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Certificate N°:

03405/E0 BV

The attached Schedule forms part of the certificate

File Number : ACM 135/0705/001

Product Code : 2080H



CERTIFICATE OF TYPE APPROVAL

This is to certify that the product identified below was found to be in compliance with the relevant hereunder stated Regulations & standards

THERMOPLASTIC MATERIAL PIPES AND FITTINGS

CPVC Pipes, Fittings and Accessories - HTA system

MANUFACTURED BY:

GIRPI
HARFLEUR - FRANCE

SPECIFIED REGULATIONS & STANDARDS :

- BUREAU VERITAS Rules for the Classification of Steel Ships and Offshore units
- IMO Resolution A.753(18)

The Approval is valid until : 04/01/2010

BUREAU VERITAS LE HAVRE



At Paris la Défense, on : 04/01/2005

J.BENOIT
For the Secretary

This Certificate remains valid until the date stated on, hereunder, unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory into service.

This Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested.

This Certificate is not valid without the stamp of the above mentioned BUREAU VERITAS Inspection Center.

The manufacturer should notify BUREAU VERITAS of any modification or changes to the equipment in order to obtain a valid Certificate.

The latest published Regulations or Standards referred to, above, and the Marine Division General Conditions are applicable.



File Number : ACM 135/0705/001

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

CPVC Pipes, Fittings and Accessories - HTA system

1.1 Size range

External diameter (mm)	PN 16 Wall thickness (mm)	PN 25 Wall thickness (mm)
16	-	1.8
20	-	2.3
25	-	2.8
32	2.4	3.6
40	3.0	4.5
50	3.7	5.6
63	4.7	7.1
75	5.5	-
90	6.6	-
110	8.1	-
160	11.8	-

Fittings according to the manufacturer's specification:

- Elbows, adaptors, couplings, reductions, tees, unions, accessories

1.2 Maximum temperature range

The maximum service pressure will depend on the service temperature according to the manufacturer's recommendation:

Service Temperature (°C)	Maximum service pressure (bar)	
	PN 25 (Ø 16 to Ø 63)	PN 16 (Ø 32 to Ø 160)
20	25	16
40	20	12
60	13	8
80	6	4
90	4	2
100	No pressure (scupper)	No pressure (scupper)

1.3 Joints

Pipes and fittings are assembled using solvent welding.

2. DESIGN DRAWINGS and/or SPECIFICATIONS

Manufacturer's technical data and specifications - 2004 issue.

3. TYPE TEST REPORTS / LABORATORY RECOGNITION STATUS

3.1 Test reports of surface low flame spread test N° 85612/3 and 85612/4.

3.2 Test report of surface low flame spread test according to IMO Resolution A.653(16) dated 27/04/1995.

3.3 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 in accordance with criteria in FTP Code, annex 2 (2.2) .

4. MATERIALS and/or COMPONENTS REQUIRED TO BE TYPE APPROVED

Not applicable.

5. OTHER MATERIALS and/or COMPONENTS

Raw material as per manufacturer's specification.

6. APPLICATION / LIMITATION OF USE

6.1 HTA pipes and fittings are approved for use in locations and applications where no fire endurance test is required in accordance with IMO resolution A.753(18) and defined by its appendix 4. These intended applications may be:

- Sanitary/ drains/ scuppers piping (internal)
- Domestic/potable water
- Scuppers and discharges (overboard)*
- Ballast pipes in water ballast tanks
- Sounding of water tanks and dry spaces
- Non essential services systems

* On case by case ship basis.

6.2 The integrity of watertight bulkheads and fire division is not to be impaired.

7. PRODUCTION SURVEY REQUIREMENTS

7.1 Arrangements shall be made for a Society's Surveyor to carry out, on a periodic basis, visit of the manufacturer's premises and product audits according to the manufacturer's quality control plan.

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

8. ON BOARD INSTALLATION & MAINTENANCE REQUIREMENTS

8.1 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.

8.2 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.

9. MARKING FOR IDENTIFICATION

Pipes and fittings shall be marked with at least:

- Manufacturer's name or trade mark
- Type and size of the product
- Design standard

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

10. OTHERS

10.1 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 products and of the conditions of this approval.

10.2 This certificate supersedes the Type Approval Certificate N° 03405/D1 BV issued on 07/12/1999 by the Society.

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BUREAU VERITAS LE HAVRE