

**MARINE DIVISION**

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**Certificate number:** 07123/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**

U-PVC 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

U-PVC Fittings and Valves

#### 1.1 Technical characteristics

Type	Dimensions (mm)	Nominal pressure at 20°C (water)	Maximum working temperature (°C)
Fittings	16 to 315	PN 6/10/16	+60
Valves	16 to 225	PN 6/10/16	+60
Clamps saddle	32 x 1/2" to 225 x 3"	PN 16	+60

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

> Jointing: Cold (chemical) welding using solvent cement, flanging or threaded connections.

#### 1.2 Raw material specification

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

### 2. DOCUMENTS AND DRAWINGS

- FIP catalogue 04/2007: U-PVC Manual Valves (Types CM, FE, RV, SK, SR, TK, VA, VE, VKD, VM, VM/RM, VR, VV, VX, VZ)

- FIP catalogue 01/2007: U-PVC Fittings

- FIP catalogue 11/2005: Magnum system - Clamps saddles (UIFV)

- 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 U-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 - FIP thickness 43 mm only 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° 07123/B1 BV issued on 20/12/2005 by the Society.

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