



ABS

CERTIFICATE NUMBER

10-HS539421-PDA

DATE

01 March 2010

ABS TECHNICAL OFFICE

Houston OED - Equipment

CERTIFICATE OF DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of
SPEARS MANUFACTURING COMPANY - SYLMAR

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. It will remain valid as noted below or until the Rules or specifications used in the assessment are revised (whichever occurs first).

PRODUCT: Thermoplastic Pipe, Fittings and Joints

MODEL: CPVC Schedule 40, CPVC Schedule 80 and LabWaste Pipe and Fittings

ABS RULE: 2010 Steel Vessels Rules 1-1-4/7.7, 4-6-3/Table 1, 4-6-3/5.1, 5.3, 5.7, 5.9, 5.13.1, 7.3, & 11.3.1, 4-6-3/9; 2008 MODU Rules 4-2-2/7; 2000 FOI Guide Appendix 1

OTHER STANDARD: NSF/ANSI STD 14 & 61; ASTM D1784, ASTM F441, F441M, ASTM F2618 for LabWaste;; IMO International Code for Application of Fire Test Procedures, Annex 1, Part 5 for Surface Flammability (A.653); CAN/ULC S102.2-M88 for LabWaste;

AMERICAN BUREAU OF SHIPPING

Tim Kimble

Engineering Type Approval Co-ordinator

AB258(01/10)

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of American Bureau of Shipping or a statutory, industrial or manufacturer's standards and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without ABS approval will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rule 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

SPEARS MANUFACTURING COMPANY

15853 OLDEN STREET
SYLMAR
CA 91342
United States
Telephone: 818-364-1611
Fax: 818-367-3014

Product: Thermoplastic Pipe, Fittings and Joints

Model: CPVC Schedule 40, CPVC Schedule 80 and LabWaste Pipe and Fittings

Intended Service:

Marine & Offshore Applications for non-essential Systems including Fresh Water, Sea Water, Potable Water, Drains, Sanitary, Vents, and Brine in Services requiring no Fire Endurance Testing, no Smoke and Toxicity Testing or Electrical Conductivity. Piping to be used in Non-hazardous areas only.

Description:

CPVC Schedule 40 and Schedule 80 Pipe and LabWaste Pipe and Fittings
Sizes: 1/2" through 12"

Ratings:

Please see the additional information attachment for a Pressure Rating Table and the de-rating factors for higher temperatures. LabWaste is rated for open ended drains only. CPVC 4120 passed IMO FTP Code Annex I Part 5 for Surface Flammability (IMO Resolution A.653(16) for Low Flame Spread.) Not to be used for Compressed Air or Gas.

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 specification standards and tolerances, must be clearly defined.

- 1) Not to be used in fire main or areas classified as "hazardous" in accordance with 4-8-4/27 of the Steel Vessels Rules and 4.3.1 of the MODU Rules.
- 2) Fire Endurance Testing in accordance with 4-6-3/5.11 of the ABS SVR has not been carried out.
- 3) 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. Not to be used for compressed air or gas.

Comments:

Additional guidance on hanger spacing, pressure de-rating as temperature increases and other data available on additional information link. Fittings with metal inserts or added fiber reinforcement may have other limitations.

Notes / Drawings / Documentation:

This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODU 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:

This product/model is covered under Product Design Assessment (PDA) Certificate # 10-HS539421-PDA, dated 01/Mar/2010. This PDA Certificate expires 28/Feb/2015. It will remain valid for 5 years from date of issue or until the Rules or specifications used in the assessment are revised (whichever occurs first). It is valid for all vessels contracted on or before the date of the Rules used in this evaluation.

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STANDARDS

ABS Rules:

2010 Steel Vessels Rules 1-1-4/7.7, 4-6-3/Table 1, 4-6-3/5.1, 5.3, 5.7, 5.9, 5.13.1, 7.3, & 11.3.1, 4-6-3/9; 2008 MODU Rules 4-2-2/7; 2000 FOI Guide Appendix 1

National:

NSF/ANSI STD 14 & 61; ASTM D1784, ASTM F441, F441M, ASTM F2618 for LabWaste,

International:

IMO International Code for Application of Fire Test Procedures, Annex 1, Part 5 for Surface Flammability (A.653);

Government Authority:

NA

EUMED:

NA

Others:

CAN/ULC S102.2-M88 for LabWaste