

PLAHVATUSOHTLIKUD KESKKONNAD. OSA 37:  
MITTEELEKTRILISED SEADMED  
PLAHVATUSOHTLIKELE KESKKONDADELE.  
MITTEELEKTRILINE KAITSMINE  
KONSTRUKTSIOONIOHUTUSKLASSI "C" ABIL,  
SÜTTIMISALLIKA KONTROLLI "B" ABIL,  
VEDELIKIMMERSIOONI "K" ABIL

Explosive atmospheres - Part 37: Non-electrical  
equipment for explosive atmospheres - Non-electrical  
type of protection constructional safety "c", control of  
ignition sources "b", liquid immersion "k" (ISO  
80079-37:2016)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 80079-37:2016 sisaldab Euroopa standardi EN ISO 80079-37:2016 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 80079-37:2016 consists of the English text of the European standard EN ISO 80079-37:2016.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

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**Explosive atmospheres - Part 37: Non-electrical equipment  
for explosive atmospheres - Non-electrical type of  
protection constructional safety "c", control of ignition  
sources "b", liquid immersion "k" (ISO 80079-37:2016)**

Atmosphères explosives - Partie 37: Appareils non  
électriques destinés à être utilisés en atmosphères  
explosives - Mode de protection non électrique par  
sécurité de construction "c", par contrôle de la source  
d'inflammation "b", par immersion dans un liquide "k"  
(ISO 80079-37:2016)

Explosionsgefährdete Bereiche - Teil 37: Nicht-  
elektrische Geräte für den Einsatz in  
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konstruktive Sicherheit 'c', Zündquellenüberwachung  
'b', Flüssigkeitskapselung 'k' (ISO 80079-37:2016)

This European Standard was approved by CEN on 8 February 2016.

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

## European Foreword

This document (EN ISO 80079-37:2016) has been prepared by Technical Committee ISO/TMBG "Technical Management Board - groups" in collaboration with Technical Committee CEN/TC 305 "Potentially explosive atmospheres - Explosion prevention and protection" the secretariat of which is held by DIN.

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 October 2016, and conflicting national standards shall be withdrawn at the latest by October 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.

The significant changes with respect to EN 13463-5:2011, EN 13463-6:2005 and EN 13463-8:2003 are included in Annex ZB "*Significant changes between this European Standard and EN 13463-5:2011, EN 13463-6:2005 and EN 13463-8:2003*".

This document supersedes EN 13463-5:2011, EN 13463-6:2005, EN 13463-8:2003.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of 2014/34/EU.

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

Extensions to the marking scheme described in the Directive are found in the ATEX Guidelines published by the European Commission. These are particularly useful for equipment that conforms to more than one category.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 80079-37:2016 has been approved by CEN as EN ISO 80079-37:2016 without any modification.

## CONTENTS

FOREWORD.....	5
1 Scope.....	7
2 Normative references.....	7
3 Terms and definitions .....	8
4 Determination of suitability.....	9
5 Requirements for equipment with Type of Protection constructional safety “c” .....	9
5.1 General requirements.....	9
5.2 Ingress protection .....	10
5.2.1 General .....	10
5.2.2 Ingress protection in special cases .....	10
5.3 Seals for moving parts.....	10
5.3.1 Unlubricated gaskets, seals, sleeves, bellows and diaphragms .....	10
5.3.2 Stuffing box seals (packed glands) .....	11
5.3.3 Lubricated seals.....	11
5.4 Equipment lubricants, coolants and fluids .....	11
5.5 Vibration .....	11
5.6 Requirements for moving parts .....	11
5.6.1 General .....	11
5.6.2 Clearance .....	12
5.6.3 Lubrication.....	12
5.7 Requirements for bearings .....	12
5.7.1 General .....	12
5.7.2 Lubrication.....	13
5.7.3 Chemical compatibility .....	13
5.8 Requirements for power transmission systems.....	14
5.8.1 Gear drives.....	14
5.8.2 Belt drives .....	14
5.8.3 Chain drives.....	15
5.8.4 Other drives.....	15
5.8.5 Hydrostatic, hydrokinetic and pneumatic equipment.....	15
5.9 Requirements for clutches and variable speed couplings.....	16
5.9.1 General .....	16
5.9.2 Slipping .....	16
5.9.3 Friction .....	17
5.10 Flexible couplings .....	17
5.11 Requirements for brakes and braking systems .....	17
5.11.1 Brakes used only for stopping in emergency .....	17
5.11.2 Service brakes (including friction brakes and fluid based retarders).....	18
5.11.3 Parking brakes.....	18
5.12 Requirements for springs and absorbing elements .....	18
5.13 Requirements for conveyor belts .....	18
5.13.1 Electrostatic requirements.....	18
5.13.2 Materials.....	18
5.13.3 Belt tension.....	18
5.13.4 Alignment .....	19
5.13.5 Earthing and bonding .....	19

