Intermediate report of the Secretariat on activities of CEN/TC 305 "Potentially explosive atmospheres – Explosion prevention and protection"

1 Constitution

Scope

Standardisation in the field of explosion prevention and protection. Drawing up of standards relating to test methods for determining the flammability characteristics of substances, equipment and protective systems for use in potentially explosive atmospheres, equipment and systems for explosion prevention and protection and terminology and methodology in the field of potentially explosive atmospheres.

Members of CEN/TC 305 are the 33 member bodies of CEN, the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom and the Former Yugoslav Republic of Macedonia

Chairman of CEN/TC 305: Prof. Dr.-Ing. Siegfried Radandt, Germany
Secretariat of CEN/TC 305: Dipl.-Ing. Anke Sachtleben, DIN, Germany.

Liaisons:

- Commission of the European Communities (CEC)
- European Chemical Industry Council (CEFIC)
- European Trade Union – Technical Bureau for Health and Safety (TUTB)
- CENELEC/TC 31 Electrical apparatus for explosive atmospheres: General requirements
- IEC/SC 31 M¹ Non-electrical equipment and protective systems for explosive atmospheres
- CEN/TC 69 Industrial valves
- CEN/TC 150 Industrial trucks
- CEN/TC 153 Food processing machinery - Safety and hygiene specifications
- CEN/TC 188 Conveyor belts
- CEN/TC 191 Fixed fire fighting systems
- CEN/TC 196 Machines for underground mines – Safety
- CEN/TC 197 Pumps
- CEN/TC 270 Internal combustion engines
- CEN/TC 286 Liquefied petroleum gas equipment and accessories

¹ In progress
2 Organization

The following working groups are set up under CEN/TC 305:

WG 1 Test methods for determining the flammability characteristics of substances
Convener: Dr. Stephen Puttick, UK
Secretariat: BSI, Janice Carter, UK

WG 2 Equipment for use in potentially explosive atmospheres
Convener: Alan Tyldesley, United Kingdom
Secretariat: DIN, Anke Sachtleben, DE

WG 3 Devices and systems for explosion prevention and protection
Convener: Dr. Kees van Wingerden, Norway
Secretariat: DIN, Dr Christian Thom, DE

WG 4 Terminology and Methodology
Convener: Dr. Albrecht Vogl, DE
Secretariat: DIN, Anke Sachtleben, DE

WG 5 Equipment and protection systems for mining
Convener: Dr. Elmar Fuchs, Germany
Secretariat: DIN, Hans Georg Blasgude, DE

WG 6 Flame arresters
Convener: Joachim Romeick, DE
Secretariat: DIN, Axel Lüttke, DE

3 Plenary meetings

1st Mannheim, Germany 1993-05-05/06 Report: N 19
2nd St. Denijs, Belgium 1994-03-22/23 Report: N 43
3rd Antwerp, Belgium 1995-06-06/07 Report: N 70
4th Bergen, Norway 1996-05-21/22 Report: N 113
5th Lucerne, Switzerland 1998-10-07/08 Report: N 204
7th London, United Kingdom 2001-10-25/26 Report: N 343
8th Berlin, Germany 2002-11-06/07 Report: N 378
9th Mannheim, Germany 2003-11-05 Report: N 423
10th Oslo, Norway 2004-09-16 Report: N 483
11th Berlin, Germany 2005-11-03 Report: N 542
13th Prague, Czech Republic 2007-09-04/05 Report: N 663
(meeting together with CENELEC/TC 31)

14th Berlin, Germany 2008-09-15/16 Report: N 729
(meeting together with CENELEC/TC 31)

15th Dublin, Ireland 2009-10-29/30 Report: N 783
(meeting together with CENELEC/TC 31)

16th Braunschweig, Germany 2010-10-28/29 Report: N 871
(meeting together with CENELEC/TC 31)
17th Milan, Italy 2011-10-23/24 Report: N 921
(meeting together with CENELEC/TC 31)

18th London, United Kingdom 2012-11-29/30 Report N 984

19th Brussels, Belgium 2013-11-21/22 Report N 1051

20th Kappelrodeck, Germany 2014-11-19/20 Report N 1120

21st Rome, Italy 2015-10-30 Report N 1167

4 Published European Standards and CEN Technical Reports

4.1 Production of the last five years

2011: 10 documents
2012: 3 documents
2013: 0 documents
2014: 2 documents
2015: 0 documents

