

GENERAL SPECIFICATION

STRUCTURAL

GS EP ELE 031

Design of earthing and bonding systems

03	10/2012	General Revision
02	10/2005	Modification of "instrument earthing" - Addition of "EP" root to GS identification
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1. Scope

The purpose of this specification is to specify the general requirements for the design of the earthing and equipotential bonding systems, in Company sites located either onshore or offshore.

2. Reference documents

The reference documents listed below form an integral part of this General Specification.

Design and engineering shall conform as a minimum requirement to the current edition of the following in preference order:

- Applicable laws, and regulations of the country in which the system will be operated. In cases where no "local" regulations exist, the French laws and regulations shall be used
- Company Particular Specifications and data sheet (if any)
- Company General Specifications
- Applicable International Electro-technical Commission (IEC) Standards
- Applicable CENELEC Standards
- Applicable recognised standards and codes (e.g. UTE-NFC, BSI, VDE, etc.) where IEC publications have not yet been issued:

External Documents

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the effective date of this document.

Reference	Title
IEC 60079-14	Explosive atmospheres - Part 14: Electrical installations design, selection and erection
IEC 60364 (Parts 4-44; 5-54)	Low voltage electrical Installations - Parts 4-44; 5-54
IEC 60479-1	Effects of current on human beings and livestock - Part 1: General aspects
IEC 61000-5-2	Electromagnetic compatibility (EMC) - Part 5: Installation and mitigation guidelines - Section 2: Earthing and cabling
IEC 61892 (Parts 6; 7)	Mobile and fixed offshore units - Electrical installations - Parts 6; 7

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Total General Specifications

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published in the applicable yearly collection.

Reference	Title
GS EP ELE 051	Design and installation of lightning protection
GS EP ELE 364	Electrical installations
GS EP INS 101	Instrumentation engineering, supply and construction general requirements
GS EP INS 107	Design and installation of instrumentation links

3. Study and installation conditions

The objective is to achieve earthing and equipotential bonding of all exposed conductive parts, as protection against the risks of contact by personnel with hazardous potential ([IEC 60479-1](#)) which could result of:

- Faults on electrical equipment and systems
- Accumulation of static electricity
- Stray currents, e.g. electromagnetic induction
- Lightning strikes.

Earthing arrangement shall comply with the requirements of the [IEC 60364-4-44](#).

In case of installation located in hazardous area, the requirements of [IEC 60079-14](#) shall also apply.

Earthing installation typical given in [GS EP ELE 364](#) appendix 1 shall be applied.

In case of lightning protection, [GS EP ELE 051](#) prevails on this specification.