Basic principles for graphical symbols for use on equipment -- Part 1: Creation of graphical symbols for registration

EESTI STANDARDIKESKUS EVS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 80416-1:2009 sisaldab Euroopa standardi EN 80416-1:2009 ingliskeelset teksti.	This Estonian standard EVS-EN 80416-1:2009 consists of the English text of the European standard EN 80416-1:2009.
Standard on kinnitatud Eesti Standardikeskuse 27.03.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 27.03.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 13.02.2009.	Date of Availability of the European standard text 13.02.2009.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 01.080.01

Võtmesõnad: definition, definitions, design, electrical engineering, equipment, graphic symbols, marking, rules, significance, specification (approval), specifications, symbols

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 80416-1

February 2009

English version

Basic principles for graphical symbols for use on equipment - Part 1: Creation of graphical symbols for registration
(IEC 80416-1:2008)

Principes de base
pour les symboles graphiques
utilisables sur le matériel -
Partie 1: Création des symboles
graphiques pour enregistrement
(CEI 80416-1:2008)

Allgemeine Grundlagen
für Graphische Symbole
auf Geräten und Einrichtungen -
Teil 1: Gestaltung Graphischer Symbole
für die Registrierung
(IEC 80416-1:2008)

This European Standard was approved by CENELEC on 2009-02-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 3C/1590/FDIS, future edition 2 of IEC 80416-1, prepared by SC 3C, Graphical symbols for use on equipment, of IEC TC 3, Information structures, documentation and graphical symbols, in cooperation with ISO/TC 145/SC 3, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 80416-1 on 2009-02-01.

This European Standard supersedes EN 80416-1:2001.

EN 80416-1:2009 includes the following significant technical changes with respect to EN 80416-1:2001:

– Clause 8 in EN 80416-1:2001 is moved to Clause 4;

– mandatory requirement for the line width in symbol originals is changed to 2 mm or 4 mm (see 6th paragraph of 7.3);

– for negation of a graphical symbol, a single diagonal bar is allowed in addition to two diagonal bars at right angles;

– a new meaning of negation "do not" is allowed;

– some freedom is given for use of the basic pattern such as for symbol originals to be within the 75 mm square instead of the octagon;

– Annex A (normative) is newly introduced for provisions on title, description and notes;

– the nature of notes is changed to be purely informative; and

– Clause 10 in EN 80416-1:2001 is moved to Annex C (informative).

The following dates were fixed:

– latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2009-11-01

– latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2012-02-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 80416-1:2008 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60027	NOTE	Harmonized in EN 60027 series (not modified).
IEC 80416-3	NOTE	Harmonized as EN 80416-3:2002 (not modified).
ISO 31	NOTE	ISO 80000 and IEC 80000 are being harmonized by CEN and CENELEC.
ISO 3098	NOTE	Harmonized in EN ISO 3098 series (not modified).
ISO 81714-1	NOTE	Harmonized as EN ISO 81714-1:1999 (not modified).

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60417	Data-base	Graphical symbols for use on equipment	-	-
ISO/IEC Guide 71	- [1]	Guidelines for standards developers to address the needs of older persons and persons with disabilities	-	-
ISO/IEC Guide 74	- [1]	Graphical symbols - Technical guidelines for the consideration of consumers' needs	-	-
ISO 7000	- [1]	Graphical symbols for use on equipment - Index and synopsis	-	-
ISO/IEC 80416-2	- [1]	Basic principles for graphical symbols for use on equipment - Part 2: Form and use of arrows	EN 80416-2	2001 [2]

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[1] Undated reference.

[2] Valid edition at date of issue.

CONTENTS

INTRODUCTION

A graphical symbol is defined as a visually perceptible figure with a particular meaning used to transmit information independently of language. Graphical symbols are used on equipment for a wide range of purposes. The understanding of such symbols can be improved by consistent design. This is particularly important where families of symbols are used in one location or on similar equipment. Good design also helps to maintain the legibility of symbols when they are reduced to small dimensions for application. Thus, there is a need to standardize the principles for creating graphical symbols for use on equipment to ensure visual clarity, to maintain consistency and thereby to improve recognition.

International Standard 80416 is a multi-part standard which provides basic principles and guidelines for the creation of graphical symbols for use on equipment (Parts 1 and 2) and also principles and guidelines for adapting registered graphical symbols for use in practice (Parts 3 and 4).

This part of the multi-part standard addresses the basic rules used to create graphical symbols for use on equipment, including line widths, negation elements, and the use of the basic pattern. These design principles should be applied to all graphical symbols for use on equipment. They are required for graphical symbols for registration in IEC 60417 and ISO 7000.

It is recommended that symbol originals intended for specific fields of application are also published in the appropriate technical product standard.

BASIC PRINCIPLES FOR GRAPHICAL
SYMBOLS FOR USE ON EQUIPMENT –

Part 1: Creation of graphical symbols for registration

1   Scope

This part of IEC 80416 provides basic principles and guidelines for the creation of graphical symbols for registration, and provides the key principles and rules for the preparation of title, description and note(s).

IEC 80416-1 applies to graphical symbols used:

– to identify the equipment or a part of the equipment (for example, controls or displays);
– to indicate functional states or functions (for example, on, off, alarm);
– to designate connections (for example, terminals, filling points);
– to provide information on packaging (for example, identification of content, instructions for handling);
– to provide instructions for the operation of the equipment (for example, limitations of use).

IEC 80416-1 does not apply to graphical symbols for:

– safety signs;
– use on drawings and diagrams;
– use in technical documentation of products and in technical product documentation;
– use for public information.

This horizontal standard is primarily intended for use by technical committees in the preparation of standards in accordance with the principles laid down in IEC Guide 108.

One of the responsibilities of a technical committee is, wherever applicable, to make use of horizontal standards in the preparation of its publications. The contents of this horizontal standard will not apply unless specifically referred to or included in the relevant publications.

2   Normative references

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

IEC 60417, *Graphical symbols for use on equipment*

ISO/IEC Guide 71, *Guidelines for standards developers to address the needs of older persons and persons with disabilities*

ISO/IEC Guide 74, *Graphical symbols – Technical guidelines for the consideration of consumers' needs*

ISO 7000, *Graphical symbols for use on equipment – Index and synopsis*

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