

**MARINE DIVISION**

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Certificate number: 06961/C0 BV

File number : ACM 135/1317/02

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*

**DURAPIPE UK**

Cannock - UNITED KINGDOM

*for the type of product*

### THERMOPLASTIC MATERIAL PIPES AND FITTINGS

DURAPIPE ABS and DURAPIPE AIR-LINE Xtra

**Regulations and standards :**

- 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 of the Regulations and standards mentioned above.*

**This certificate is valid until : 05 Mar 2013**

At Paris la Défense, on : 05 Mar 2008

**For BUREAU VERITAS,**  
By order of the Secretary

Approval office

Local office : BV LONDON  
Surveyor : S. Yule

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

Pipes, fittings and valves: DURAPIPE ABS (general use) and DURAPIPE AIR-LINE Xtra (air use)

#### 1.1 Description

Type	Durapipe ABS	Durapipe Air-line Xtra
Size (mm)	16 to 225	16 to 110
Mean wall thickness (mm)	1.5 to 14.8	1.9 to 9.9
Nominal pressure at 20°C	PN 10	PN 12.5
Temperature range (°C)	-40/60	-20/60

- Pressure temperature parameters to be in accordance with manufacturer's graphs

- Piping assembly by solvent cement jointing

#### 1.2 Raw material specification

- ABS Pipes are manufactured from Durapipe ABS Type S

- ABS Fittings are manufactured from Cyclocac supplied by GE Plastics or Durapipe ABS Type S

### 2. DOCUMENTS AND DRAWINGS

- Manufacturer's catalogues

- Installation guides

### 3. TEST REPORTS

3.1 ABS pipes and fittings assemblies were tested for resistance to internal hydrostatic pressure, combined flexural load and short term pressure test, crushing resistance (parallel plate loading test) and collapse test, under the technical report N° PP6228/1/OMR/05 dated 26/04/2005, issued by Building Investigation & Testing Services (Surrey) Ltd.

3.2 Durapipe ABS pipes were tested for the determination of the minimum heat deflection temperature according to ISO 75 method A and the flame spread characteristics according to ASTM D635-03, under the technical report N° CTR 44580 dated 19/05/2005, issued by Rapra Technology Limited (UK).

3.3 Flame spread and fire technical properties according to BS 476 Part 7 class 4 and DIN 4102.1-B-2 respectively.

### 4. APPLICATION / LIMITATION

4.1 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, compressed air system (DURAPIPE AIR-LINE Xtra), non-essential systems

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 The valves are not to be used as ship side valves.

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.

### 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 pipes, fittings and valves are to be permanently marked as follows:

- Brand name: Durapipe
- Dimension
- Pressure rating
- Raw material: ABS

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

**7. OTHERS**

7.1 This approval is given on the understanding that the manufacturer will accept full responsibility for informing shipbuilders or their sub-contractors of the proper methods of fitting and general maintenance of the approved product and of the conditions of this approval.

7.2 This certificate supersedes the Type Approval certificate N° 06961/B2 BV issued by the Society on 10/02/2006.

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