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IEC/IEEE 60079-30-2, Ed. 1.0 (2015)

AS/NZS 60079.30.2:2016

Australian/New Zealand Standard™

Explosive atmospheres

Part 30.2: Electrical resistance trace heating—Application guide for design, installation and maintenance

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Australian/New Zealand Standard™

Explosive atmospheres

Part 30.2: Electrical resistance trace heating—Application guide for design, installation and maintenance

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee, EL-014, Equipment for Explosive Atmospheres, to supersede AS/NZS 60079.30.2:2007 *Explosive atmospheres,* Part 30.2: *Electrical resistance trace heating—Application guide for design, installation and maintenance (IEC 60079-30-2, Ed. 1.0 (2007) MOD)*.

The objective of this Standard is to provide guidance for the application of electrical resistance trace heating systems in areas where explosive gas atmospheres may be present, with the exception of those classified as requiring EPL Ga/Da (traditional relationship to Zone 0 and Zone 20 respectively).

The objective of this revision is to adopt the current edition of IEC/IEEE 60079-30-2.

This Standard is identical with, and has been reproduced from, IEC/IEEE 60079-30-2, Ed. 1.0 (2015), *Explosive atmospheres*, Part 30-2: *Electrical resistance trace heating—Application guide for design, installation and maintenance*.

As this Standard is reproduced from an International Standard, the following applies.

(a) In the source text 'this part of IEC 60079' should read 'this Australian/New Zealand standard'.

(b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
IEC		AS/NZS	
60079	Explosive atmospheres	60079	Explosive atmospheres
60079-0	Part 0: Equipment—General requirements	60079.0	Part 0: Equipment—General requirements
60079-15	Part 15: Equipment protection by type of protection "n"	60079.15	Part 15: Equipment protection by type of protection 'n'
IEC/IEEE			
60079	Explosive atmospheres	60079	Explosive atmospheres
60079-30-1	Part 30-1: Electrical resistance trace heating—General and testing requirements	60079.30.1	Part 30.1: Electrical resistance trace heating—General and testing requirements

Only normative references that have been adopted as Australian or Australian/New Zealand Standards have been listed.

The term 'informative' has been used in this Standard to define the application of the annex to which it applies. An 'informative' annex is only for information and guidance.

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FOREWORD

This edition includes the following significant changes, apart from a general review and updating of the first edition of IEC 60079-30-2, harmonization with IEEE Std 515, with respect to the previous edition:

- the relocation of trace heater product design methodology and requirements to IEC/IEEE 60079-30-1;
- the relocation and/or duplication of information on installation, maintenance, and repair to the MTs under SC31J for their addition into IEC 60079-14, IEC 60079-17, and IEC 60079-19;
- the inclusion of more detailed information on safety showers and eyewash units;
- the introduction of Annexes from IEEE Std 515.

The significance of changes between IEC 60079-30-2, Edition 1.0 (2007) and IEC/IEEE 60079-30-2, Edition 1.0 (2014) is as listed below:

		Type		
Changes	**Clause**	**Minor and editorial changes**	**Extension**	**Major technical changes**
Addition of clarification for the exclusion of areas coverage classifications of EPLs Ga and Da	1	X		
Addition of requirements for the Division method of area classification that may be applied by some users	1			C1
Relocation of heat loss design requirements to IEC/IEEE 60079-30-1	6.3	X		
Addition of safety shower and eyewash station design requirements	6.16			C2
Addition of Annex for an example of a design data record	Annex A	X		
Addition of Annex for a checklist of installation requirements	Annex B	X		
Addition of Annex for an example of a trace heater commissioning record	Annex C	X		
Addition of Annex for an example of a maintenance schedule and log record	Annex D	X		
Addition of Annex for pipe heat loss considerations	Annex E	X		
Addition of Annex for vessel heat loss considerations	Annex F	X		
Addition of Annex for heat up and cool down considerations	Annex G	X		
Addition of Annex for a method to determine the equivalent thickness of insulating cements	Annex H	X		

NOTE The technical changes referred to include the significance of technical changes in the revised IEC Standard, but they do not form an exhaustive list of all modifications from the previous version.

Explanations:

A) Definitions

Minor and editorial changes

clarification
decrease of technical requirements
minor technical change
editorial corrections

These are changes which modify requirements in an editorial or a minor technical way. They include changes of the wording to clarify technical requirements without any technical change, or a reduction in level of existing requirement.

Extension addition of technical options

These are changes which add new or modify existing technical requirements in a way that new options are given, but without increasing requirements for equipment that was fully compliant with the previous standard. Therefore, these will not have to be considered for products in conformity with the preceding edition.

Major technical changes addition of technical requirements
increase of technical requirements

These are changes to technical requirements (addition, increase of the level or removal) made in a way that a product in conformity with the preceding edition will not always be able to fulfil the requirements given in the later edition. These changes have to be considered for products in conformity with the preceding edition. For these changes additional information is provided in clause B) below.

NOTE These changes represent current technological knowledge. However, these changes should not normally have an influence on equipment already placed on the market.

B) Information about the background of 'Major Technical Changes'

C1 – The requirements for the Division method of area classification are applicable only for users of this standard intending qualification for these areas.

C2 – The design requirements for safety showers and eyewash units have been included for harmonization and for added safety.

NOTES

AUSTRALIAN/NEW ZEALAND STANDARD

Explosive atmospheres

Part 30.2:
Electrical resistance trace heating—Application guide for design, installation and maintenance

1 Scope

This part of IEC 60079 provides guidance for the application of electrical resistance trace heating systems in areas where explosive atmospheres may be present, with the exclusion of those classified as requiring EPL Ga/Da (traditional relationship to Zone 0 and Zone 20 respectively). This standard also provides guidance for explosive atmospheres incorporating the Division method of area classification that may be applied by some users of this standard.

NOTE Information on the Division method is given in NFPA 70 and CSA C22.1.

It provides recommendations for the design, installation, maintenance and repair of trace heating systems including associated control and monitoring equipment. It does not cover devices that operate by induction heating, skin effect heating or direct pipeline heating, nor those intended for stress relieving.

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 60050-426, *International Electrotechnical Vocabulary – Part 426: Equipment for explosive atmospheres*

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

IEC 60079-15, *Explosive atmospheres – Part 15: Equipment protection by type of protection "n"*

IEC/IEEE 60079-30-1, *Explosive atmospheres – Part 30-1: Electrical resistance trace heating – General and testing requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-426, IEC 60079-0 and IEC/IEEE 60079-30-1 apply.

4 Application considerations

4.1 General

This part of IEC 60079 supplements the requirements specified in IEC 60079-14, IEC 60079-17 and IEC/IEEE 60079-30-1.

Where trace heating systems are to be installed in explosive atmospheres, full details of the area classifications shall be specified. The specification shall state, as applicable, the