AS/NZS 61779.3:2000
IEC 61779-3:1998

Australian/New Zealand Standard™

Electrical apparatus for the detection and measurement of flammable gases

Part 3: Performance requirements for group I apparatus indicating a volume fraction up to 100% methane in air

Standards Australia

STANDARDS NEW ZEALAND

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL/14, Electrical Equipment in Hazardous Areas. It was approved on behalf of the Council of Standards Australia on 17 December 1999 and on behalf of the Council of Standards New Zealand on 24 January 2000. It was published on 23 February 2000.

The following interests are represented on Committee EL/14:

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Australian/New Zealand Standard™

Electrical apparatus for the detection and measurement of flammable gases

Part 3: Performance requirements for group I apparatus indicating a volume fraction up to 100% methane in air

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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, to supersede, in part, AS 2275, *Combustible gas detection instruments for use in explosive atmospheres*: Part 1—1979, *General requirements for explosion protection of electrical apparatus and systems,* and Part 2—1979, *Performance requirements*.

This Standard is identical with and has been reproduced from IEC 61779-3:1998, *Electrical apparatus for the detection and measurement of flammable gases*-Part 3: *Performance requirements for group I apparatus indicating a volume fraction up to 100% methane in air*.

The objective of this Standard is to provide general requirements and test methods for manufacturers, testing authorities and certifying bodies concerned with electrical apparatus for the detection and measurement of flammable gases.

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).

This Standard is part of a series covering electrical apparatus for detection and measurement of flammable gases which comprises the following:

AS/NZS		
61779	Electrical apparatus for the detection and measurement of flammable gases	
61779.1	Part 1:	General requirements and test methods
61779.2	Part 2:	Performance requirements for group I apparatus indicating a volume fraction up to 5% methane in air
61779.3	Part 3:	Performance requirements for group I apparatus indicating a volume fraction up to 100% methane in air (this Standard)
61779.4	Part 4:	Performance requirements for group II apparatus indicating a volume fraction up to 100% lower explosive limit
61779.5	Part 5:	Performance requirements for group II apparatus indicating a volume fraction up to 100% gas
61779.6	Part 6:	Guide for the selection, installation, use and maintenance of apparatus for the detection and measurement of flammable gases

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

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Australian/New Zealand Standard

Electrical apparatus for the detection and measurement of flammable gases Part 3: Performance requirements for group I apparatus indicating a volume fraction up to 100% methane in air

1 Scope

1.1 This part of AS/NZS 61779 specifies requirements for group I (as defined in part 1) portable, transportable and fixed apparatus for the detection and measurement of methane concentrations in mine air. The apparatus, or parts thereof, are intended for use in mines susceptible to firedamp. The requirements and test methods applicable to the apparatus covered by this standard are specified in part 1.

NOTE — The use of group I apparatus may not be permitted without the additional and prior approval of the relevant authority in mines under its jurisdiction, see note 1 of 1.1.1 of part 1.

1.2 This standard is restricted to apparatus intended for the detection and measurement of volume ratios of methane in air from a volume fraction of 0% up to a volume fraction of 100%.

NOTE — Apparatus covered by this standard will normally be intended to operate in volume ratios greater than a volume fraction of 5%.

2 Definitions

For the purpose of this part of AS/NZS 61779, the definitions given in part 1 apply.

3 General requirements

The apparatus shall comply with the general requirements specified in part 1 and with the performance requirements specified in clause 4 below.

Compliance shall be determined in accordance with the appropriate test requirements and methods, including initial calibration, specified in part 1.

It shall be verified that the contents of the manufacturer's instruction manual are in accordance with the requirements specified in part 1.

4 Performance requirements

4.1 General

The normal conditions for tests are specified in 4.3 of part 1. Compliance shall be determined in accordance with the test methods specified in 4.4 of part 1.