Industrial systems, installations and equipment and industrial products - Labelling of cables and cores

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 62491:2008 sisaldab Euroopa standardi EN 62491:2008 ingliskeelset teksti.	This Estonian standard EVS-EN 62491:2008 consists of the English text of the European standard EN 62491:2008.
Standard on kinnitatud Eesti Standardikeskuse 20.10.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 20.10.2008 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 05.09.2008.	Date of Availability of the European standard text 05.09.2008.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 01.110, 29.020

Võtmesõnad:

EUROPEAN STANDARD

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English version

Industrial systems, installations and equipment and industrial products - Labelling of cables and cores

(IEC 62491:2008)

Systèmes industriels, installations et appareils et produits industriels - Etiquetage des câbles et des conducteurs isolés (CEI 62491:2008)

Industrielle Systeme, Anlagen und Ausrüstungen und Industrieprodukte - Beschriftung von Kabeln / Leitungen und Adern (IEC 62491:2008)

This European Standard was approved by CENELEC on 2008-07-01. 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: rue de Stassart 35, B - 1050 Brussels

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Foreword

The text of document 3/849/CDV, future edition 1 of IEC 62491, prepared by IEC TC 3, Information structures, documentation and graphical symbols, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62491 on 2008-07-01.

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)	2009-04-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2011-07-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62491:2008 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60446 NOTE Harmonized as EN 60446:2007 (not modified).

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 60445 (mod)	-[1)]	Basic and safety principles for man-machine interface, marking and identification - Identification of equipment terminals and conductor terminations	EN 60445	2007[2)]
IEC 60757	-[1)]	Code for designation of colours	HD 457 S1	1985[2)]
IEC 61082-1	2006	Preparation of documents used in electrotechnology - Part 1: Rules	EN 61082-1	2006
IEC 61175	-[1)]	Industrial systems, installations and equipment and industrial products - Designation of signals	EN 61175	2005[2)]
IEC 61666	-[1)]	Industrial systems, installations and equipment and industrial products - Identification of terminals within a system	EN 61666	1997[2)]
IEC 81346-1	200X[3)]	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 1: Basic rules	-	-
ISO/IEC 646	-[1)]	Information technology - ISO 7-bit coded character set for information interchange	-	-

[1)] Undated reference.

[2)] Valid edition at date of issue.

[3)] To be published.

CONTENTS

INTRODUCTION

Additional labelling of cables and cores might be required within larger systems or installations with many cores of the same colour or with many cables, and where therefore the use of the designations provided by the cable manufacturer only would be ambiguous.

Due consideration should be given to the fact that additional labelling will cause additional cost, usually increasing with the number of characters in the labelling string and the number of different labelling elements. The available space may also impose restrictions with regard to the number of characters, their height and the length of the labelling. As a general rule the use of additional labelling should therefore be limited to a necessary minimum and be kept as short as practicable.

However, also the advantages and benefits should be taken into considerations in choosing additional labelling of cables and cores.

It is important to notice that a single machine or a system has different needs of information in the different phases of its lifecycles (assembling, production, service and maintenance).

Additional labelling of cables and cores gives the following advantages:

- the possibilities to communicate and identify signals and connections across different involved engineering disciplines and departments like:
  - process engineering,
  - software engineering,
  - electrical engineering,
  - mechanical/fluid engineering,
  - control engineering;
- minimizing the time used to locate an eventual error (and the reason for it) in the test phase;
- saving time when locating an eventual error (and the reason for it) in the service and maintenance phase;
- remove the doubt of which core should be connected to which terminal, when replacing components that are placed close to each other;
- if used in pre-planning, it gives a clear view for panel-builders, electricians/technicians; service/maintenance and system controllers which will minimize misunderstandings regarding connections.

Besides being used in connections between terminal blocks, labelling can also be used when single core cables connect components inside units as: cubicle, pulpit, case, etc.; such methods make possible:

- a rapid and secure cabling between the terminals of two objects;
- a rapid visual check of cabling, not necessarily looking up in the circuit diagrams;
- a correct and secure change of an object during the maintenance operations of plants.

INDUSTRIAL SYSTEMS, INSTALLATIONS AND EQUIPMENT AND INDUSTRIAL PRODUCTS – LABELLING OF CABLES AND CORES

1 Scope

This standard provides rules and guidelines for the labelling of cables and cores/conductors used in industrial installations, equipment and products, in order to maintain a clear relation between the technical documentation and the actual equipment and for other purposes. The following methods are described and designated:

- use of coloured cables and designated cores;
- additional identification labelling;
- additional connection labelling; and
- additional signal labelling.

The physical design of the labels, the material to be used for the labels as well as cable manufacturers' product bound marking of cables and cores are not part of this standard.

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 60445, *Basic and safety principles for man-machine interface, marking and identification – Identification of equipment terminals and conductor terminations*

IEC 60757, *Code for designation of colours*

IEC 61082-1:2006, *Preparation of documents used in electrotechnology – Part 1: Rules*

IEC 61175, *Industrial systems, installations and equipment and industrial products – Designation of signals*

IEC 81346-1, Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations – Part 1: Basic rules (to be published)

IEC 61666, *Industrial systems, installations and equipment and industrial products – Identification of terminals within a system*

ISO/IEC 646, *Information technology – ISO 7-bit coded character set for information interchange*