

MARINE DIVISION

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Certificate number: 07124/C0 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

TYPE APPROVAL CERTIFICATE

as per Bureau Veritas Classification Rules

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

C-PVC Pipes, Fittings and Valves

Regulations and standards :

- BUREAU VERITAS Rules for the Classification of Steel Ships
- 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 of the Regulations and standards mentioned above.

This certificate is valid until : 17 Dec 2012

At Paris la Défense, on : 17 Dec 2007

For BUREAU VERITAS,
By order of the Secretary

Approval office

Local office : BV GENOA
Surveyor : G. Starobbo

L. COURREGELONGUE



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. 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 characteristics

Type	Dimensions (mm)	Nominal pressure at 20°C (water)	Maximum working temperature (°C)
Pipes	16 to 110; 160	PN 10/16	+60
Fittings	16 to 110; 160	PN 10/16	+60
Valves	16 to 110	PN 10/16	+60

> The maximum service pressure must not exceed the value specified by the manufacturer.

> Jointing by solvent cement, flanging or threaded connections.

1.2 Raw material specification

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

2. DOCUMENTS AND DRAWINGS

- FIP catalogue 2005:

> C-PVC Pipes and Fittings (R-Temperfip)

> C-PVC Ball Valves (Types VK-Temperfip, SR-Temperfip)

> 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° 9011558 - CEMATE/1 and /2 dated 31/03/1999 as per IMO A.653 (16) 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 C-PVC 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 manufactured, examined and tested by the manufacturer in accordance with the approved type described in this certificate and Bureau Veritas Rules and Regulations stated on the front page of this certificate.

5.2 Production sites are to be recognized by Bureau Veritas as per NR 320 for HBV products. To this end, the manufacturer has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

5.3 The manufacturer has declared to Bureau Veritas that the products detailed in this certificate are manufactured at the production site stated on the front page of this certificate.

5.4 Each pipe and fitting is to be tested by the manufacturer at a hydrostatic pressure not less than 1.5 times the nominal pressure.

5.5 No Bureau Veritas certificate is required for the approved product.

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

7.1 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 approved products and of the conditions of this approval.

7.2 This certificate supersedes the Type Approval Certificate N° 07124/B1 BV issued on 27/01/2006 by the Society.

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