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Australian/New Zealand Standard™

Explosive atmospheres

Part 30.1: Electrical resistance trace heating—General and testing requirements

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This Standard was issued in draft form for comment as DR AS/NZS 60079.30.1:2015.

Australian/New Zealand Standard™

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Part 30.1: Electrical resistance trace heating—General and testing requirements

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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 60079.30.1:2007.

The objective of this Standard is to specify general and testing requirements for electrical resistance trace heaters for application in explosive gas atmospheres. The Standard covers trace heaters that may comprise either factory- or field- (work-site) assembled units, and which may be series heating cables, parallel heating cables or heating pads and heating panels that have been assembled and/or terminated in accordance with the manufacturer's instructions.

The objective of the revision is to adopt the current edition of IEC/IEEE 60079-30-1.

This Standard is identical with, and has been reproduced from IEC/IEEE 60079-30-1, Ed 1.0 (2015), *Explosive atmospheres*, Part 30-1*: Electrical resistance trace heating—General and testing requirements*.

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

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

The terms 'normative' and 'informative' have been used in this Standard to define the application of the annex to which they apply. A 'normative' annex is an integral part of a Standard, whereas an 'informative' annex is only for information and guidance.

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INTRODUCTION

IEC/IEEE 60079-30-1 is intended to provide a comprehensive overview of the essential requirements and testing appropriate to electric surface heating equipment used in explosive atmospheres. The requirements of this part of IEC 60079 are considered to be the minimum requirements for equipment protection levels Gb, Gc, Db, and Dc in explosive atmospheres for gases, dusts, and fibres/flyings. While some of this work already exists in national standards or international standards, this standard has collated much of this existing work and considerably added to it. This standard also contains the minimum requirements for users applying the Division method of area classification.

AUSTRALIAN/NEW ZEALAND STANDARD

Explosive atmospheres

Part 30.1:
Electrical resistance trace heating—General and testing requirements

1 Scope

This part of IEC 60079 specifies general and testing requirements for electrical resistance trace heaters for application in explosive atmospheres with the exclusion of those for EPL Ga and Da. This standard covers trace heaters that comprise either factory or field (work-site) assembled units, and which may be series trace heaters, parallel trace heaters, trace heater pads, or trace heater panels that have been assembled and/or terminated in accordance with the manufacturer's instructions.

This standard also includes requirements for termination assemblies and control methods used with trace heating systems. The explosive atmospheres referred to in this standard are those defined in IEC 60079-10-1 and IEC 60079-10-2.

Annexes D and E outline the application of this standard for those users applying the Division method of area classification.

This standard supplements and modifies the general requirements of IEC 60079-0, except as indicated in Table 1. Where a requirement of this standard conflicts with a requirement of IEC 60079-0, the requirement of this standard takes precedence.

Table 1 – Application or exclusion of specific clauses of IEC 60079-0

IEC 60079-0		Electrical resistance trace heaters and integral components		Terminations as separate components
Ed. 6.0 (2011) (informative)	Clause / Subclause title (normative)	Group I and Group II	Group III	
1	Scope	Applies	Applies	Applies
2	Normative references	Applies	Applies	Applies
3	Terms and definitions	Applies, except ambient temperature, see 3.1	Applies, except ambient temperature, see 3.1	Applies, except ambient temperature, see 3.1
4	Equipment grouping	Applies	Applies	Applies
4.1	Group I	Applies	Excluded	Applies
4.2	Group II	Applies, always IIC	Excluded	Applies
4.3	Group III	Excluded	Applies, outside of thermal insulation only, always IIIC	Applies, outside of thermal insulation only
4.4	Equipment for a particular explosive atmosphere	Excluded	Excluded	Applies
5.1	Environmental influences	Applies	Applies	Applies
5.1.1	Ambient temperature	Replaced by 6.1e)	Replaced by 6.1e)	Applies, see 3.1
5.1.2	External source of heating or cooling	Applies	Applies	Applies
5.2	Service temperature	Modified	Modified	Applies