

Australian/New Zealand Standard™

**Electrical apparatus for explosive gas
atmospheres**

Part 11: Intrinsic safety ‘i’



S t a n d a r d s Australia



STANDARDS
NEW ZEALAND
Pāpārahū Aotearoa

AS/NZS 60079.11:2000

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(Incorporating Amendment No. 1)

Australian/New Zealand Standard™

Electrical apparatus for explosive gas atmospheres

Part 11: Intrinsic safety 'i'

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL/14, Electrical Equipment in Hazardous Areas.

This Standard incorporates Amendment No. 1 (February 2001). The changes arising from the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure, or part thereof affected.

This Standard is identical with and has been reproduced from IEC 60079.11:1999, *Electrical apparatus for explosive gas atmospheres, Part 11: Intrinsic safety 'i'*.

Footnotes have been added to the original text of IEC 60079-11:1999 to provide updated information and/or clarification on the specific items/aspects marked with *.

The objective of this Standard is to set out the requirements for the design, construction, testing and marking of intrinsically safe apparatus for use in explosive atmospheres, and to specify the requirements for associated apparatus intended for connection to intrinsically safe circuits entering such atmospheres.

This Standard will run concurrently with AS 2380.7, *Electrical equipment for explosive atmospheres—Explosion-protection techniques, Part 7: Intrinsic safety i*, until the AS/NZS 60079 series is complete, at which time the AS 2380 series will be withdrawn.

In January 1997, the IEC commenced numbering its Standards from 60000 by adding 60000 to the number of each existing Standard. This coordinates IEC numbering with ISO numbering. During the transition period an IEC Standard might be identified by its new number or its old number (for example, IEC 60050 or IEC 50).

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).

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

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.

CONTENTS

	<i>Page</i>
Clause	
1 Scope	1
2 Normative references	2
3 Definitions	3
4 Grouping and classification of intrinsically safe apparatus and associated apparatus.....	7
5 Categories of electrical apparatus	7
6 Apparatus construction	9
7 Components on which intrinsic safety depends.....	25
8 Infallible components, infallible assemblies of components and infallible connections	31
9 Diode safety barriers	37
10 Type verifications and type tests.....	38
11 Routine verifications and tests	46
12 Marking	47
13 Documentation	49
Annex A (normative) Assessment of intrinsically safe circuits	50
Annex B (normative) Spark test apparatus for intrinsically safe circuits	71
Annex C (informative) Measurement of creepage distances, clearances and separation distances through casting compound and through solid insulation	80
Annex D (normative) Encapsulation	83

NOTES

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard**Electrical apparatus for explosive gas atmospheres****Part 11: Intrinsic safety 'i'****1 Scope**

1.1 This part of AS/NZS 60079 specifies the construction and testing of intrinsically safe apparatus, intended for use in potentially explosive atmospheres and for associated apparatus, which is intended for connection to intrinsically safe circuits which enter such atmospheres. It also contains details of the test apparatus previously published as IEC 60079-3.

1.2 This standard supplements IEC 60079-0:1998, the requirements of which apply to intrinsically safe apparatus and to associated apparatus except as indicated in the following list.

If associated apparatus is protected by a type of protection listed in IEC 60079-0 then the requirements of that method of protection together with the relevant parts of IEC 60079-0 also apply to the associated apparatus. The list of exclusions which follows is directly applicable to associated apparatus intended for use in situations where there is no potentially explosive atmosphere and in other circumstances should be used in combination with the requirements of the other methods of protection.

Clause of IEC 60079-0:1998		Clause or subclause excluded	
		Intrinsically safe apparatus	Associated apparatus
3.1	Electrical apparatus	Yes	Yes
4.2.2	Marking of maximum surface temperature	No	Yes
5.1	Maximum surface temperature	No	Yes
5.3	Surface temperature and ignition temperature	No	Yes
6.2	Enclosure opening delay	Yes	Yes
7.1.1	Definition of plastics material	No	Yes
7.1.2	Requirement of plastics material	Yes	Yes
7.1.3	Verification of plastics material compliance	No	Yes
7.2	Thermal endurance	Yes	Yes
7.3	Electrostatic charges on plastics enclosures	No	Yes
7.3.1	Electrical apparatus of Group I (notes 1 and 2 only)	Yes	Yes
7.3.2	Electrical apparatus of Group II (notes 1 and 2 only)	Yes	Yes
7.4	Threaded holes in plastics	Yes	Yes
8.1	Light metal enclosure materials	No	Yes
8.2	Threaded holes in light metals	Yes	Yes