positions in order to convey the meaning clearly and fully. **NOTE 1** When heavy cargo tips over during handling for shipping, it could damage not only the product but also workers, causing a fatal accident. **NOTE 2** To determine the position of the wire rope slings on the package, it is necessary to find the centre of gravity of the package as well as to know the reinforced structure of the sheathed crate.
Symbol number and title	**No.2 SLING HERE**
Example of application: 	***Reference:*** ISO 7000, No.0625 ***Meaning:*** Slings shall be placed where indicated for lifting the distribution packages. ***Requirements:*** — Heavy packages shall be marked with this symbol. — This graphical symbol(s) shall be placed on two opposite faces of the package.
Example of application 	— The graphical symbol(s) shall be placed so that the package can be kept in a horizontal position. — This graphical symbol shall be applied to in correct positions and in appropriate places in order to convey the meaning clearly and fully. **NOTE** When a sheathed crate is lifted up with a crane while the wire rope slings are not properly positioned, the upper frame member of the crate or the skid base collapses, causing a crucial falling accident.

Table 2 — Graphical symbols used for middle and small-sized packages, for all types of handling

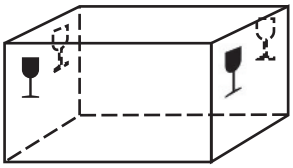
Symbol number and title	No. 3 FRAGILE, HANDLE WITH CARE
Graphical symbol: 	***Reference:*** ISO 7000, No.0621 ***Meaning:*** Contents of the distribution packages are fragile therefore it shall be handled with care. ***Requirements:*** — In principle, this graphical symbol should be placed either near the left-hand or the right-hand upper corner on all four upright sides of the package. — If there is not enough space for the graphical symbols to be located on all four sides of the package, they shall be placed at least on the upper corners of two panels. — The use of the graphical symbol shall be limited to fragile products that cannot be protected by normal packaging. — This symbol should be used in the orientation shown.
Example of application:  This is an example of the symbols placed near the left-hand upper corner on four upright side.	

Table 3 — Graphical symbols used for middle and small-sized packages, for manual handling

Symbol number and title	No. 4 USE NO HAND HOOKS
Graphical symbol: 	***Reference:*** ISO 7000, No.0622 ***Meaning:*** Hand hooks are prohibited for handling the distribution packages. ***Requirements:*** — The use of this graphical symbol shall be limited to the case where it is necessary. — The prohibition symbol may be hand written.
Symbol number and title	**No. 5 DO NOT USE HAND TRUCK HERE**
Graphical symbol: 	***Reference:*** ISO 7000, No.0629 ***Meaning:*** Hand trucks shall not be placed on this side when handling the distribution packages. ***Requirements:*** — The use of this graphical symbol shall be limited to the case where it is necessary. — The prohibition symbol may be hand written.

Table 4 — Graphical symbols for mechanical handling

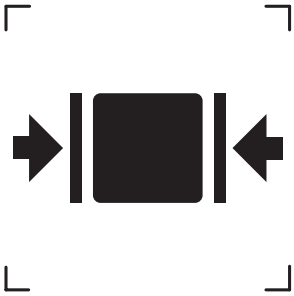
Symbol number and title	**No. 6 USE NO FORKS**
Graphical symbol: 	***Reference:*** ISO 7000, No.2406 ***Meaning:*** Distribution packages should not be handled or moved by a fork-type of lifting devices. ***Requirements:*** — The use of this graphical symbol shall be limited to the case where it is necessary. — The prohibition symbol may be hand written.
Symbol number and title	**No. 7 DO NOT CLAMP AS INDICATED**
Graphical symbol: 	***Reference:*** ISO 7000, No.2404 ***Meaning:*** Distribution packages should not be handled by the clamps on the sides indicated when handling with clamp-type lifting devices. ***Requirements:*** — This graphical symbol shall be used when it is necessary to indicate the location that shall NOT be clamped. — The prohibition symbol may be hand written.
Symbol number and title	**No. 8 CLAMP AS INDICATED**
Graphical symbol: 	***Reference:*** ISO 7000, No.0631 ***Meaning:*** Clamps shall be placed on the sides indicated for handling the distribution packages using clamp-type lifting devices. ***Requirements:*** — Only appropriately marked packages should be handled by clamps — This graphical symbol shall be positioned on the opposite faces of the distribution package so that it is in the visual range of the clamp truck operator when approaching to carry out operation — This graphical symbol shall not be marked on those faces of the package intended to be gripped by the clamps. — This graphical symbol shall be used when it is necessary to indicate the location that shall be clamped.

