

TYPE APPROVAL CERTIFICATE

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

Det Norske Veritas' Rules for Classification of Ships**Det Norske Veritas' Offshore Standards****Det Norske Veritas' Interpretation of SOLAS 1974 Convention as Amended****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 **2018-06-30**.Issued at **Høvik** on **2015-08-12**DNV GL local station: **Essen**for **DNV GL**Approval Engineer: **Synnøve Bolstad Eri**

Petter Langnes
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: **262.1-000514-6**
Certificate No: **TAF0000036**

Product description

"NH/Armaflex"

Composed of halogene-free elastomeric foam made of synthetic rubber.

Density: 55 to 85 kg/m³

Thickness: 6 to 32 mm

Pipes insulated with NH/Armaflex may be supported using "Armafex" composed of NH/Armaflex with two non-exposed PET cubes cut into Armaflex and then covered by aluminium plates.

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 can not be considered "cold service pipework/fittings".)

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 Standard for Certification No. 1.2, Type Approval, January 2013.

Test reports Nos.: PX15227, PX15227-1 and PX15227-2 all dated 19 October 2011 from SP Technical Research Institute of Sweden.

Test report No. FX102984 dated 24 March 2011 from SP Technical Research Institute of Sweden.

Tests carried out

Tested according to IMO FTPC Part 5 and Annex 2 Item 2.2 and in compliance with IMO 2010 FTP Code Ch. 8.

Marking of product

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

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)*", Det Norske Veritas 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 Standard for certification No. 1.2 Type Approval Item 4.