



MARINE DIVISION

Certificate number: 07124/D0 BV

File number: ACM 135/1317/002

Product code: 2080H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

F.I.P. FORMATURA INIEZIONE POLIMERI S.p.a
Casella (GE) - ITALY

for the type of product

THERMOPLASTIC MATERIAL PIPES AND FITTINGS

PVC-C Pipes, Fittings and Valves

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units
- FTP Code, Resolution MSC.61(67), IMO Resolution A.753(18)

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 13 Feb 2018

For BUREAU VERITAS,

At BV GENOA, on 13 Feb 2013,

Carlo Bozzetti



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

C-PVC Pipes, Fittings and Valves

1.1 Technical Data

Type	Dimensions / Thickness (mm)	Nominal Pressure at 20°C (water)	Maximum Working Temperature (°C)
Pipes	16 to 160 / 1,4 to 11,8	PN 16	+80
	110 and 160 / 5,3 and 11,8	PN 10	+80
Fittings	16 to 110; 160	PN 10/16	+80
Valves	16 to 315	PN 6/8/10/16	+80

- The maximum service pressure is not to exceed the value specified by the manufacturer
- Jointing by solvent cement, flanging or threaded connections

1.2 Raw material specification

Fittings, valves, clamps saddles	PVC-C
Sealings depending on type	EPDM, FPM

2. DOCUMENTS AND DRAWINGS

- FIP Catalogue 02/2010 - PVC-C valves and fittings
- a) PVC-C Pipes and Fittings TemperFIP 100®
- b) PVC-C Valves (Types VKD, TKD, VXE, VX, FK, VM, CM, RV, SXE)
- Jointing Instructions Manual

3. TEST REPORTS

- 3.1 Flame spread classification: Class 1 according to the test report 7070102-Doc.DMAT/1 based on Annex 321-1.A.1 of "Arrêté du 23 novembre 1987 (Edition 1992) de la Marine Marchande Française."
- 3.2 Test reports N° CEMATE/3 and CEMATE/4 dated 31/03/1999 as per IMO A.653 (16) from LNE Laboratories, France.
- 3.3 Test report N° L100650 - DE/3 dated 07/01/2011 as per EN 13501-1: 2007 from LNE Laboratories, France.

4. APPLICATION / LIMITATION

- 4.1 These C-PVC piping systems are approved for use in locations and for non-essential applications where no fire endurance test is required according to Pt C, Ch 1, App 3 [2.3.1] of Bureau Veritas Rules or appendix 4 of IMO Resolution A.753 (18) when the abbreviations "O or NA" are specified:
- Domestic water system (cold sea and fresh water), chilled and potable water systems, heating systems and non-essential systems.
- 4.2 The valves are not to be used as ship side valves.
- 4.3 Detailed drawings of piping system for each application on board ships are to be submitted for review of compliance with the Bureau Veritas Rules and the applicable regulations.
- 4.4 The pipes and fittings assembly is to be carried out in accordance with the manufacturer's instructions and the person performing these tasks is to be qualified to the satisfaction of the Society Surveyor.
- 4.5 Behaviour in case of fire (smoke generation and toxicity) is to be deemed satisfactory by the flag authorities of the vessel on board which the piping system is fitted. Fittings PVC-C FIP (thicknesses between 2,5 and 16,5 mm) complies with FTP Code Annex 2 - Para. 2.2.2 Smoke and Toxicity.

5. PRODUCTION SURVEY REQUIREMENTS

- 5.1 The products are to be supplied by **FIP (FORMATURA INIEZIONE POLIMERI) S.p.a (Italy)** in compliance with the type described in this certificate and in compliance with the requirements stated on the front page of this certificate.
- This type of product is within the category HBV of Bureau Veritas Rule Note NR 320.

5.2 **FIP (FORMATURA INIEZIONE POLIMERI) S.p.a** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR 320 for HBV products.

Place of Production

FIP (FORMATURA INIEZIONE POLIMERI) S.p.a

Pian di Parata 16015 Casella Genova (Italy)

6. MARKING OF PRODUCT

The product or packing is to be at least marked with:

- Manufacturer's name or logo
- Type and size of the product
- Design standard
- Pressure and material

The permanent label for the product shall remain legible under normal handling and installation practices.

7. OTHERS

This approval is given with the understanding that the manufacturer will accept full responsibility for informing shipbuilders or their sub-contractors of the proper method of fitting and general maintenance of the products and of the conditions of this approval.

This certificate supersedes the Type Approval Certificate N° 07124/C1 BV issued on 20/02/2008 by the Society.

***** END OF CERTIFICATE *****