

GENERAL SPECIFICATION

INSTRUMENTATION

GS EP INS 114

Instrument Tubing and Fittings

01	10/2015	Revised as per marking
00	09/2013	First issue
Rev.	Date	Purpose of the revision

Owning entity: DSO/TEC	Managing entity: DSO/TEC/INS
------------------------	------------------------------



General Specification		GS EP INS 114
Instrument Tubing and Fittings		
Rev.:01	Effective date: 10/2015	Page: 2 of 11

Contents

1. Scope	3
2. Reference documents.....	3
3. Terminology and Definitions	4
3.1 Definitions	5
3.2 Abbreviations	5
4. General Requirements	5
4.1 Tubing.....	6
4.2 Fittings	6
4.3 Accessories - Valves and Manifolds.....	7
5. Additional Requirements for High Pressure Application	8
5.1 Tubing.....	8
5.2 Fittings	8
5.3 Valves and Manifolds	8
6. Marking	8
7. Inspection and Test.....	9
8. Documentation	10
Bibliography.....	11

Instrument Tubing and Fittings

Rev.:01

Effective date: 10/2015

Page: 3 of 11

1. Scope

This Specification defines the minimum requirements for the design, specification and supply of instrument tubing, tube fittings and accessories used for both onshore and offshore oil and gas installations.

2. Reference documents

The equipment shall satisfy the requirements and regulations of the country of installation and specific standards referred to in this specification.

Where national regulations exist, their provisions and those of the standards and codes to which they refer shall apply, supplementing or amending the provisions of this document.

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
ASME B16.11	Forged Fittings, Socket-Welding and Threaded
ASME B16.5	Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24 Metric/Inch Standard
ASME B31.3	Process Piping
ASTM A1016/A1016M	Standard Specification For General Requirements For Ferritic Alloy Steel, Austenitic Alloy Steel, And Stainless Steel Tubes
ASTM A182/A182M	Standard Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service
ASTM A262	Standard Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels
ASTM A269	Standard Specification For Seamless And Welded Austenitic Stainless Steel Tubing For General Service
ASTM A941	Standard Terminology Relating to Steel, Stainless Steel, Related Alloys, and Ferroalloys
ASTM B165	Standard Specification for Nickel-Copper Alloy (UNS N04400) Seamless Pipe and Tube
ASTM B444	Standard Specification for Nickel-Chromium-Molybdenum- Columbium Alloys (UNS N06625 and UNS N06852) and Nickel- Chromium- Molybdenum-Silicon Alloy (UNS N06219) Pipe and Tube

General Specification		GS EP INS 114
Instrument Tubing and Fittings		
Rev.:01	Effective date: 10/2015	Page: 4 of 11

Reference	Title
ASTM G48	Standard Test Methods for Pitting and Crevice Corrosion Resistance of Stainless Steels and Related Alloys by Use of Ferric Chloride Solution
ISA-RP42.00.01	Nomenclature for Instrument Tube Fittings
ISO 9095	Steel Tubes - Continuous Character Marking and Colour Coding for Material Identification
NACE MR 0175 / ISO 15156	Petroleum and natural gas industries - Materials for use in H ₂ S-containing environments in oil and gas production

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 170	Materials for upstream sour service application - Specification for selection and design
GS EP INS 900	Instrument Hook-up diagrams
GS EP PVV 102	Piping Hook-up Standards
GS EP PVV 112	Piping material classes

3. Terminology and Definitions

There are five types of statements in this specification, the “shall”, “should”, “may”, “can” and “must” statements. They are to be understood as follows:

Shall	Is to be understood as mandatory. Deviating from a “shall” statement requires derogation approved by Company.
Should	Is to be understood as strongly recommended to comply with the requirements of the specification. Alternatives shall provide a similar level of protection and this shall be documented.
May	Is to be understood as permission.
Can	Is to be understood as a physical possibility.
Must	Expresses a regulatory obligation.
Company	TOTAL E&P or any TOTAL E&P subsidiary.
Contractor	Any Party that has signed a Contract with Company for the Engineering, Procurement, Construction, and Installation in part(s) or in full of a project.
Vendor	The package Vendor sub-contracted by the Contractor or by Company.