

Australian/New Zealand Standard™

Explosive atmospheres

**Part 18: Equipment protection by
encapsulation 'm'**



AS/NZS 60079.18:2016

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 9 March 2016 and by the Standards New Zealand Approval Board on 20 April 2016. This Standard was published on 10 May 2016.

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**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 60079.18:2011.

The objective of this Standard is to establish the specific requirements for construction, testing and marking of electrical equipment, parts of electrical equipment and Ex components with the type of protection encapsulation ‘m’ intended for use explosive gas atmospheres or explosive dust atmospheres. The objective of the revision is to adopt the current edition of IEC 60079-18.

The particular requirements of this Standard supplement the general requirements specified in AS/NZS 60079.0. This Standard is intended to be read in conjunction with AS/NZS 60079.0.

This Standard is identical with, and has been reproduced from IEC 60079-18, Ed. 4.0 (2014), *Explosive atmospheres, Part 18: Equipment protection by encapsulation “m”*.

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

- (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:

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
IEC		AS/NZS	
60079	Explosive atmospheres	60079	Explosive atmospheres
60079-0	Part 0: Equipment—General requirements	60079.0	Part 0: Equipment—General requirements
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’
60079-31	Part 31: Equipment dust ignition protection by enclosure “t”	60079.31	Part 31: Equipment dust ignition protection by enclosure ‘t’
61558	Safety of power transformers, power supplies, reactors and similar products	61558	Safety of power transformers, power supplies, reactors and similar products
61558-1	Part 1: General requirements and tests	61558.1	Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)
61558	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 100 V	61558	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 100 V
61558-2-6	Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers	61558.2.6	Part 2.6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers (IEC 61558-2-6 Ed 2, MOD)

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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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 takes precedence.

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 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 enclosure "t"*

IEC 60127 (all parts), *Miniature fuses*