4.2 List of all documents published by CEN/TC 3052:

EN 1127-1:2011
Explosive atmospheres – Explosion prevention and protection –
Part 1: Basic concepts and methodology

EN 1127-2:2014
Explosive atmospheres – Explosion prevention and protection –
Part 2: Basic concepts and methodology for mining

Equipment and components intended for use in potentially explosive
atmospheres in underground mines

EN 1839:2012
Determination of explosion limits of gases and vapours

EN 13237:2012
Potentially explosive atmospheres – Terms and definitions for
equipment and protective systems intended for use in potentially explosive
atmospheres

EN 13463-1:2009
Non-electrical equipment for potentially explosive atmospheres –
Part 1: Basic method and requirements

EN 13463-2:2004
Non-electrical equipment for use in potentially explosive atmospheres –
Part 2: Protection by flow restricting enclosure "fr"

EN 13463-3:2005
Non-electrical equipment for use in potentially explosive atmospheres –
Part 3: Protection by flame proof enclosure "d"

EN 13463-5:2011
Non-electrical equipment for potentially explosive atmospheres –
Part 5: Protection by constructional safety "c"

EN 13463-6:2005
Non-electrical equipment for use in potentially explosive atmospheres –
Part 6: Protection by control of ignition source "b"

2 All modifications since the last Plenary meeting are highlighted in red
EN 13463-8:2003
Non-electrical equipment for potentially explosive atmospheres –
Part 8: Protection by liquid immersion "k"

EN 13821:2002
Potentially explosive atmospheres – Explosion prevention and protection –
Determination of minimum ignition energy of dust/ air mixtures

Determination of explosion characteristics of dust clouds –
Part 1: Determination of the maximum explosion pressure $p_{\text{max}}$ of dust clouds

Determination of explosion characteristics of dust clouds –
Part 2: Determination of the maximum rate of explosion pressure rise $(dp/dt)_{\text{max}}$ of dust clouds

Determination of explosion characteristics of dust clouds –
Part 3: Determination of the lower explosion limit $LEL$ of dust clouds

Determination of explosion characteristics of dust clouds –
Part 4: Determination of the limiting oxygen concentration $LOC$ of dust clouds

EN 14373:2005
Explosion suppression systems

EN 14460:2006
Explosion resistant equipment

EN 14491:2012
Dust explosion venting protective systems

EN 14522:2005
Determination of the auto ignition temperature of gases and vapours

EN 14591-1:2004 + Corrigendum:2006
Explosion prevention and protection in underground mines –
Protective systems – Part 1: 2-bar explosion proof ventilation structure

Explosion prevention and protection in underground mines –
Protective systems – Part 2: Passive water trough barriers

EN 14591-4:2007 + Corrigendum 2008
Explosion prevention and protection in underground mines –
Protective systems – Part 4: Automatic extinguishing systems for road headers

EN 14756:2006
Determination of the limiting oxygen concentration (LOC) for flammable gases and vapours

EN 14797:2006
Explosion venting devices

EN 14983:2007
Explosion prevention and protection in underground mines –
Equipment and protective systems for firedamp drainage

EN 14986: 2007
Design of fans working in potentially explosive atmospheres

EN 14994:2007
Gas explosion venting protective systems
EN 15089:2009
Explosion isolation systems

EN 15188:2007
Determination of the spontaneous ignition behaviour of dust accumulations

EN 15198:2007
Methodology for the ignition hazard assessment of non-electrical equipment and components for intended use in potentially explosive atmospheres

EN 15233:2007
Methodology for functional safety assessment of protective systems for potentially explosive atmospheres

EN 15967:2011
Determination of maximum explosion pressure and the maximum rate of pressure rise of gases and vapours

EN 16009:2011
Flameless explosion venting devices

EN 16020:2011
Explosion diverters

EN 16447:2014
Explosion isolation flap valves

EN ISO 16852:2010
Flame arrester – Performance requirements, test methods and limits for use (ISO 16852:2008, including Cor 1:2008 and Cor 2:2009)

CEN/TR 15281:2006
Guidance on inerting for the prevention of explosions

EN ISO/IEC 80079-34:2011
Explosive atmospheres - Part 34: Application of quality systems for equipment manufacture (ISO/IEC DIS 80079-34:2011)

