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Draft Indian Standard

Explosive atmospheres
Part 42: Electrical Safety Devices for the control of potential
ignition sources from Ex-Equipment

Electrical Apparatus for Explosive Atmosphere
Sectional Committee, ETD 22

Last date of receipt of
comments: **01 Mar 2024**

NATIONAL FOREWORD

This draft Indian Standard which is identical with IEC TS 60079-42 “Explosive atmospheres Part 42: Electrical Safety Devices for the control of potential ignition sources from Ex-Equipment” issued by the International Electrotechnical Commission (IEC) will be adopted by the Bureau of Indian Standards on the recommendation of the Electrical Apparatus for Explosive Atmosphere Sectional Committee.

This draft Indian Standard provides guidance for equipment manufacturers where electrical safety devices are used to reduce the likelihood of potential ignition sources becoming effective in Ex Equipment located in Explosive Atmospheres. Electrical safety devices perform a safety function to control potential ignition sources from both, electrical or non-electrical Ex Equipment in explosive atmospheres.

The text of IEC Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards the current practice is to use a point (.) as the decimal marker.

In this standard, reference appears to International Standards for which Indian Standards also exists. The corresponding Indian Standards, which are to be substituted, are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
IEC 60079-0, Explosive atmospheres - Part 0: Equipment - General requirements	IS/IEC 60079-0 : 2017 Explosive Atmospheres Part 0 Equipment — General Requirements (Third Revision)	Identical

IEC 61508 (all parts), Functional safety of electrical/electronic/programmable electronic safety-related systems	IS/IEC 61508 (all parts)	Identical
IEC 61508-4 Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 4: Definitions and abbreviations	IS/IEC 61508-4 : 2010 Functional safety of electrical/electronic/programmable electronic safety-related systems : Part 4 Definitions and abbreviations	Identical
IEC 61511-1, Functional safety - Safety instrumented systems for the process industry sector - Part 1: Framework, definitions, system, hardware and application programming requirements	IS/IEC 61511-1 : 2017 Functional safety - Safety instrumented systems for the process industry sector : Part 1 Frameworks, definitions, system, hardware and software requirements	Identical
ISO 80079-37, Non Electrical Equipment for Explosive Atmospheres – Non electrical Type of Protection constructional safety ‘c’, control of ignition Source ‘b’, liquid immersion ‘k’	IS/ISO/IEC 80079-37 : 2016 Explosive Atmospheres Part 37 Non-electrical Equipment for Explosive Atmospheres - Non Electrical Type of Protection Constructional Safety, Control of Ignition Source, Liquid Immersion	Identical

Only the English language text has been retained while adopting it in this Indian Standard, and as such, the page numbers given here are not the same as in the IEC Publication.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated expressing the result of a test or analysis shall be rounded off in accordance with IS 2: 2022 ‘Rules for rounding of numerical values (Second Revision)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Note: The technical content of the document is not available on website. For details, please refer the corresponding IEC TS 60079-42: 2019 or kindly contact:

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