AS/NZS 60079.18:2011
IEC 60079-18 Ed.3.0 (2009)
IEC 60079-18 Ed.3.0 Cor.1 (2009)

AS/NZS 60079.18:2011

Australian/New Zealand Standard™

Explosive atmospheres

Part 18: Equipment protection by encapsulation ‘m’

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-014, Equipment for Explosive Atmospheres. It was approved on behalf of the Council of Standards Australia on 27 May 2011 and on behalf of the Council of Standards New Zealand on 13 May 2011.
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The following are represented on Committee EL-014:

Auckland Regional Chamber of Commerce
Australian Chamber of Commerce and Industry
Australian Coal Association
Australian Industry Group
Australian Institute of Petroleum
Australian Institute of Refrigeration Air Conditioning and Heating
Australian Petroleum Production and Exploration Association
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS 60079.18.

Australian/New Zealand Standard™

Explosive atmospheres

Part 18: Equipment protection by encapsulation ‘m’

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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 60079.18:2005, *Electrical apparatus for explosive gas atmospheres,* Part 18: *Construction, test and marking of type of protective encapsulation 'm' electrical apparatus.*

The objective of this Standard is to establish the specific requirements for design, construction and testing of electrical equipment protected by encapsulation for use in flammable gas and vapour atmospheres and explosive dust atmospheres. It is intended to be read in conjunction with AS/NZS 60079-0. The objective of the revision is to adopt the current edition of IEC 60079-18. A list of 'significant changes' is given in the Foreword.

This Standard is identical with, and has been reproduced from IEC 60079-18 Ed.3.0 (2009), *Explosive atmospheres—Part* 18: *Equipment protection by encapsulation 'm'*, and its corrigendum, IEC 60079-18 Ed.3.0 Cor.1 (2009), which is incorporated into the source text.

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

(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

(b) In the source text 'this part of IEC 60079' should read 'this part of AS/NZS 60079'.

(c) 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 IEC		*Australian/New Zealand Standard* AS/NZS	
60079	Explosive atmospheres	60079	Explosive atmospheres
60079-0	Part 0: General requirements	60079.0	Part 0: General requirements
60079-7	Part 7: Equipment protection by increased safety 'e'	60079.7	Part 7: Equipment protection by increased safety 'e'
60079-11	Part 11: Equipment protection by intrinsic safety 'i'	60079.11	Part 11: Equipment protection by intrinsic safety 'i'
60079-15	Part 15: Equipment protection by type of protection 'n'	60079.15	Part 15: Equipment protection by type of protection 'n'
60079-26	Part 26: Equipment with equipment protection level (EPL) Ga	60079.26	Part 26: Equipment with equipment protection level (EPL) Ga
60079-31	Part 31: Equipment dust ignition protection by enclosures 't'	60079.31	Part 31: Equipment dust ignition protection by enclosures 't'
61241	Electrical apparatus for use in presence of combustible dust	61241	Electrical apparatus for use in presence of combustible dust
61241-11	Part 11: Protection by intrinsic safety 'iD'	61241.11	Part 11: Protection by intrinsic safety 'iD'

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

CONTENTS

Page

Page

FOREWORD

The significant technical changes with respect to the previous edition are as follows:

– Incorporation of level of protection “mc”
– Equipment protection levels (EPL Ma, Ga, Da, Mb, Gb, Db, Gc, Dc)
– Incorporation of the dust requirements
– Incorporation of switching contacts for level of protection “ma”

The contents of the corrigendum of June 2009 have been included in this copy.

AUSTRALIAN/NEW ZEALAND STANDARD

Explosive atmospheres

Part 18:
Equipment protection by encapsulation ‘m’

1 Scope

This part of IEC 60079 gives the specific requirements for the construction, testing and marking of electrical equipment, parts of electrical equipment and Ex components with the type of protection encapsulation “m” intended for use in explosive gas atmospheres or explosive dust atmospheres.

This part applies only for encapsulated electrical equipment, encapsulated parts of electrical equipment and encapsulated Ex components (hereinafter always referred to as “m” equipment) where the rated voltage does not exceed 11 kV.

The application of electrical equipment in atmospheres, which may contain explosive gas as well as combustible dust simultaneously may require additional protective measures.

This standard does not apply to dusts of explosives, which do not require atmospheric oxygen for combustion, or to pyrophoric substances

This standard does not take account of any risk due to an emission of flammable or toxic gas from the dust.

This standard supplements and modifies the general requirements of IEC 60079-0. Where a requirement of this standard conflicts with a requirement of IEC 60079-0, the requirement of this standard shall take precedence.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

IEC 60079-7, *Explosive atmospheres – Part 7: Equipment protection by increased safety “e”*

IEC 60079-11, *Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”*

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

IEC 60079-26, *Explosive atmospheres – Part 26: Equipment with equipment protection level (EPL) Ga*

IEC 60079-31, *Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosures “t”*

IEC 60127 (all parts), *Miniature fuses*