



Certificate Of Fire Approval

This is to certify that the product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer	Thermaflex Izolacji Sp. z o.o.
Address	Przemysłowa 6, Żarów, 58-130, Poland
Type	Material Having Low Flame Spread Characteristics & Not Capable Of Producing Excessive Quantities Of Smoke & Toxic Products Of Combustion
Description	Polyolefin foam covered with aluminium foil
Trade Name	ThermaSmart Marine 4.0
Specified Standard	IMO Res. MSC.307(88) – (2010 FTP Code), Annex 1 Part 5 and Annex 2

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register Marine Polska sp. z o. o. of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document and its supplementary Type Approval Terms and Conditions form part of this Certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

Marta Walk

Fire & Safety - Senior Specialist to Lloyd's Register Marine Polska sp. z o. o.
A member of the Lloyd's Register group

Al Zwycięstwa 13a, Gdańsk, 80-219, Poland

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**DESIGN APPRAISAL DOCUMENT****ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LR26149672SFTC**

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions, and this Design Appraisal Document forms part of the Certificate.

This certificate is an amendment of the certificate number LR26113105SF.

APPROVAL DOCUMENTATION

RISE, Research Institutes of Sweden AB, Brinellgatan 4, Borås, Sweden, Fire Test Report No. O100743-1226885, dated 7th February 2024.

CONDITIONS OF CERTIFICATION

1. When applied on a metallic substrate.
2. 'ThermaSmart Marine 4.0' consist of extruded polyolefin, ThermaSmart PRO HF, with up to the 2% of dye, as the third layer which ranges from 10 mm to 150 mm thickness. The second layer consists of aluminium foil, while the first (Top) layer BAFE-2520 tape, produced by Jiangyin BondTape Technology Corporation, each having a thickness of 25 microns
3. Smoke and toxicity criteria are satisfied by meeting the total heat release (Q_t) and peak heat release rate (Q_p) as stated in IMO Res.MSC.308(88) - (2010 FTP Code), Annex 1, Part 5 & Annex 2, Section 2.2
4. Product density up to 40 kg/m³.
5. Product to be used for pipe insulation purpose only.
6. As per SOLAS Chapter II/2 Regulation 5.3.1.1, Insulating materials shall be non-combustible, except in cargo spaces, mail rooms, baggage rooms and refrigerated compartments of service spaces. Vapour barriers and adhesives used in conjunction with insulation, as well as the insulation of pipe fittings for cold service systems, need not be of non-combustible materials, but they shall be kept to the minimum quantity practicable, and their exposed surfaces shall have low flame-spread characteristics.
7. Composition, application and installation of subcomponents, including adhesives, glass, seals and any fire retardants, to be maintained in production and use in accordance with originally tested composition formula and method of application and installation, and manufacturer's instructions.
8. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype.
9. The certificate holder is solely responsible for the products supplied under this Certificate and to ensure that their products are fully compliant with the relevant statutory regulations and designed, manufactured and installed to the same quality and specifications as the prototype tested, including components that are designed and manufactured by third parties.

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**DESIGN APPRAISAL DOCUMENT****ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LR26149672SFTC****PLACE OF PRODUCTION**

Thermafex Izolacji Sp. z o.o.
Ul. Przemysłowa 6
58-130 Żarów
Poland

M. Walk.

Marta Walk
Senior Specialist, Fire & Safety
Statutory Discipline Team, Marine & Offshore
Lloyd's Register EMEA

Supplementary Type Approval Terms and Conditions

This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s)



This product has been verified to be fully in accordance with Transport Canada Procedure TP 14612E "Procedures for approval of life-saving appliances and fire safety systems, equipment and products and is suitable to be placed on Canadian Flagged vessels.