Table 5 — Graphical symbols used for both transport and storage

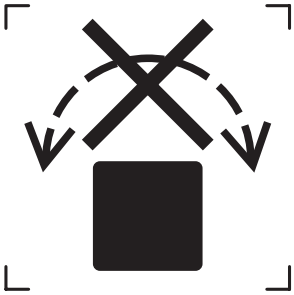
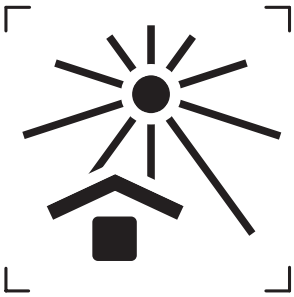
Symbol number and title	**No. 9 DO NOT ROLL**
Graphical symbol: 	***Reference:*** ISO 7000, No.2405 ***Meaning:*** Distribution packages shall not be rolled or turned over. ***Requirements:*** — The use of this graphical symbol shall be limited to the case where it is necessary. — The prohibition symbol may be hand written.
Symbol number and title	**No. 10 KEEP AWAY FROM RAIN**
Graphical symbol: 	***Reference:*** ISO 7000, No.0626 ***Meaning:*** Distribution packages shall be kept away from rain and be kept in dry conditions. ***Requirements:*** — The use of this graphical symbol shall be limited to the case where it is necessary. — This symbol should be used in the orientation shown.
Symbol number and title	**No. 11 KEEP AWAY FROM SUNLIGHT**
Graphical symbol: 	***Reference:*** ISO 7000, No.0624 ***Meaning:*** Distribution packages shall not be exposed to sunlight. ***Requirements:*** — The use of this graphical symbol shall be limited to the case where it is necessary. — This symbol should be used in the orientation shown.
Symbol number and title	**No. 12 PROTECT FROM RADIOACTIVE SOURCES**
Graphical symbol: 	***Reference:*** ISO 7000, No.2401 ***Meaning:*** Contents of the distribution packages can deteriorate or can be rendered totally unusable by penetrating ionizing radiation. ***Requirements:*** — The use of this graphical symbol shall be limited to the case where it is necessary. — This symbol should be used in the orientation shown.

