

GENERAL SPECIFICATION

ELECTRICAL

GS EP ELE 211

Electrical cabin Construction and equipment
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04	10/2012	General review
03	10/2006	Merger GS EP ELE 211 and GS EP ELE 213
02	10/2005	General review - Addition of "EP" root to GS identification
01	09/2003	Change of Group name and logo
00	03/2001	First issue
Rev.	Date	Purpose of the revision

Owning entity: DEV/TEC	Managing entity: DEV/TEC/ELE
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1. Scope

The purpose of this specification is to define the minimum requirements for design, fabrication, testing, sea fastening, packing and transportation of a fully equipped standalone electrical cabin for off-shore or on-shore installation.

The above requirements include installation, connection and testing of all equipment inside the cabin.

2. Reference documents

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

Should there be any technical difficulties or any conflict between this specification and the standards listed hereafter, Cabin Supplier shall request clarification.

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

- Applicable laws and regulations of the country in which the system will be operated. In cases where no "local" regulations exist, then French laws and regulations shall be used.
- Company Particular Specifications and data sheet (if any)
- Company General Specifications
- Applicable International Electrotechnical Commission (IEC) publications
- 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 60331-21	Tests for electric cables under fire conditions. Circuit integrity - Part 21: Procedures and requirements-Cables of rated voltage up to and including 0.6/1.0 kV
IEC 60364 (All parts)	Electrical installations of buildings - All parts

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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 COR 350	External protection of offshore and coastal structures and equipment by painting
GS EP COR 354	External protection of onshore structures and equipment by painting
GS EP ELE 079	Electrical apparatus for potentially explosive gas atmospheres
GS EP ELE 131	High voltage switchgear and controlgear
GS EP ELE 135	Low voltage switchgear assembly
GS EP ELE 137	Distribution boards
GS EP ELE 141	Power transformers
GS EP ELE 151	DC Uninterruptible Power Systems (UPS)
GS EP ELE 152	AC Uninterruptible Power Systems (UPS)
GS EP ELE 161	Electrical cables
GS EP HVA 100	HVAC Basis of design
GS EP HVA 202	Air Handling Unit(s) (AHU)
GS EP HVA 211	Electrical heaters
GS EP HVA 212	Fire Damper(s) Pneumatically Actuated
GS EP HVA 213	Fire Damper(s) Electrically Actuated
GS EP HVA 801	Terminology, definitions, abbreviations
GS EP HVA 802	Documents to be supplied for Basic Engineering and Detailed Engineering
GS EP INS 107	Design and installation of instrumentation links
GS EP SAF 221	Safety rules for buildings
GS EP SAF 311	Rules for the selection of fire-fighting systems
GS EP SAF 312	Fire and Gas detection systems
GS EP SAF 331	Carbon dioxide fixed fire extinguishing systems
GS EP SAF 337	Passive Fire Protection: Basis of design
GS EP STR 104	Design and fabrication of technical cubicles for offshore oil installations

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3. Environmental conditions

The cabin shall be designed in accordance with the data given in the “Environmental conditions particular specification”.

4. Cabin, technical characteristics

4.1 Cabin, construction requirements

4.1.1 General

Cabins installed in hazardous area, in dusty atmosphere or in case of sand wind shall be pressurised (50 Pa).

Unless otherwise specified, walls, roof and floor of the electrical cabin shall be constructed from steel plates and shall have coating and cladding arrangements to provide a passive fire protection.

Cabin shall be air conditioned to control temperature and humidity conditions. In case of HVAC failure, electrical equipment shall be able to operate as long as room temperature does not exceed 40°C.

Large cabin shall be designed in separate modules to be assembled on site.

Design shall be such as the fully equipped cabin / Module shall be, unless otherwise specified in the project documentation, lifted and transported in one piece safely to its final destination, under compliance to local regulations pertaining to such transport.

4.1.2 Structural works

4.1.2.1 Steel works

Structural steel material shall be defined as per specification [GS EP STR 104](#).

4.1.2.2 Lifting

The cabin shall be designed to withstand all shipping and erection loads in addition to normal dead and live loads in accordance with § 4.2.1 and § 6.3 of [GS EP STR 104](#).

4.1.3 Architectural works

4.1.3.1 Cabin dimensions

Refer to “Project Cabin general arrangement document”.

Internal cabin dimensions shall take into account identified future expansion, if any or at least 20% of free surface area for potential switchgear extension.

4.1.3.2 Walls

Wall insulation shall be designed in accordance with [GS EP HVA 100](#).

Walls shall be designed to support “wall mounted” equipment up to 50 kg.

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Unless otherwise specified in project particular specification, external painting shall be carried out with system "P16" of **GS EP COR 350** for offshore or coastal installation.

With regards to inland onshore installation, painting shall be certified for a corrosive atmosphere of class "C4" or "C5" depending on environmental conditions as per **GS EP COR 354**.

Indoor surface finishes shall be non reflective.

4.1.3.3 Doors

Door insulation shall be designed in accordance with **GS EP HVA 100**. Doors shall be equipped with lock, anti-panic bars, rubber cushions and automatic closing system.

Adequate warning signs related to electrical hazards and a notice summarising the first aid methods must be posted on the doors.

A minimum of two doors shall be provided, one for staff access and one for emergency exit.

The minimum clear width door opening shall be as follows:

- Doors for staff access: 2100 mm * 900 mm
- Double door for material access: 2500 mm * 1400 mm.

Door for material access shall be suitable to handle the largest piece of equipment.

Unless otherwise stated, the doors shall be located such as any distance to exit, does not exceed 7 meters.

4.1.3.4 Internal partitioning

Particular requirements (e.g. noise, fire...) shall be taken into account to define the partitioning material.

4.1.3.5 Floor and raised floor

4.1.3.5.1 Floor

In battery room, the surface shall be electrolyte resistant.

4.1.3.5.2 Raised floor

A minimum 600 mm raised floor shall be provided and shall be compatible with the bending radius of the largest cross-section of cables.

Raised floor shall be designed in accordance with **GS EP STR 104**.

4.1.3.6 Ceiling

Minimum clearance distance above switchgears shall be 500 mm (access for maintenance purpose) and shall also be compatible with the requirements of switchgear Manufacturers (arc resistance).

4.1.3.7 Roof

Roof shall be constructed with a slope for drainage.