



Exploration & Production

GENERAL SPECIFICATION

PIPING VALVES VESSELS

GS EP PVV 620

Specification for fabrication and welding of piping systems in cupronickel and associated materials

03	10/2009	Update of reference documents
02	10/2005	Addition of "EP" root to GS identification
01	10/2003	General review - Change of Group name and logo
00	02/2001	First issue
Rev.	Date	Notes

Contents

1. Scope	4
2. Reference documents.....	4
3. Extent of fabrication.....	5
4. Fabrication.....	6
4.1 Cutting	6
4.2 Cold Bending	6
4.3 Hot bending	6
4.4 Use of threads	6
4.5 Cleanliness	6
5. Joining by welding	6
5.1 General.....	6
5.2 Protection of welding area	7
5.3 Welding process	7
5.4 Welding equipment	7
5.5 Welding procedures and welders qualification	7
5.6 Consumables.....	8
5.7 Preparation for welding.....	8
5.8 Welding procedure.....	9
6. Cladding by cupronickel.....	9
7. Joining by brazing.....	9
7.1 General.....	9
7.2 Brazing procedure variables	10
7.3 Qualifications and testing.....	10
8. Heat treatment	10
9. Weld repairs.....	11
10. Inspection and testing	11
10.1 Inspection and non-destructive testing	11
10.2 Hydrostatic testing	11



11. Transportation and assembly	12
11.1 Preparation for shipping.....	12
11.2 Identification.....	12
11.3 Storage and handling.....	12
11.4 Assembly and erection	12
12. Certification and records.....	13

1. Scope

This document covers the minimum requirements for the fabrication and joining of pipe works systems in cupronickel and associated materials and supersedes the general specification **GS EP PVV 611** for this type of materials where different or more stringent requirements are stated in the present specification.

The materials covered by this specification are:

- [ASTM B 467](#) Alloy 706 for longitudinally welded cupronickel tubes
- [ASTM B 466](#) Alloy 706 for seamless cupronickel tubes
- [ASTM B 111](#) Alloy 687 for aluminium brass

and associated materials for piping components (valves, flanges, fittings, etc.).

Aluminium brass is susceptible to stress corrosion cracking in the cold worked condition and for this reason non-manipulative type fittings which include compression rings shall not be used.

The requirements contained herein apply to all Sub-Contractors and the Manufacturer is required to ensure that all sub-contracted work fulfils these requirements.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

All welding and inspection shall conform as a minimum to the applicable provisions of this Specification, to the requirements of Project Specifications and Engineer specification for specific equipment. Any Construction Codes or Government regulations that are listed in the Project Specification shall have precedence except where this Specification is more restrictive.

Any divergence between these documents or between this specification and any other contractual document should be reported to the COMPANY for decision. Should any discrepancy arise in using the present specification with any other contractual document, it is assumed that the more stringent requirement shall apply, unless otherwise agreed or decided by the COMPANY.

Standards

Reference	Title
ASTM B 111	Copper and Copper-Alloy Seamless Condenser Tubes and Ferrule Stock
ASTM B 466	Seamless Copper-Nickel Pipe and Tube
ASTM B 467	Welded Copper-Nickel Pipe
BS MA 18	Seawater piping systems in ships
ISO 14175	Gases and gas mixtures for fusion welding and allied processes