AS/NZS 60079.12:2000
IEC/TR 60079-12:1978

Australian/New Zealand Standard™

Electrical apparatus for explosive gas atmospheres

Part 12: Classification of mixtures of gases or vapours with air according to their maximum experimental safe gaps and minimum igniting currents

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.

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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.

This Standard is identical with and has been reproduced from IEC/TR 60079-12:1978, *Electrical apparatus for explosive gas atmospheres,* Part 12: *Classification of mixtures of gases or vapours with air according to their maximum experimental safe gaps and minimum igniting currents*.

The objective of this Standard is to provide guidance on the selection of the appropriate group or sub-group of electrical apparatus, protected by flameproof enclosure or designed to be intrinsically safe, according to the classified gas or vapour with which it is intended to be used. It also provides guidance on the tests to be carried out to classify any additional gases or vapours not listed in this Standard.

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 Technical Report 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 explosive gas atmospheres Part 12: Classification of mixtures of gases or vapours with air according to their maximum experimental safe gaps and minimum igniting currents

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1 Scope

This report provides guidance on the selection of the appropriate group or sub-group of electrical apparatus, protected by flameproof enclosure or designed to be intrinsically safe, according to the gas or vapour in which it is intended to be used.

This report provides the basis for the classification of the most used gases and vapours. Guidance is given on the tests to be carried out to classify any additional gases or vapours not listed in this report.

2 Classification of gases and vapours

For the purposes of flameproof enclosures and intrinsic safety, gases and vapours can be classified according to the group or sub-group of apparatus required for use in the particular gas or vapour atmosphere.

The general principles used to establish the lists of gases and vapours in the tables are given below.

2.1 Classification according to the maximum experimental safe gaps (MESG)

For flameproof enclosures, gases and vapours are classified according to their maximum experimental safe gaps (MESG). The standard method for determining MESG shall be the vessel described in Publication 60079-1A, but where determinations have been undertaken only in an 8 litre spherical vessel with ignition close to the flange gap these can be accepted provisionally.

The groups of apparatus are:

Group I: mining applications (methane).

Group II: for applications in other industries.

Group II apparatus is subdivided and, for the purpose of classification of gases and vapours, the MESG limits are:

Group IIA: MESG above or equal to 0.9 mm.

Group IIB: MESG greater than 0.5 mm and less than 0.9 mm.

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