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RECOMMANDATION DE LA C E I

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(affiliated to the International Organization for Standardization — ISO)

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Matériel électrique pour atmosphères explosives

Huitième partie: Classification des températures maximales de surface

Electrical apparatus for explosive gas atmospheres

Part 8: Classification of maximum surface temperatures

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Bureau Central de la Commission Electrotechnique Internationale

1, rue de Varembe
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES

Part 8: Classification of maximum surface temperatures

FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote this international unification, the IEC expresses the wish that all National Committees having as yet no national rules, when preparing such rules, should use the IEC recommendations as the fundamental basis for these rules in so far as national conditions will permit.

The desirability is recognized of extending international agreement on these matters through an endeavour to harmonize national standardization rules with these recommendations in so far as national conditions will permit. The National Committees pledge their influence towards that end.

PREFACE

This Recommendation has been prepared by IEC Technical Committee No. 31, Electrical Apparatus for Explosive Atmospheres.

It forms one of a series of publications dealing with electrical apparatus for use in explosive gas atmospheres. Some of these publications are concerned with particular techniques. Others, of which this is one, are relevant to all techniques.

The following parts of Publication 79 have already been published:

- Flameproof enclosures (see Publication 79*)
- Pressurized enclosures (see Publication 79-2)
- Testing of intrinsically safe apparatus (see Publication 79-3)
- Method of test for ignition temperature (see Publication 79-4)
- Sand-filled apparatus (see Publication 79-5)
- Oil-immersed apparatus (see Publication 79-6)
- Type 'e' apparatus (see Publication 79-7)

A description of the techniques available for making electrical apparatus safe for use in gas atmospheres, with general guidance on the subject, and a system of marking for such apparatus are in course of preparation.

The classification of maximum surface temperatures is based on a draft submitted by the German National Committee and discussed at a meeting held in Warsaw in 1964. A revised draft was discussed at a meeting held in Ottawa in 1966. As a result of this latter meeting, a final draft was submitted to the National Committees for approval under the Six Months' Rule in August 1967.

The following countries voted explicitly in favour of publication of Part 8:

Australia	Netherlands
Belgium	Norway
Canada	Poland
Czechoslovakia	Romania
Denmark	South Africa
Finland	Sweden
France	Switzerland
Germany	Turkey
Hungary	Union of Soviet Socialist Republics
Israel	United Kingdom
Japan	Yugoslavia
Korea (Republic of)	

* When the 1957 edition of Publication 79 is revised, the reference number will be changed to 79-1.

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RECOMMANDATION DE LA CEI

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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IEC RECOMMENDATION

Modification N° 1

Mars 1972

à la Publication 79-8
(Première édition - 1969)

Matériel électrique pour
atmosphères explosives

Huitième partie: Classification des
températures maximales de surface

Les modifications contenues dans le présent document ont été approuvées suivant la Règle des Six Mois.

Les projets de modifications ont été préparés par le Comité d'Etudes N° 31 et diffusés en mars 1970 pour approbation suivant la Règle des Six Mois.

Amendment No. 1

March 1972

to Publication 79-8
(First edition - 1969)

Electrical apparatus for
explosive gas atmospheres

Part 8: Classification of maximum
surface temperatures

The amendments contained in this document have been approved under the Six Month's Rule.

The draft amendments were prepared by Technical Committee No. 31 and circulated for approval under the Six Months' Rule in March 1970.

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ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES

Part 8: Classification of maximum surface temperatures

1. Scope

This Recommendation establishes six preferred maximum surface temperatures for electrical apparatus for use in explosive atmospheres. A system of marking is specified.

2. Definition

For the purpose of this Recommendation, the following definition applies.

2.1 *Maximum surface temperature*

The highest temperature attained under practical conditions of operation within the rating of the apparatus (and recognized overloads, if any, associated therewith) by any part of any surface, the exposure of which to an explosive atmosphere may involve a risk.

Note. — For flameproof apparatus, the surface to be considered is the external surface. For other types of apparatus, internal surfaces are equally important, if the explosive atmosphere has access to them.

3. Classification

The classification is as shown in Table I.

TABLE I.
Classification

Class	Maximum surface temperature °C
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

Note. — In declaring the maximum surface temperature of any particular piece of apparatus, regard should be paid to the value of ambient temperature on which the specification for the apparatus is based.

4. Marking

4.1 Apparatus designed to operate at a maximum surface temperature not greater than one of the preferred maximum surface temperatures given in Table I shall be clearly marked with the symbol indicating the class, or with the preferred maximum surface temperature of the class, or both.

4.2 It is recognized that it may be expedient to design apparatus for a particular application in circumstances such that it would be undesirable for economic reasons to classify the equipment according to the next higher preferred maximum surface temperature. In that event, the apparatus shall be clearly marked with the maximum surface temperature at which it is designed to operate and may, in addition, be marked with the appropriate classification symbol given in Table I.

Notes 1. — To avoid confusion between ordinary apparatus (Sub-clause 4.1) and special apparatus (Sub-clause 4.2), it is recommended that when the marking includes both a non-preferred temperature and a classification symbol, the symbol should follow the temperature and be put within brackets.

For example:

— Ordinary apparatus: T1 450 °C.

— Special apparatus: 350 °C (T1).

2. — Apparatus designed for a maximum surface temperature greater than 450 °C should be marked with the temperature only.

For example: 600 °C.