

GENERAL SPECIFICATION

PIPELINES - RISERS

GS EP PLR 406

Storage, handling and transportation of pipes
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Rev.	Date	Purpose of the revision

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1. Scope

The purpose of this document is to specify the minimum requirements for the storage, stacking, handling, lifting and transportation of pipes.

The pipes could be single line-pipes / joints or could be multiple joints (like double joints, quad joints or similar), could be with or without coating and could be equipped with various associated ancillaries like anodes, buckle arrestors, clamps, forgings (like collars or similar) and similar.

The Works shall be executed in compliance with the Company requirements, PPS, local and international Maritime Regulations and acquired authorisations / permits from the local governing Authorities.

The compliance with this specification and Company Approval does not release the Contractors and the Authorities in charge of the work, inspection and/or the certification, from their own responsibility.

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 addendums, is the latest revision published at the effective date of this document.

Reference	Title
API RP 5L1	Recommended practice for railroad transportation of line pipe
API RP 5LW	Recommended practice for transportation of line pipe on barges and marine vessels
API SPEC 5L	Line pipe
DNVGL-ST-N001	Marine operations and marine warranty
DNV-OS-H205	Lifting operations
DNV-OS-H206	Loadout, transport and installation of subsea objects
EN 13155	Cranes - Safety - Non-fixed load lifting attachments
LOLER	Lifting operations and lifting equipment regulations 1998
PUWER	Provision and use of work equipment regulations 1998
Roark's Formulas for Stress and Strain	"Roark's formulas for stress and strain" by Warren C. Young and Richard G. Budynas - Eighth Edition

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Total General Specifications

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and addendums, is the latest revision published.

Reference	Title
GS EP COR 102	Design of cathodic protection of submarine pipelines by galvanic anodes according to ISO 15589-2
GS EP COR 220	Three layer polyethylene external coating for pipelines
GS EP COR 221	Three layer polypropylene external coating for pipelines
GS EP COR 222	Fusion Bonded Epoxy (FBE) external coating for pipelines
GS EP COR 226	Materials for thermal insulation of pipeline, piping and subsea components
GS EP COR 227	Multi-Layer Glass Syntactic PP coating for wet thermal insulation of subsea pipes
GS EP COR 233	Risers coatings
GS EP COR 250	Friction-reduction internal coatings for pipelines transporting non-corrosive gases
GS EP COR 251	Internal coating of water injection pipelines
GS EP COR 420	External field joint coatings of pipelines
GS EP LSO 202	Personnel transfer between watercrafts and between watercrafts and offshore structures
GS EP PLR 100	Submarine pipeline systems
GS EP PLR 104	Onshore pipeline systems
GS EP PLR 401	Installation of submarine pipelines
GS EP PLR 403	Installation of onshore pipelines
GS EP PLR 410	Concrete coating for submarine pipelines
GS EP SAF 221	Safety rules for buildings
GS EP STR 005	Lifting Appliances other than cranes and winches
GS EP STR 401	Loadout, seafastening, transportation and installation of offshore structures
GS EP STR 404	Marine aspects for load-out, transportation and installation of offshore and onshore structures
GS EP STR 411	Crane and transport operations onshore

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3. Applicability

This specification applies to offshore and onshore applications.

This specification applies to pipes that could be:

- Single line-pipes / joints
- Multiple joints (like double joints, quad joints or similar)
- With or without coating
- Equipped with various associated ancillaries like anodes, buckle arrestors, clamps, forgings (like collars or similar) and similar.

4. Definitions of terms

For the purpose of this document, the following terms and definitions apply:

Company:	Any entity of the TOTAL Group mentioned in the contract or the order.
Installation Spread	Installation spread shall refer to the equipment, means and associated personnel required to adequately execute the Installation project. Ref to GS EP PLR 403 .
Work	Could mean any work related to the storage, stacking, handling, lifting, sea-fastening, transportation, inspection of pipes and other related works.

The following abbreviations are used in this specification:

CWC	Concrete Weight Coating
DAF	Dynamic Amplification Factor
FJC	Field Joint Coating
OD	Outside Diameter
PE	Polyethylene
PPS	Project Particular Specification
PU	Polyurethane
SMYS	Specified Minimum Yield Stress
SWL	Safety Working Load
TOP	Top of Pipe
WT	Wall Thickness

5. Safety and environment

Any potential safety and environmental impacts of the Works regarding noise, venting, sea current, possible spillage, disposals, smells, electrical / radio interference, positioning beacons, geodetic points, lights, etc., on the, local populations, working personnel, existing constructions, asset, flora and fauna, shore profile, etc. shall be evaluated and documented.