DNV·GL

Certificate No:
TAF0000167

TYPE APPROVAL CERTIFICATE

This is to certify:

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

with type designation(s)
Kaiflex KKplus s3 / Kaiflex KKplus s2

Issued to
Kaimann GmbH
Hövelhof, 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 combustible insulation material with low flame-spread characteristics, not generating excessive quantities of smoke nor toxic products in fire.

This certificate is recognized by Transport Canada.

Issued at **Hamburg** on **2019-03-26**
This Certificate is valid until **2024-03-25**.
DNV GL local station: **Essen**

Approval Engineer: **Timo Linn**

for **DNV GL**

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.

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Product description

Kaiflex KKplus s3 / Kaiflex KKplus s2 is a highly flexible foam based on synthetic rubber, FEF (Flexible Elastomeric Foam), bonded with Kaiflex special adhesive from Kaimann.

"Kaiflex KKplus s3"
FEF (Flexible Elastomeric Foam) based on synthetic rubber tested on 1 mm steel plate.

Thickness:	3mm – 50mm
Density:	60 kg/m^3
Colour:	black
Organic content:	45%

"Kaiflex KKplus s2 "
FEF (Flexible Elastomeric Foam) based on synthetic rubber tested on 1 mm steel plate.

Thickness:	3mm – 32mm
Density:	65 kg/m^3
Colour:	black
Organic content:	40%

Adhesive: Kaiflex Spezialkleber 414 (application rate: 250g/m²) , provided by Kaimann GmbH, Hövelhof, Germany.

For further details see documents under Type Examination documentation below.

Application/Limitation

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

The combustible insulation with low-flame spread characteristics may be used in cargo spaces, mail rooms, baggage rooms and refrigerated compartments of service spaces as well as for cold service pipework/fittings for refrigeration systems (SOLAS II-2/5.3.1.1). Piping for hot and cold sanitary water is not regarded as "cold service pipe work/fittings".

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

Any adhesive used, other than the one used during testing, has to be tested for low flame spread characteristics according to IMO 2010 FTP Code Part 5.

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, September 2018.

Test Report No. 2015-1553-1 dated 2015-06-11 and Test Report No. 2016-1748 dated 2016-08-23 from Exova Warringtonfire, Frankfurt a.M., Germany.

Tests carried out

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

Marking of product

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

Transport Canada Approval

Job Id: **262.1-028922-1**
Certificate No: **TAF0000167**

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.