AS/NZS 62086.1:2002
(Incorporating Amendment No. 1)

Australian/New Zealand Standard™

Electrical apparatus for explosive gas atmospheres—
Electrical resistance trace heating
Part 1: General and testing requirements

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This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-014, Electrical Equipment in Hazardous Areas. It was approved on behalf of the Council of Standards Australia on 11 March 2002 and on behalf of the Council of Standards New Zealand on 14 March 2002.. It was published on 4 April 2002.

The following are represented on Committee EL-014:

Association of Consulting Engineers, Australia
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Electrical Compliance Testing Association of Australia
Energy Efficiency and Conservation Authority of New Zealand
Illuminating Engineering Society of Australia and New Zealand
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This Standard was issued in draft form for comment as DR 01293.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-014, Electrical Equipment in Hazardous Areas.

This Standard incorporates Amendment No. 1 (August 2003) (which is identical to and has been reproduced from IEC 62086-1:2001, Corrigendum 1:2003). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of this Standard is to specify general and testing requirements for electrical resistance trace heaters for application in explosive gas atmospheres.

This Standard is identical with and has been reproduced from IEC 62086-1:2001, *Electrical apparatus for explosive gas atmospheres—Electrical resistance trace heating* Part 1: *General and testing requirements*.

Footnotes in pages 2 and 6 have been added to the original text of IEC 62086-1:2001, to provide further clarification on earthing systems.

A reference to an International Standard identified in the Normative References Clause by strikethrough (~~example~~) is replaced by a reference to the Australian or Australian/New Zealand Standard(s) listed immediately thereafter and identified by shading (example).

This Standard is part of a series covering electrical resistance trace heating for use in explosive gas atmospheres which comprises the following:

AS/NZS		
62086	Electrical apparatus for explosive atmospheres—Electrical resistance trace heating	
62086.1	Part 1:	General and testing requirements (this Standard)
62086.2	Part 2:	Application guide for design, installation and maintenance

As this Standard is reproduced from an International Standard a full point should be substituted for a comma when referring to a decimal marker.

CONTENTS

INTRODUCTION

This part of IEC 62086 is intended to provide a comprehensive overview of the essential requirements and testing appropriate to electric surface heating equipment used in explosive gas atmospheres. The requirements of this standard are considered to be the minimum requirements for zone 1 or zone 2. While some of this work already exists in national standards or international standards, this standard has collated much of this existing work and added considerably to it. This standard should be read in conjunction with IEC 62086-2:2001, Electrical apparatus for explosive gas atmospheres—Electrical resistance trace heating—Part 2: Application guide for design, installation and maintenance.

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Australian/New Zealand Standard

Electrical apparatus for explosive gas atmospheres— Electrical resistance trace heating Part 1: General and testing requirements

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1 Scope

This part of IEC 62086 specifies 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.

This standard also includes requirements for termination assemblies and control methods used with trace heating. The hazardous areas referred to by this standard are those defined in IEC 60079-10.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 62086. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 62086 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

References to International Standards that are struck through in this Clause are replaced by references to equivalent Australian or Australian/New Zealand Standards that are listed immediately thereafter and identified by shading.

~~IEC 60050(151):1978, *International Electrotechnical Vocabulary (IEV) – Chapter 151: Electrical and magnetic devices*~~

AS 1852.151—1988, *International electrotechnical vocabulary* Part 151: *Electric and magnetic devices* (identical to IEC 60050(151):1978)

IEC 60050(426), *International Electrotechnical Vocabulary (IEV) – Chapter 426: Electrical apparatus for explosive atmospheres*

~~IEC 60079-0:1998, *Electrical apparatus for explosive gas atmospheres – Part 0: General requirements*~~

AS/NZS 60079.0:2000*, Electrical apparatus for explosive atmospheres,* Part 0: *General requirements* (identical to IEC 60079-0:1998)