6	Requirements for equipment with Type of Protection control of ignition source “b”	19
6.1	General	19
6.2	Determination of the control parameters	19
6.2.1	General	19
6.2.2	Determination of the safety critical values	20
6.3	Ignition prevention system design and settings	20
6.3.1	Determining the performance requirements or operating characteristics	20
6.3.2	Instructions	20
6.3.3	System lockout	20
6.3.4	Operator intervention	21
6.4	Ignition protection of sensors and actuators	21
6.5	Ignition protection types	21
6.5.1	Ignition protection type b1	21
6.5.2	Ignition protection type b2	21
6.5.3	Application of ignition protection types	22
6.5.4	Requirements for ignition protection types	23
6.5.5	Programmable electronic devices	23
7	Requirements for equipment with Type of Protection liquid immersion “k”	23
7.1	Determination of the maximum / minimum criteria	23
7.2	Protective liquid	24
7.3	Equipment construction	24
7.3.1	General	24
7.3.2	Working angle	24
7.3.3	Measures to ensure effectiveness of liquid	24
7.3.4	Accidental loosening	25
7.3.5	Level monitoring	25
7.3.6	Loss of liquid	25
7.3.7	Open equipment	26
8	Type tests	26
8.1	Type tests for equipment with Type of Protection constructional safety “c”	26
8.2	Type tests for equipment with Type of Protection control of ignition source “b”	26
8.2.1	Determination of control parameters	26
8.2.2	Function and accuracy check of the ignition protection system	26
8.3	Type tests for equipment with Type of Protection liquid immersion “k”	26
8.3.1	General	26
8.3.2	Increased pressure test on enclosed equipment having a sealed enclosure that contains static, or flowing protective liquid	26
8.3.3	Overpressure test on enclosed equipment having a vented enclosure	26
9	Documentation	26
9.1	Documentation for equipment with Type of Protection constructional safety “c”	26
9.2	Documentation for equipment with Type of Protection control of ignition sources “b”	27
9.3	Documentation for equipment with Type of Protection liquid immersion “k”	27
10	Marking	28
10.1	General	28
10.2	Safety devices	28

Annex A (informative) Approach and application: equipment with Type of Protection “c” .....	29
A.1 General remarks regarding ignition hazard assessment.....	29
A.2 Stuffing box seal (see Table A.2).....	29
A.3 Slide ring seal.....	31
A.4 Radial seal.....	36
A.5 Belt drives.....	40
Annex B (normative) Test requirements.....	42
B.1 "Dry run" type test for lubricated sealing arrangements .....	42
B.2 Type test for determining the maximum engaging time of clutch assembly .....	42
B.2.1 Apparatus .....	42
B.2.2 Procedure.....	43
Annex C (informative) Methodology: equipment with Type of Protection “b” .....	44
Annex D (informative) Approach to assign the required ignition protection type used for equipment to achieve different EPL .....	45
D.1 For EPL Gc and Dc.....	45
D.2 For EPL Gb and Db.....	45
D.3 For EPL Mb.....	45
D.4 For EPL Ga and Da.....	46
Annex E (informative) Information on functional safety concept.....	47
E.1 ISO 13849-1 .....	47
E.2 IEC 61508-1.....	47
E.3 IEC 62061.....	47
E.4 Reliability according to functional safety standards .....	47
Bibliography .....	49
Figure C.1 – Flow diagram of the procedures described in this document.....	44
Table 1 – Minimum ignition protection types required when Ex “b” is selected to achieve the intended EPL for Group II and III equipment.....	22
Table 2 – Minimum ignition protection types required when Ex “b” is selected to achieve the intended EPL for Group I equipment .....	23
Table A.1 – List of examples for some of the thought processes and principles used.....	29
Table A.2 – Stuffing box seal .....	30
Table A.3 – Slide ring seal .....	32
Table A.4 – Radial seal.....	37
Table A.5 – Belt drives.....	41
Table E.1 – Application of ignition protection type.....	48

