AS/NZS 60079.6:2015
IEC 60079-6 Ed.4.0 (2015)

AS/NZS 60079.6:2015

Australian/New Zealand Standard™

Explosive atmospheres

Part 6: Equipment protection by oil immersion ‘o’

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 20 October 2015 and on behalf of the Council of Standards New Zealand on 22 October 2015.
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The following are represented on Committee EL-014:

Auckland Regional Chamber of Commerce
Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Institute of Petroleum
Australian Petroleum Production and Exploration Association
Australian Pipeline and Gas Association
Aviation and Marine Engineers 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 60079.6:2015.

Australian/New Zealand Standard™

Explosive atmospheres

Part 6: Equipment protection by oil immersion ‘o’

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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 60079.6:2007.

The objective of this Standard is to set out the requirements for the design, construction, testing and marking of Ex equipment and Ex components with type of protection liquid immersion ‘o’ intended for use in explosive gas atmospheres.

This Standard is identical with, and has been reproduced from IEC 60079-6 Ed.4.0 (2015), *Explosive atmospheres,* Part 6*: Equipment protection by liquid immersion "o".*

This Standard is to be read in conjunction with AS/NZS 60079.0, *Explosive atmospheres*, Part 0: *Equipment—General requirements*. Changes to the Standard introduced by this edition are listed in the IEC Foreword.

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
		AS	
60156	Insulating liquids—Determination of the breakdown voltage at power frequency—Test method	1767	Insulating liquids
		1767.2.1	Part 2.1: Test methods—Determination of the breakdown voltage at power frequency
60247	Insulating liquids—Measurement of relative permittivity, dielectric dissipation factor (tan δ) and d.c. resistivity	1767.2.2	Part 2: Test methods: Measurement of relative permittivity, dielectric dissipation factor (tan δ) and d.c. resistivity
60529	Degrees of protection provided by enclosures (IP Code)	60529	Degrees of protection provided by enclosures (IP Code)
ISO			
2592	Determination of flash and fire points—Cleveland open cup method	2585	Determination of flash and fire points—Cleveland open cup method
2719	Determination of flash point—Pensky-Martens closed cup method	2106	Methods for the determination of the flash point of flammable liquids (closed cup)
		2106.2	Part 2: Determination of flash point—Pensky-Martens closed cup method

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

The term ‘normative’ has been used in this Standard to define the application of the annex to which it applies. A ‘normative’ annex is an integral part of a Standard.

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IEC FOREWORD

The significant changes with respect to the previous edition are listed below:

– Edition 4 represents a major technical revision of the requirements for oil immersion “o” and should be considered as introducing all new requirements. The normal “Table of Significant Changes” has not been included for this reason. In particular:

  - The requirements for oil immersion “o” have been redefined into liquid immersion , levels of protection “ob” and “oc” as recommended by the responses to 31/715/DC
  - The ability to protect sparking contacts has been added to both “ob” and “oc”

– Additional requirements have been introduced for the protective liquid.

AUSTRALIAN/NEW ZEALAND STANDARD

Explosive atmospheres

Part 6:
Equipment protection by oil immersion ‘o’

1 Scope

This part of IEC 60079 specifies the requirements for the design, construction, testing and marking of Ex Equipment and Ex Components with type of protection liquid immersion “o” intended for use in explosive gas atmospheres.

Ex Equipment and Ex Components of type of protection liquid immersion “o” are either:

- Level of Protection “ob” (EPL “Mb” or “Gb”)
- Level of Protection “oc” (EPL “Gc”)

For Level of Protection “ob”, this standard applies where the rated voltage does not exceed 11 kV r.m.s. a.c. or d.c.

For Level of Protection “oc”, this standard applies where the rated voltage does not exceed 15 kV r.m.s. a.c. or d.c.

NOTE Requirements for higher voltages are under consideration.

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 60156, *Insulating liquids – Determination of the breakdown voltage at power frequency – Test method*

IEC 60247, *Insulating liquids – Measurement of relative permittivity, dielectric dissipation factor (tan δ) and d.c. resistivity*

IEC 60296, *Fluids for electrotechnical applications – Unused mineral insulating oils for transformers and switchgear*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60814, *Insulating liquids – Oil impregnated paper and pressboard – Determination of water by automatic coulometric Karl Fischer titration*

IEC 60836, *Specifications for unused silicone insulating liquids for electrotechnical purposes*