AS/NZS 60079.4:2000
IEC 60079-4:1975
IEC 60079-4:1975/Amd.1:1995
IEC 60079-4A:1970

Australian/New Zealand Standard™

Electrical apparatus for explosive gas atmospheres

Part 4: Method of test for ignition temperature

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

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 15 March 2000 and on behalf of the Council of Standards New Zealand on 20 March 2000. It was published on 26 April 2000.

The following interests are represented on Committee EL/14:

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This Standard was issued in draft form for comment as DR 99149.

Australian/New Zealand Standard™

Electrical apparatus for explosive gas atmospheres

Part 4: Method of test for ignition temperature

Originated as AS 1896—1976.
Jointly revised and redesignated as AS/NZS 60079.4:2000.

Jointly published by Standards Australia International Ltd, PO Box 1055, Strathfield, NSW 2135 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 3343 3

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL/14, Electrical Equipment in Hazardous Areas, to supersede AS 1896—1976, *Method of test for ignition temperature of gases and vapours*.

This Standard is identical with and has been reproduced from IEC 60079-4:1975, *Electrical apparatus for explosive gas atmospheres,* Part 4: *Method of test for ignition temperature,* its Amendment 1:1995, and IEC 60079-4A:1970, *First supplement to Publication 60079-4 (1966)*.

A footnote is included on page 5 to highlight the changes outlined in Amendment No. 1 to IEC 60079-4:1975.

One footnote was added to the first supplement to Publication 79-4 (1996), to provide updated information on the marked values.

The objective of this Standard is to set out a method of test for use in the determination of the ignition temperature of a chemically pure vapour or gas in air, at atmospheric pressure.

A more comprehensive list of updated ignition temperatures is given in IEC 60079-20:1996, *Electrical apparatus for explosive gas atmospheres,* Part 20: *Data for flammable gases and vapours, relating to the use of electrical apparatus*. In the case of discrepancy, the ignition temperature values in IEC 60079-20:1996 take preference over those included in this Standard (see first supplement to Publication 79-4:1966).

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).

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 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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1 Scope

This method of test is intended for use in the determination of the ignition temperature of a chemically pure vapour or gas in air at atmospheric pressure.

2 Definitions

For the purpose of this standard, the following definitions apply:

2.1 Ignition temperature

The lowest temperature at which ignition occurs when the method prescribed in this standard is followed.

2.2 Ignition

A reaction in the test flask which is evidenced by a clearly perceptible flame and/or explosion, and for which the ignition lag does not exceed 5 min.

2.3 Ignition lag

The period which elapses between the instant of completed injection of the sample and ignition.

3 Outline of method

A known volume of the product to be tested is injected into a heated open 200 ml Erlenmeyer flask containing air. The contents of the flask are observed in a darkened room until ignition occurs. The test is repeated with different flask temperatures and different sample volumes. The lowest flask temperature at which ignition occurs is taken to be the ignition temperature of the combustible in air at atmospheric pressure.

4 Apparatus

The test apparatus is described in the following sub-clauses:

4.1 Test flask

The test flask shall be a 200 ml Erlenmeyer flask of borosilicate glass. A chemically clean flask shall be used for tests on each product and for the final series of tests.