



BUNDESAMT FÜR
SCHIFFFAHRT
UND
HYDROGRAPHIE
Notified Body authorised by
BSH 0800-S23/4822:013

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Certificate No: LR2474096MB-03
Issue Date: 27/03/2026
Expiry Date: 16/06/2029

EC Type Examination (Module B) Certificate

This is to certify that:

LLOYD'S REGISTER Marine Deutschland GmbH (LRMD), designated as a "notified body" based on the notification of the Federal Maritime and Hydrographic Agency of Germany, did undertake the relevant type approval procedures for the type of equipment identified below which was found to be in compliance with the requirements of Marine Equipment Directive (MED) 2014/90/EU and the valid Commission Implementing Regulation (EU) in force indicating design, construction and performance requirements and testing standards for marine equipment, subject to the conditions below and the attached Schedule which also forms part of this Certificate.

Manufacturer	ThermafleX Izolacji Sp. z o.o.
Address	Przemysłowa 6, Żarów, 58-130, Poland
Reference	Marine Equipment Directive (MED) 2014/90/EU, Regulation (EU) 2025/1533
Regulation Item (No. & Item Designation)	MED/3.18d Surface Materials And Floor Coverings With Low Flame-Spread Characteristics: Pipe Insulation Covers
Product Type	MATERIAL HAVING LOW FLAME SPREAD CHARACTERISTICS & NOT CAPABLE OF PRODUCING EXCESSIVE SMOKE & TOXIC PRODUCTS OF COMBUSTION
Product Description	Polyolefin foam covered with aluminium foil
Specified Standard	IMO Res. MSC.307(88) – (2010 FTP Code), Annex 1 Part 5 and Annex 2 Type approval requirements. SOLAS 74 Reg. II-2/3, Reg. II-2/5, Reg. X/3. Carriage and performance requirements SOLAS 74 Reg. II-2/3, Reg. II-2/5, IMO Res. MSC.36(63) - (1994 HSC Code) 7, IMO Res. MSC.97(73) - (2000 HSC Code) 7, IMO MSC/Circ.1120.
Row of the Regulation Item	1 of 1
Trade Name	ThermaSmart Marine 4.0

Lloyd's Register Marine Deutschland GmbH, Willy-Brandt-Straße 59-65, 20457 Hamburg, Germany.
A member of the Lloyd's Register group

Marta Walk

Fire & Safety - Senior Specialist
For and on behalf of Lloyd's Register Marine Deutschland GmbH (2923)

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The attached Design Appraisal Document (schedule) forms part of this certificate. This certificate remains valid unless suspended, expired or withdrawn, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to and agreed with the notified body named on this certificate. The manufacturer should notify LRMD of any modification or changes to the equipment in order to obtain a valid Certificate.

Should the specified regulations or standards be amended during the period of validity of this certificate, the product is to be re-approved prior being placed on the market and on board vessels to which the amended regulations or standards apply.

The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D,E, or F) of ANNEX II of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.

Lloyd's Register Marine Deutschland
GmbH, Willy-Brandt-Straße 59-65, 20457
Hamburg, Germany.
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ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. LR2474096MB-03

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions and European Union legislation for the EC Type Examination of Marine Equipment for use on Merchant Ships Registered in the European Economic Area.

This Design Appraisal Document (schedule) forms part of the Certificate.

This certificate is an amendment of the certificate number LR2474096MB-02.

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 and application of individual components including any fire retardants and adhesives to be maintained in production in accordance with originally tested composition formula. Their method of application/installation onboard must be in full compliance with manufacturer's instructions, to ensure the final product assembly is of the same specification and capable of providing at least the same fire performance as the tested and approved prototype.
8. 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 as applicable and are designed, manufactured, and installed to the same quality and specifications as the prototype tested, including components that are designed and manufactured by third parties.
9. Production items of the subject equipment are to be manufactured in accordance with either an approved Production Quality Assurance system (Module D), a Product-Quality assurance system (Module E) or a Product Verification Process (Module F). The wheelmark cannot be affixed to the product until a conformity assessment module is in place.
10. Each item, batch or lot of the equipment is to be issued with a "Declaration of Conformity" and have the "Mark of Conformity" affixed after a conformity assessment module is in place.
11. The manufacturer shall keep a copy of the EC type-examination certificate, its annexes and additions together with the technical documentation at the disposal of the national authorities for at least 10 years after the wheel mark has been affixed on the last product manufactured and in no case for a period shorter than the expected life of the marine equipment concerned.

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GTSO/FIRE/TA/MW/TSO/26 055833/ PRJ111005102722

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

**For and on behalf of Lloyd's Register Marine Deutschland
LRMD EC Distinguishing No. 2923**

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