DNV·GL

TYPE APPROVAL CERTIFICATE

Certificate No:
TAF0000036
Revision No:
1

This is to certify:

That the Thermal and sound insulation material with low flame-spread characteristics

with type designation(s)
NH/ARMAFLEX

Issued to
Armacell GmbH
Münster, Nordrhein-Westfalen, Germany

is found to comply with
DNV GL offshore standards
DNV GL rules for classification – Ships
DNV GL statutory interpretations DNVGL-SI-0364 – SOLAS interpretations

Application :

Approved for use as insulation material of low flame-spread characteristics, not generating excessive quantities of smoke nor toxic products in fire.

The material is not defined as non-combustible.

This certificate is recognized by Transport Canada.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2023-09-04**.
Issued at **Hamburg** on **2018-09-05**

DNV GL local station: **Essen**

Approval Engineer: **Timo Linn**

for **DNV GL**
Digitally Signed By: Kallies, Joerg
Location: DNV GL Hamburg, Germany
Signing Date: 13.09.2018

Jörg Kallies
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Job Id: **262.1-000514-7**
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Product description

"NH/Armaflex"
Consists of halogene-free elastomeric foam made of synthetic rubber basis glued on a 1.0mm steel plate used as substrate.

Density: 55 to 70 kg/m³
Thickness (with Armaflex adhesive based on polychloroprene): 3 - 32 mm
Thickness (equipped as self-adhesive): 3 mm
Colour: Grey
Organic content: 40%

Adhesive:
Self-adhesive Armaflex tape: Manufactured by Armacell GmbH
Armaflex type based on polychloroprene: Manufactured by Armacell GmbH

Application/Limitation

Approved for use on metallic substrate with thickness of at least 0.75 mm.

The product may be used on cold service pipe work/fittings for refrigeration system everywhere onboard, and for pipe work, fittings, air ducts and tanks insulation in cargo areas, mail rooms, baggage rooms and refrigerated compartments of service spaces, and exterior locations (SOLAS II-2/5.3.1.1). (Piping for hot or cold sanitary water cannot be considered "cold service pipework/fittings".)

The product satisfies the requirement for maximum calorific value (ref. SOLAS Chapter II-2, Reg. 5.3.2.2) without further testing.

Any adhesive used, other than the one used during testing, has to be tested for low flame spread characteristics according to IMO FTP Code Part 5.

Extent of application is to be considered and accepted for each case/project.

Each product is to be supplied with its manual for installation and use.

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, October 2017.

Test reports Nos.:

- P182058 document DE/4 and P182058 document DE/6 dated on 23rd of May 2018 issued from LNE - Laboratoire national de métrologie et d'essais, France.
- P180940 document DE/1 dated on 23rd of May 2018 issued from LNE - Laboratoire national de métrologie et d'essais, France.

Tests carried out

Tested according to IMO Res. MSC.307(88) – 2010 FTP Code Annex 1, Part 5 and Annex 2, Item 2.2, 2.3.

Marking of product

The product or packing is to be marked with name and address of manufacturer and type designation.

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Transport Canada Approval
Based on the procedures laid down in the Transport Canada Publication entitled *"Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)",* DNV GL confirms that the product/s listed in this certificate is/are in accordance with Transport Canada's requirements.

Periodical assessment
DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNVGL-CP-0338, Section 4.