



**NSAI**  
Standards

Irish Standard  
I.S. EN 62444:2013

# Cable glands for electrical installations (IEC 62444:2010 (MOD))

## I.S. EN 62444:2013

*Incorporating amendments/corrigenda issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

<i>This document replaces:</i> EN 50262:1998 +corr Oct 1998 + A1:2001 + A2:2004	<i>This document is based on:</i> EN 62444:2013	<i>Published:</i> 18 October, 2013
This document was published under the authority of the NSAI and comes into effect on:  21 October, 2013		ICS number: 29.120.10
<b>NSAI</b> 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie  W NSAI.ie	<b>Sales:</b> T +353 1 857 6730 F +353 1 857 6729 W standards.ie
Údarás um Chaighdeáin Náisiúnta na hÉireann		

English version

**Cable glands for electrical installations**  
(IEC 62444:2010, modified)

Presse-étoupes pour installations  
électriques  
(CEI 62444:2010, modifiée)

Kabelverschraubungen für elektrische  
Installationen  
(IEC 62444:2010, modifiziert)

This European Standard was approved by CENELEC on 2013-09-23. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

**CENELEC**

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

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

**I.S. EN 62444:2013**

EN 62444:2013

- 2 -

**Foreword**

This document (EN 62444:2013) consists of the text of IEC 62444:2010 prepared by IEC/TC 23 "Electrical accessories", together with the common modifications prepared by CLC/TC 213 "Cable management systems".

The following dates are fixed:

- latest date by which this document has to be implemented (dop) 2014-09-23  
at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2016-09-23

This document supersedes EN 50262:1998.

EN 62444:2013 includes the following significant technical changes with respect to EN 50262:1998:

- 1 Scope
- 3 Terms and definitions
- 5 General conditions for tests
- 6 Classification
- 9 Mechanical properties
- 9.5 Resistance to impact
- 10.3.2 Electrical current test
- 12.2 Resistance to corrosion
- Table 2 – Pull forces for cable retention and cable anchorage

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62444:2010 are prefixed "Z".

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

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

---

## **Endorsement notice**

The text of the International Standard IEC 62444:2010 was approved by CENELEC as a European Standard with agreed common modifications.

### **COMMON MODIFICATIONS**

#### **1. Scope**

**Delete** the third paragraph.

#### **2. Normative references**

**Replace** by:

See Annex ZA.

#### **Annex A**

**Delete** Annex A.

#### **Bibliography**

In the Bibliography, **add** the following notes for the standards indicated:

IEC 60079 series    NOTE    Harmonized in EN 60079 series.

IEC 60335 series    NOTE    Harmonized in EN 60335 series.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60423	2007	Conduit systems for cable management - Outside diameters of conduits for electrical installations and threads for conduits and fittings	EN 60423	2007
IEC 60529 + A1	1989 1999	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May + A1	1991 1993 2000
IEC 60695-2-11 + corr. January	2000 2001	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001
ISO 868	2003	Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness)	EN ISO 868	2003
ISO 4287	1997	Geometrical Product Specifications (GPS) - Surface texture: Profile method - Terms, definitions and surface texture parameters	EN ISO 4287	1998
ISO 9227	2006	Corrosion tests in artificial atmospheres - Salt spray tests	EN ISO 9227	2006

## CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references .....	6
3 Terms and definitions .....	6
4 General requirements .....	7
5 General conditions for tests .....	8
6 Classification.....	9
6.1 According to material.....	9
6.2 According to mechanical properties .....	9
6.3 According to electrical properties .....	10
6.4 According to resistance to external influences .....	10
6.5 According to sealing system .....	10
7 Marking and documentation.....	11
7.1 Marking .....	11
7.2 Durability and legibility .....	11
7.3 Documentation .....	11
8 Construction.....	12
9 Mechanical properties .....	12
9.1 General .....	12
9.2 Cable retention test.....	13
9.3 Cable anchorage test for non-armoured cable .....	15
9.4 Cable anchorage test for armoured cable .....	17
9.5 Resistance to impact.....	19
9.6 Seal performance .....	22
10 Electrical properties.....	22
10.1 Equipotential bonding to electrical equipment.....	22
10.2 Equipotential bonding to metallic layer(s) of cable .....	22
10.3 Protective connection to earth .....	23
10.3.1 General .....	23
10.3.2 Electrical current test.....	23
11 Electromagnetic compatibility .....	24
12 External influences .....	25
12.1 Degree of protection in accordance with IEC 60529 (IP Code).....	25
12.1.1 General .....	25
12.1.2 Degree of protection against foreign solid objects.....	25
12.1.3 Degree of protection against ingress of water .....	25
12.2 Resistance to corrosion .....	25
12.3 Resistance to ultraviolet light.....	25
13 Fire hazard.....	26
13.1 Reaction to fire.....	26
13.1.1 General .....	26
13.1.2 Contribution to fire.....	26
13.1.3 Spread of fire .....	26
13.2 Resistance to fire .....	26

Annex A (normative) Particular requirements for cable glands for electrical installations with NPT entry threads .....	27
Annex B (informative) Test sequence.....	28
Bibliography.....	29
Figure 1 – Typical arrangement for cable retention test.....	14
Figure 2 – Typical arrangement for cable anchorage pull test .....	16
Figure 3 – Typical arrangement for cable anchorage twist test.....	17
Figure 4 – Typical arrangement for cable anchorage test for armoured cable.....	18
Figure 5 – Typical arrangement for impact test .....	21
Figure 6 – Typical arrangement for electrical current tests .....	24
Table 1 – Clearance holes for cable glands for test purposes .....	9
Table 2 – Pull forces for cable retention and cable anchorage .....	15
Table 3 – Torque value for cable anchorage twist test .....	17
Table 4 – Impact values .....	20
Table 5 – Electrical current values .....	23
Table A.1 – Clearance holes for NPT cable glands for test purposes .....	27



## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## CABLE GLANDS FOR ELECTRICAL INSTALLATIONS

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62444 has been prepared by subcommittee 23A: Cable management systems, of IEC technical committee 23: Electrical accessories.

The text of this standard is based on the following documents:

FDIS	Report on voting
23A/606/FDIS	23A/618/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

NOTE The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

**I.S. EN 62444:2013**

62444 © IEC:2010

– 5 –

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

## CABLE GLANDS FOR ELECTRICAL INSTALLATIONS

### 1 Scope

This Standard provides requirements and tests for the construction and performance of cable glands. This standard covers complete cable glands as supplied by the manufacturer or the supplier responsible for placing the product on the market. This standard does not cover cable glands for mineral insulated cables.

This standard covers cable glands with IEC 60423 metric entry threads.

This standard can be used as a guide for cable glands with other type of entry threads.

NOTE Certain cable glands may also be used "in Hazardous Areas." Regard should then be taken of other or additional requirements necessary for the enclosure to be installed in such conditions, for example as specified in the IEC 60079 series.

### 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 60423:2007, *Conduit systems for cable management – Outside diameters of conduits for electrical installations and threads for conduits and fittings*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*  
Amendment 1 (1999)<sup>1</sup>

IEC 60695-2-11:2000, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products*

ISO 868:2003, *Plastics and ebonite – Determination of indentation hardness by means of durometer (Shore hardness)*

ISO 4287:1997, *Geometrical product specifications (GPS) – Surface texture: Profile method – Terms, definitions and surface texture parameters*

ISO 9227:2006, *Corrosion tests in artificial atmospheres – Salt spray tests*

### 3 Terms and definitions

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

#### 3.1 cable gland

a device designed to permit the entry of a cable, flexible cable or insulated conductor into an enclosure, and which provides sealing and retention. It may also provide other functions such as earthing, bonding, insulation, cable guarding, strain relief or a combination of these

---

<sup>1</sup> There is a consolidated edition 2.1 (2001) that includes IEC 60529 (1989) and its amendment 1 (1999).

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-