



National Standards Authority of Ireland

STANDARD

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ICS 29.260.20

**ELECTRICAL APPARATUS FOR
POTENTIALLY EXPLOSIVE ATMOSPHERES -
GROUP I - INTRINSICALLY SAFE SYSTEMS,
PART 1: CONSTRUCTION AND TESTING.**

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

March 2004

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English version

**Electrical apparatus for potentially explosive atmospheres –
Group I – Intrinsically safe systems
Part 1: Construction and testing**

Matériels électriques pour atmosphères
explosibles –
Système de sécurité intrinsèque du
groupe I
Partie 1: Construction et essais

Elektrische Betriebsmittel für
explosionsgefährdete Bereiche –
Gruppe I: Eigensichere Systeme
Teil 1: Konstruktion und Prüfung

This European Standard was approved by CENELEC on 2003-10-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This European Standard was prepared jointly by a mining working group, convened under SC 31-3, Intrinsically safe apparatus and systems "i", of Technical Committee CENELEC TC 31, Electrical apparatus for explosive atmospheres.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50394-1 on 2003-10-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2004-10-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2006-10-01

This European Standard was prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association to set down requirements for the design and construction of equipment in support of the essential safety and health requirements described in the European Directive 94/9/EC "Equipment and protective systems intended for use in potentially explosive atmospheres".

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Introduction

When the European Directive 94/9/EC came into force on 1 March 1996, the requirements relating to intrinsically safe electrical systems were identified as requiring revision.

The EU Commission issued the following interpretation, following a request from CENELEC TC 31:

- "a) intrinsically safe systems are not protective systems as defined in Article 1(3b) of the directive. They can be equipment, as defined in Article 1(3a), or components, as defined in Article 1(3c) and are in such cases within the scope of the directive;
- b) intrinsically safe systems have to undergo the relevant conformity assessment procedures of the directive, if they are placed on the market as a complete system and, therefore, to be considered as equipment or components;
- c) in case an intrinsically safe system comprises several separate products, which are designed to be assembled by the user, each single product, which is within the scope of the directive and placed on the market separately, has to undergo the relevant conformity assessment procedure of the directive;
- d) the resulting system has to be seen as an installation and it is, as such, not subject to the procedures and requirements of the directive. This does not exclude that there might be national regulations related to the use of intrinsically safe systems, which have to be applied. In this context the use of EN 50039 could be useful."

As a result of the above interpretation, CENELEC SC 31-3 decided to produce a revised version of EN 50039 with separate parts for mining (Group I) and non-mining industries (Group II). Accordingly, this standard is the mining industry document dealing with the construction and testing of Group I intrinsically safe systems.

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