



**Marine & Offshore
Division**

Certificate number: 37693/A1 BV

File number: ACM 135/2733/01

Product code: 2080H

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

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

POLYPIPE ITALIA s.r.l.

Monleone di Cicagna (GE) - ITALY

for the type of product

THERMOPLASTIC MATERIAL PIPES AND FITTINGS

EFFAST PVC-U Valves and Fittings

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Yachts
- IMO Resolution A.753(18)
- IMO Resolution MSC.307(88)-(2010 FTP Code)

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: 26 Sep 2019

For BUREAU VERITAS,

At BV GENOA, on 29 Dec 2014,

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 & Offshore 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

EFFAST PVC-U Valves and Fittings

1.1 Technical Data

Max. Working Pressure	1,6 MPa
Max. Working Temperature	60 °C*
Size range for fittings	Ø16 to Ø250
Size range for Valves	Ø16 to Ø63

* Above 25° C the working pressure decreases by a linear way down to 0,4 MPa at + 60° C

- Fittings: sockets, elbows (45° / 90°), tees, reducers, cap & threaded fittings

1.2 Raw Material

Fittings	PVC-uH
Gaskets	EPDM

2. DOCUMENTS AND DRAWINGS

- Manufacturer's catalogue

- Manufacturer's drawings for fittings:

Number	Rev.	date	Number	Rev.	date	Number	Rev.	Date
RDRGODXXXX	A	11/2013	RDRGYDXXXX	A	11/2013	RDRMADXXXX	A	11/2013
RDRTIDXXXX	A	11/2013	RDRCADXXXX	A	11/2013	RDRRCDXXXX	A	01/2014
RDRGOAXXXX	A	03/2014	RARGYAXXXX	A	03/2014	RARMAAXXXX	A	03/2014
RARTIAXXXX	A	03/2014	RARCAAXXXX	A	03/2014	RARRCAXXXX	A	03/2014
RERGOEXXXX	A	03/2014	RERGYEXXXX	A	03/2014	RERMAEXXXX	A	07/2014
RERTIEXXXX	A	03/2014	RERCAXXXX	A	07/2014	RERRCEXXXX	A	07/2014

- Manufacturer's drawings for valves:

Number	Rev.	date	Number	Rev.	date	Number	Rev.	Date
BDRBXDXXXX	A	03/2014	BDRBXAXXXX	A	03/2014	BDRSXDXXXX	A	07/2014

No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.

3. TEST REPORTS

3.1 Fittings:

- Type test carried out on fittings: Internal pressure test at 4 times the design pressure, temperature limitation, Flame spread characteristics according to ASTM D 635:2010.

- Test reports:

- N° 666.0AS0060/14 & 667.0AS0060/14 dated 06/05/2014
- N° P109547 dated 31/07/2013
- N° 3868 dated 16/12/1998
- Burst test reports dated 15/12/2014

3.2 Valves:

- Type tests carried out on valves: body pressure test at 1,5 the design pressure and seat leakage test at 1,1 the design pressure.
- Test reports dated 07/07/2014 and 21/07/2014

4. APPLICATION / LIMITATION

4.1 Approved for use in locations 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. For inst. domestic water system (cold sea and fresh water), chilled and potable water systems, sanitary systems, heating systems and non-essential systems. Further these products are not to be installed in hazardous areas.

4.2 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.

4.3 Penetration in watertight and fire class divisions is not covered by this approval. The drawing examination is subject to the Society's approval in each case.

4.4 The valves 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 The valves and fittings have not been type tested for fire endurance, smoke generation, toxicity and external pressure.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be supplied by **POLYPIPE ITALIA s.r.l.** 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 **POLYPIPE ITALIA s.r.l.** 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.

5.3 Each valve and fitting is to be tested by the manufacturer at a hydrostatic pressure not less than 1.5 times the nominal pressure. Other recognised national or international standard may be accepted for valves and fittings not employing hand lay up techniques. Depending upon the intended application the Society may require the pressure testing of each valve and/or fitting.

5.4 No BUREAU VERITAS certificate is required.

Production place

POLYPIPE ITALIA s.r.l.

Loc. Pianmercato, 5C-5D

16044 Monleone di Cicagna (GE)

ITALY

6. MARKING OF PRODUCT

Valves and fittings shall be marked with at least:

- Manufacturer's name or logo
- Type and size of the product
- Pressure rating
- Design standard
- Raw 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 No. 37693/A0 BV issued on 26/09/2014 by the Society.

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