Table 5 — Graphical symbols used for both transport and storage

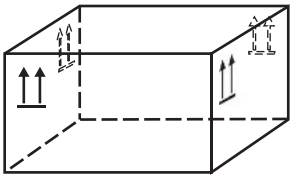
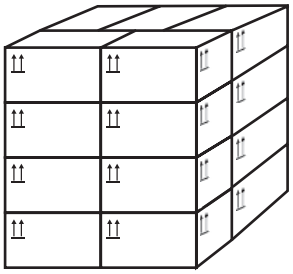
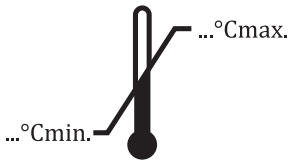
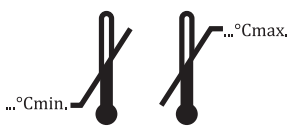
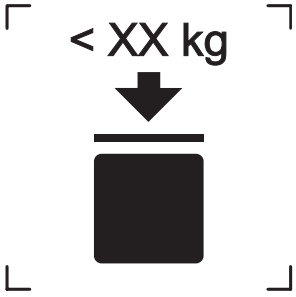
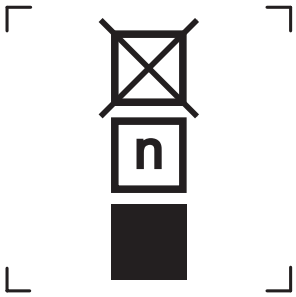
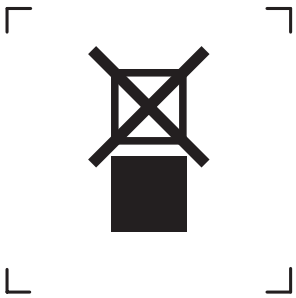
Symbol number and title	**No. 13 THIS WAY UP**
Graphical symbol: 	***Reference:*** ISO 7000, No.0623 ***Meaning:*** This is the correct upright position of the distribution packages for transport and/or storage. ***Requirements:*** — In principle, this graphical symbol should be placed either near the left-hand or the right-hand upper corner on all four upright sides of the package. See example a). — If there is not enough space for the graphical symbols to be located on all four sides of the package, they shall be placed at least on the upper corners of two panels. — When distribution packages are formed into a unit load, graphical symbol shall be located so as to ensure they are visible. See example b). — The use of this graphical symbol shall be limited to the case where it is necessary. — This symbol shall be used in the orientation shown.
Example of application:  **a)**  **b)**	
Symbol number and title	**No.14 TEMPERATURE LIMITS**
Graphical symbol: 	***Reference:*** ISO 7000, No.0632 ***Meaning:*** Distribution packages shall be stored, transported, and handled within temperature limits indicated. ***Requirements:*** — This graphical symbol shall be used only for the distribution packages that requires temperature control. — The use of this graphical symbol shall be limited to the case where it is necessary.
Example of application:  **a)**  **b)**	

Table 6 — Graphical symbols used for storage

Symbol number and title	**No. 15 STACKING LIMIT BY MASS**
Graphical symbol: 	***Reference:*** ISO 7000, No.0630 ***Meaning:*** Maximum stacking load which may be stacked on the distribution packages ***Requirements:*** — Maximum load mass permitted to be stacked on the bottom package shall be indicated to ensure safe stacking and also to improve loading and storage efficiency. — In order to ensure quality of shipping and storing of distribution packages, it is recommendable that the figure indicating the maximum load mass permitted to be stacked on the bottom package be corrected by hand on site if deterioration of the packages is detected. — The figure "XX" may be corrected by hand. — This symbol shall be used in the orientation shown.
Symbol number and title	**No. 16 STACKING LIMIT BY NUMBER**
Graphical symbol: 	***Reference:*** ISO 7000, No.2403 ***Meaning:*** Maximum number of identical transport packages/items which may be stacked on the bottom package, where "n" is the limiting number. ***Requirements:*** — Maximum number of packages permitted to be stacked on the bottom package shall be indicated to ensure safe stacking and also to improve loading and storage efficiency. — In order to ensure quality of shipping and storing of distribution packages, it is recommendable that the number indicating the maximum number of packages permitted to be stacked on the bottom package be corrected by hand on site if deterioration of the packages is detected. — The number "n" may be corrected by hand. — The prohibition symbol may be hand written. — This symbol shall be used in the orientation shown. **NOTE** The number "n" does not include the bottom package.
Symbol Number and title	**No. 17 DO NOT STACK**
Graphical Symbol: 	***Reference:*** ISO 7000, No.2402 ***Meaning:*** Stacking of the distribution packages is not allowed and no load shall be placed on the distribution packages. ***Requirements:*** — In order to ensure quality of shipping and storing of distribution packages, it is recommendable that the prohibition symbol be added by hand on site if deterioration of the packages is detected. — The prohibition symbol may be hand written. — This symbol shall be used in the orientation shown.

Bibliography

[1] IEC 80416-1:2008, *Basic principles for graphical symbols for use on equipment — Part 1: Creation of graphical symbols for registration*

[2] ISO 80416-2:2001, *Basic principles for graphical symbols for use on equipment — Part 2: Form and use of arrows*

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