5 Program of work (see next page)
The projects in the table below are in the order of drafting body (working group), then ordered by WI number and then WI status (active or waiting/preliminary).
<table>
<thead>
<tr>
<th>Drafting Body</th>
<th>WI Number</th>
<th>Reference</th>
<th>Title</th>
<th>WI Status</th>
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<td>'00305100</td>
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<td>Determination of the spontaneous ignition behaviour of dust accumulations</td>
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<td>Combustion propagation behaviour of dust layers by classification into burning classes</td>
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<td>Explosive atmospheres - Material characteristics - Combustible dusts test methods</td>
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<td>2014-05-26</td>
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<td>prEN ISO/IEC 80079-41</td>
<td>Internal combustion engines</td>
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<td>2013-11-22</td>
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<td>Application guidance for the use of flame arresters</td>
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All modifications since the last Plenary meeting are highlighted in red
7 Regular review of standards

In 2015 no standards were up to systematic 5-years review.

10 Co-operation with IEC/TC 31/SC 31M

10.1 Plenary meetings of IEC/TC 31/SC 31M

1st Kuala Lumpur, Malaysia 2007-11-07 Report: N 672
2nd Sao Paulo, Brazil 2008-11-19 Report: N 732
3rd Tel Aviv, Israel 2009-10-20 Report: N 788
5th Melbourne, AU 2011-10-27 Report: N 919
6th Oslo, NO 2012-10-03 Report: N 959
7th New Delhi, India 2013-10-23 Report: N 1040
9th Minsk, Belarus 2015-10-14 Decisions: N 1162

10.2 List of projects in IEC/TC 31 SC 31M³

MT 80079-20-1 Explosive atmospheres - Part 20-1: Material characteristics for gas and vapour classification– test methods and data from TC 31 to SC 31M

The CDV has been published in December 2015. The Enquiry will end on 2016-03-03 and the comments will be discussed one week later.

NOTE: This document deals with electrical as well as non-electrical issues. Following the agreement between ISO/TMB and IEC/SMB this document will become a double logo ISO/IEC-standard.

Maintenance team leader: Dr. Martin Thedens, Germany.

ISO/IEC CDV 80079-20-2 Explosive atmospheres - Part 20-2: Material characteristics - Combustible dusts test methods

ISO/IEC FDIS 80079-20-2 was approved at (CEN), ISO and IEC. Therefore the publication is in preparation.

NOTE: This document deals with electrical as well as non-electrical issues. Following the agreement between ISO/TMB and IEC/SMB this document will become a double logo ISO/IEC-standard.

Maintenance team leader: Donald W. Ankele, US

ISO DIS 80079-36 Ed. 1.0 Explosive atmospheres - Non-electrical equipment for use in explosive atmospheres - Basic method and requirements (basis: EN 13463-1)

ISO FDIS 80079-36 was approved at (CEN), ISO and IEC. Therefore the publication is in preparation.

³ All modifications since the last Plenary meeting are highlighted in red
NOTE: This document deals primarily with non-electrical issues. Following the agreement between ISO/TMB and IEC/SMB this document will become an ISO-standard. 
Project leader: Thierry Houeix, France

ISO DIS 80079-37 Ed. 1.0: Explosive atmospheres - Non-electrical equipment for use in explosive atmospheres - Non electrical type of protection constructional safety 'c', control of ignition source 'b', liquid immersion 'k' 
(basis: EN 13463-5, EN 13463-6, EN 13463-8) 

ISO FDIS 80079-37 was approved at (CEN), ISO and IEC. Therefore the publication is in preparation.

NOTE: This document deals primarily with non-electrical issues. Following the agreement between ISO/TMB and IEC/SMB this document will become an ISO-standard.

Project leader: Konrad Brehm, Germany.

ISO/IEC CDV 80079-38 Explosive atmospheres - Non-electrical equipment for use in explosive atmospheres - Part 38: Equipment and components in explosive atmospheres in underground mines (basis: EN 1710) 

ISO/IEC FDIS 80079-38 was approved at (CEN), ISO and IEC. Therefore the publication is in preparation.

NOTE: This document deals with electrical as well as non-electrical issues. Following the agreement between ISO/TMB and IEC/SMB this document will become a double logo ISO/IEC-standard.

Project leader: Dr. Elmar Fuchs, Germany

ISO/IEC 80079-41 "Internal combustion engines"

The first WD is still in preparation.

Project leader: Dr. Elmar Fuchs

Anke Sachtleben, 2016-02-15