



CERTIFICATE NUMBER

04-HS456959A-6-PDA-DUP

DATE

09 April 2014

ABS TECHNICAL OFFICE

Houston Materials

CERTIFICATE OF DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of
AEROFLEX CO., LTD. - RAYONG

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: **Insulation, Closed Cell Tube & Sheet Elastomeric Thermal**

MODEL: **AEROFLEX / AEROCEL**

This Product Design Assessment (PDA) Certificate 04-HS456959A-6-PDA-DUP, dated 09/Apr/2014 remains valid until 07/Dec/2014 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


Tim Kirbble
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-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

AEROFLEX CO., LTD.

111/7, 111/11 MU 2
TAMBOL MAKHAMKU
RAYONG
21180
Thailand
Telephone: 66-38-917-111
Fax: 66-38-917-121

MA Certificate No. 09-BG1749802-X1 **Tier:** 3

Product: **Insulation, Closed Cell Tube & Sheet Elastomeric Thermal**

Model: **AEROFLEX / AEROCEL**

Intended Service:

Marine & Offshore Application - Ships, Drilling Units & Facilities, for the Thermal and Condensation Insulation of Liquid Cooling and Heating Lines.

Description:

Closed cell, lightweight, flexible, elastomeric insulation material, made principally from EPDM (Ethylene Propylene Diene Monomer). Low flame-spread, smoke and toxicity characteristics.

Aeroflex / Aerocel Tube Insulation is available in 2 m lengths, with I.D. between ¼" and 6½" and wall thickness between ¼" and 2" thick. Aeroflex / Aerocel Sheet Insulation is available in 2 m lengths or 1.2 m widths, continuous or pre-cut, and in thicknesses between 1/8" and 2" (3 mm to 50 mm)..

Ratings:

Low Smoke Generation and Toxicity, and low Surface Spread of Flame.

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.

May only be used where Low Flame-Spread, Smoke and Toxicity Characteristics are required. May not be used as a Firestop in A-Class and B-Class Fire-Rated Divisions.

Not suitable for use on A/C installations requiring use of non-combustible materials.

Comments:

Original PDA resides with Aeroflex Co. Ltd., Muang - THAILAND. Duplicate PDA resides with Aeroflex Europe GMBH - Germany.

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

1. Approval is not on behalf of any Flag Administration.
2. Application and use are to be to the Manufacturer's Instructions and the limitations set forth herein.

Notes / Drawings / Documentation:

Supporting Documentation:

Research Institute of Marine Engineering Report 01-182(E) / Jul.30, 2001 "Smoke and Toxicity Test - Aeroflex (Aerocel)";

Research Institute of Marine Engineering Report 01-326(E) / Nov.13, 2001 "Test of Surface Flammability - Aeroflex (Aerocel)";

Aeroflex Product Brochure, Aeroflex International Co. Ltd., Sept.2003;

Term of Validity:

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STANDARDS

ABS Rules:

- Steel Vessel Rules (2014) 1-1-4/7.7, 1-1-Appendix 3 and 4
- Steel Vessels Under 90 Meters (295 Feet) in Length (2014) 1-14/7.7, 1-1-Appendix 3 and 4
- Facilities on Offshore Installations (2014) 1-1-4/9.7, 1-1-Appendix 2 and 3
- Offshore Support Vessels (2014) 1-1-4/7.7, 1-1-Appendix 3 and 4
- Mobile Offshore Drilling Units Rules (2014) 1-1-4/9.7, 1-1-Appendix 2 and 3
- Aluminum Vessels (1975) 1-1-4/7.7, 1-1-Appendix 3 and 4
- Steel Vessels for Service on Rivers and Intracoastal Waterways (2014) 1-1-4/7.7, 1-1-Appendix 3 and 4
- Bulk Carriers for Service on the Great Lakes (1978) 1-1-4/7.7, 1-1-A3 & A4
- High-Speed Craft (2014) 1-1-A2 & A3
- Steel Barge Rules (2014) 1-1-A3 & A4

National:

NA

International:

IMO Resolution MSC 61(67) FTP Code, Annex 1, Parts 2 (Smoke and Toxicity) & 5 (Low Flame Spread Surface Flammability); IMO Resolution A.653(16);

Government Authority:

NA

EUMED:

NA

Others:

NA