

GENERAL SPECIFICATION

CORROSION

GS EP COR 230

**External laminated glass fibre/resin based coating
for risers of sea line**

04	10/2012	General review - No changes
03	10/2005	Qualification for compatibility with parents coating added – Addition of "EP" root to GS identification
02	10/2004	General review, reference to GS SAF 337, transition zone
01	09/2003	Change of Group name and logo
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1. Scope

This document defines the minimum requirements for the characteristics of the applicable products and methods of applying a laminated resin/glass fibre based coating. This coating is intended as external protection applied in plant and onsite for steel line pipes and fittings to be used for steel risers of submerged pipelines supported along a fixed platform.

The type of resin shall be adapted to the maximum operating temperature. Epoxy, vinylester or other resins may be proposed.

2. Reference documents

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

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
ASTM G8	Standard test methods for cathodic disbonding of pipelines coatings
EN 59	Glass reinforced plastics, measurement of hardness by means of a BARCOL impresser
ISO 1172	Textile-glass-reinforced plastics. Prepegs, moulding compounds and laminates determination of the textile glass and mineral. Filler content. Calcination methods
ISO 4287	Geometrical Product Specifications (GPS) -- Surface texture: Profile method -- Terms, definitions and surface texture parameters
ISO 8501-1	Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings
ISO 8502 (Parts 3; 6)	Preparation of steel substrates before application of paints and related products -- Parts 3; 6
ISO 8503-4	Preparation of steel substrates before application of paints and related products -- Surface roughness characteristics of blast-cleaned steel substrates -- Part 4: Method for the calibration of ISO surface profile comparators and for the determination of surface profile -- Stylus instrument procedure
ISO 62	Plastics. Determination of water absorption

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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 SAF 337	Passive Fire Protection: Basis of design

3. Characteristics of the coating and of the raw materials

3.1 Essential coating properties

They shall be as follows:

- Be stable at service temperature, continuous and waterproof to prevent impregnation by the surrounding electrolytic environment (pipeline in immersed zone, splash zone and emerged zone)
- Be compatible with the cathodic protection and have high resistivity so as to have appropriate electrical resistance at the application thickness
- Have good adherence to the metal to avoid the spread of accidental defects of continuity
- Have excellent behaviour to ultraviolet rays
- Have good inertia:
 - To chemical and biological agents in the water or resulting from corrosion or cathodic protection reactions
 - To the products transported, that is, to hydrocarbons in the event of accidental leakage.
- Have good resistance to mechanical and thermal stress generated by movements relative to the environment and the pipeline, during handling, transportation, installation and hydrostatic tests.
- Have fire and jet fire resistance as per [GS EP SAF 337](#), paragraph 7.9
- Special care should be taken as to prevent possible corrosion at transition zone between coating and paint at upper limit of splash zone. This transition should be located at level where inspection is convenient.

3.2 Characteristics of the raw materials

All raw materials shall be stored before use as per MSDS of manufacturers.

All materials shall be provided with conformity certificate (this is a document issued by raw material manufacturer. It is a list of physical or chemical characteristics controlled for every production batches. For each of these characteristics, a conformity range is reported by the manufacturer).

All material batches shall be provided with their certificate of analysis (this is a document issued by raw material manufacturer with every batch of product. It reports all characteristics controlled