



CERTIFICATE NUMBER

08-HG329938-3-PDA

DATE

26 June 2013

ABS TECHNICAL OFFICE

Hamburg Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of
WEFATHERM GMBH - D-31515 WUNSTORF

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

PRODUCT: Thermoplastic Pipe, Fittings and Joints

MODEL: Wefatherm Pipes SDR 6/ S 2.5, Fiber-Pipes SDR 7.4/ S 3.2 and Fittings SDR 5/ S 2.0

This Product Design Assessment (PDA) Certificate 08-HG329938-3-PDA, dated 26/Jun/2013 remains valid until 25/Jun/2018 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING

Ulf Numirski
Engineer

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

WEFATHERM GMBH

ADOLF-OESTERHELD-STR- 28

D-31515 WUNSTORF

Germany

Email: info@wefatherm.de

Web: www.wefatherm.de

Product: Thermoplastic Pipe, Fittings and Joints

Model: Wefatherm Pipes SDR 6/ S 2.5, Fiber-Pipes SDR 7.4/ S 3.2 and Fittings SDR 5/ S 2.0

Intended Service:

Potable water, sanitary water and water-heating piping systems, only for installation within tanks, cofferdams, void spaces, pipe tunnels and ducts.

Description:

Thermoplastic pipes and fittings material: PP-R

Type "Wefatherm Pipe SDR 6": one layer propylene (PP-R) pipes.

Type "Wefatherm Fittings" with and without dnr-brass inserts.

Type "Wefatherm Fiber-Pipe SDR 7.4": fiber composite pipe, mechanically stabilized by fiber compound mixture in the middle layer of material PP-R.

Ratings:

Wefatherm Pipe SDR 6, Wefatherm Fittings and Wefatherm Fiber-Pipe SDR 7.4: DN 20, 32, 40, 50, 63, 75.

Medium Temperature: 10°C to 95°C.

Maximum Permissible Working Pressure: PN 20 (pipes), PN 25 (fittings).

Service Restrictions:

Unit Certification is not required for this product.

If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined. >> Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

The pipes are neither to be installed in spaces where a fire endurance test is required in the Fire Endurance Matrix, 4-6-3/Table 1 of the Rules, nor where a flame spread test as per 4-6-3/5.13 of the Rules, nor where toxicity or smoke generation tests as per IMO Res. A.753(18) are required. Further, these pipes are not to be installed in hazardous areas and in systems conveying fluids with a conductivity of less than 1000 Pico-Siemens per meter.

Where plastic pipes are to be utilized for any installation within tanks or other locations which may be subject to a vacuum condition inside the pipe or a head of liquid on the outside of the pipe, external pressure is to be considered. The pipe is to be designed for an external pressure of not less than the sum of the pressure imposed by the maximum potential head of liquid outside the pipe plus full vacuum of 14.5 psi (1 bar) inside the pipe. The maximum external pressure for a pipe is to be determined by dividing the collapse test pressure by a safety factor of 3. This collapse pressure may be verified experimentally or determined by a combination of testing and calculation methods. These details are to be submitted to ABS before installation of the pipe, for ABS approval on a case by case basis.

Comments:

The installation of the piping systems is to be carried out by qualified personnel in accordance with the manufacturer's specifications and instructions. Each particular application/installation is to be specifically approved in conjunction with the relevant system.

Notes / Drawings / Documentation:

This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

Term of Validity:

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STANDARDS

ABS Rules:

2013 Steel Vessel Rules, 1-1-4/7.7, 4-6-3/5.1/5.9/5.17/9/19

National:

DVGW-Arbeitsblätter W542/W534

International:

NA

Government Authority:

NA

EUMED:

NA

Others:

NA