## EXPLOSIVE ATMOSPHERES –

### **Part 37: Non-electrical equipment for explosive atmospheres – Non electrical type of protection constructional safety “c”, control of ignition source “b”, liquid immersion “k”**

#### **1 Scope**

This part of ISO/IEC 80079 specifies the requirements for the design and construction of non-electrical equipment, intended for use in explosive atmospheres, protected by the types of protection constructional safety “c”, control of ignition source “b” and liquid immersion “k”.

This part of ISO/IEC 80079 supplements and modifies the requirements in ISO 80079-36. Where a requirement of this standard conflicts with the requirement of ISO 80079-36 the requirement of this standard takes precedence.

Types of Protection “c”, “k” and “b” are not applicable for Group I, EPL Ma without additional protective precautions.

The types of ignition protection described in the standard can be used either on their own or in combination with each other to meet the requirements for equipment of Group I, Group II, and Group III depending on the ignition hazard assessment in ISO 80079-36.

#### **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.

IEC 60079-0, *Explosive atmospheres – Part 0: Equipment – General requirements*

IEC TS 60079-32-1, *Explosive atmospheres – Part 32-1: Electrostatic hazards, Guidance*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

ISO 281, *Rolling bearings – Dynamic load ratings and rating life*

ISO 1813, *Belt drives – V-ribbed belts, joined V-belts and V-belts including wide section belts and hexagonal belts – Electrical conductivity of antistatic belts: Characteristics and methods of test*

ISO 9563, *Belt drives – Electrical conductivity of antistatic endless synchronous belts – Characteristics and test method*

ISO 4413, *Hydraulic fluid power – General rules and safety requirements for systems and their components*

ISO 4414, *Pneumatic fluid power – General rules and safety requirements for systems and their components*

ISO 19353, *Safety of machinery – Fire prevention and protection*



ISO 80079-36: 2016, *Explosive atmospheres – Non-electrical equipment for explosive atmospheres – Part 1: Basic method and requirements*<sup>1</sup>

EN 13237, *Potentially explosive atmospheres – Terms and definitions for equipment and protective systems intended for use in potentially explosive atmospheres*

EN 13501-1, *Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 80079-36, IEC 60079-0 and the following apply.

#### 3.1

##### **constructional safety “c”**

ignition protection where constructional measures are applied so as to protect against the possibility of ignition from hot surfaces, sparks and adiabatic compression generated by moving parts

#### 3.2

##### **mechanically generated sparks**

sparks produced by mechanical impact or friction burning particles, as well as showers of particles, produced by impact or friction between two solid materials

#### 3.3

##### **control of ignition source “b”**

ignition protection where mechanical or electrical devices are used in conjunction with non-electrical equipment to manually or automatically reduce the likelihood of a potential ignition source from becoming an effective ignition source

Note 1 to entry: This might for example be a level sensor used to indicate loss of oil, a temperature sensor to indicate a hot bearing or a speed sensor to indicate over-speed.

##### 3.3.1

###### **automatic control measure**

action taken without manual intervention, to reduce the likelihood of a potential ignition source from becoming an effective ignition source

##### 3.3.2

###### **manual control measure**

action taken by a person as a result of a warning, indication, or alarm, to reduce the likelihood of a potential ignition source from becoming an effective ignition source

##### 3.3.3

###### **ignition prevention devices/systems**

arrangement that converts signals from one or more sensors into an action, or indication, to reduce the likelihood of a potential ignition source from becoming an effective ignition source

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<sup>1</sup> To be published.