

Guide for

General principles for the creation of graphical symbols for use on equipment —

(Implementation of CENELEC
HD 571 S1)

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the General Electrotechnical Standards Policy Committee (GEL/-) to Technical Committee GEL/4, upon which the following bodies were represented:

- BEAMA Ltd.
- British Railways Board
- British Telecommunications plc
- EEA (the Association of Electronics, Telecommunications and Business Equipment Industries)
- Electricity Supply Industry in United Kingdom
- Engineering Equipment and Materials Users' Association
- GAMBICA (BEAMA Ltd.)
- Institution of Electrical Engineers
- Society of British Aerospace Companies Limited
- Transmission and Distribution Association (BEAMA Ltd.)
- United Kingdom Atomic Energy Authority

This British Standard, having been prepared under the direction of the General Electrotechnical Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 30 August 1991

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National foreword

This British Standard has been prepared under the direction of the General Electrotechnical Standards Policy Committee. It is identical with IEC 416:1988 “*General principles for the creation of graphical symbols for use on equipment*” published by the International Electrotechnical Commission (IEC), and ISO 3461-1:1988 “General principles for the creation of graphical symbols — Part 1: Graphical symbols for use on equipment” published by the International Organization for Standardization (ISO), and implements CENELEC HD 571 S1.

Cross-references

International standard	Corresponding British Standard
IEC 417:1973	BS 6217:1981 Guide to graphical symbols for use on electrical equipment (Identical)
IEC 617 (Parts 1 to 13) ^a	BS 3939 (Parts 1 to 13) Guide to graphical symbols for electrical power, telecommunications and electronics diagrams (Most Parts are identical)
ISO 31 (Parts 0 to 13) ^a	BS 5775 (Parts 0 to 13) Specification for quantities, units and symbols (Identical)
ISO 7000:1984	BS 7324:1990 Guide to graphic symbols for use on equipment (Identical)
ISO 7001:1980 ^b	BS 6034:1981 Specification for public information symbols (Identical)

^a Undated in the text.

^b ISO 7001:1990 has now been published. BS 6034:1990, which superseded BS 6034:1981, is identical to ISO 7001:1990.

The Technical Committee has reviewed the provisions of IEC 27 (Parts 1 to 4)¹⁾, ISO 3461-2:1987, ISO 3864:1988, ISO 4196:1984, ISO/TR 7239:1984, to which reference is made in the text, and has decided that they are acceptable for use in conjunction with this standard.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

¹⁾ Undated in the text.

1 Scope

This standard specifies the basis for the creation of graphical symbols for use on equipment. It contains rules for designing symbols, including their shape and size, and instructions for their application.

Graphical symbols for use on equipment may be employed

- to identify the equipment or a part of the equipment (e.g. a control or display);
- to indicate functional states (e.g. on, off, alarm);
- to designate connections (e.g. terminals, filling points);
- to provide information on packaging (e.g. identification of content, instructions for handling);
- to provide instructions for the operation of the equipment (e.g. warnings, limitations of use).

This standard does not apply to graphical symbols primarily intended for

- use on drawings;
- use in technical product documentation;
- public information.

However, graphical symbols initially developed for such purposes (see IEC 617, ISO 3461-2, ISO 7001 and ISO/TR 7239) may be used on equipment, provided that they are drawn in accordance with the principles laid down in this standard.

2 References

IEC 27 (parts 1 to 4), *Letter symbols to be used in electrical technology*.

IEC 417:1973, *Graphical symbols for use on equipment — Index, survey and compilation of the single sheets*.

IEC 617 (parts 1 to 13), *Graphical symbols for diagrams*.

ISO 31 (parts 0 to 13), *Quantities, units and symbols*.

ISO 3461-1:1988, *General principles for the creation of graphical symbols — Part 1: Graphical symbols for use on equipment*.

ISO 3461-2:1987, *Part 2: Graphical symbols for use in technical product documentation*.

ISO 3864:1984, *Safety colours and safety signs*.

ISO 4196:1984, *Graphical symbols — Use of arrows*.

ISO 7000:1984, *Graphical symbols for use on equipment — Index and synopsis*.

ISO 7001:1980, *Public information symbols*.

ISO/TR 7239:1984, *Development and principles for application of public information symbols*.

3 Definitions

For the purposes of this standard, the following definitions apply.

3.1

graphical symbol

visually perceptible figure used to transmit information independently of language. It may be produced by drawing, printing or other means

NOTE Internationally standardized letter symbols according to ISO 31 and IEC 27 may be considered to be graphical symbols.

3.2

graphical symbol elements

parts of a graphical symbol

NOTE 1 A graphical symbol element with a specific meaning may be used to provide a common concept in the construction of a symbol family.

NOTE 2 Letters, numerals, punctuation marks and mathematical symbols may be used as graphical symbol elements.

3.3

(symbol) original

design of a graphical symbol, prepared in accordance with this standard, used for reference or reproduction purposes

4 Meaning

The meaning assigned to each graphical symbol is expressed by its title which may be supplemented by an application note. The meaning shall be unambiguous and independent of terms related to a special technique or discipline.

The meaning of a graphical symbol may depend on its orientation and care shall be taken to avoid ambiguity (see 8.2).

5 Combination of graphical symbols

To represent certain concepts, graphical symbols or graphical symbol elements may be combined to form a new graphical symbol. The meaning assigned to the new graphical symbol shall be consistent with the meanings of the individual graphical symbols or graphical symbol elements used.

6 Shape

The shape of a graphical symbol should be

- simple, in order to facilitate perception and reproduction;
- readily distinguishable from those of other graphical symbols with which it may be used;
- easily associated with its intended meaning, i.e. either self-evident or easily learnt.

For the design of graphical symbols on safety signs, see ISO 3864.