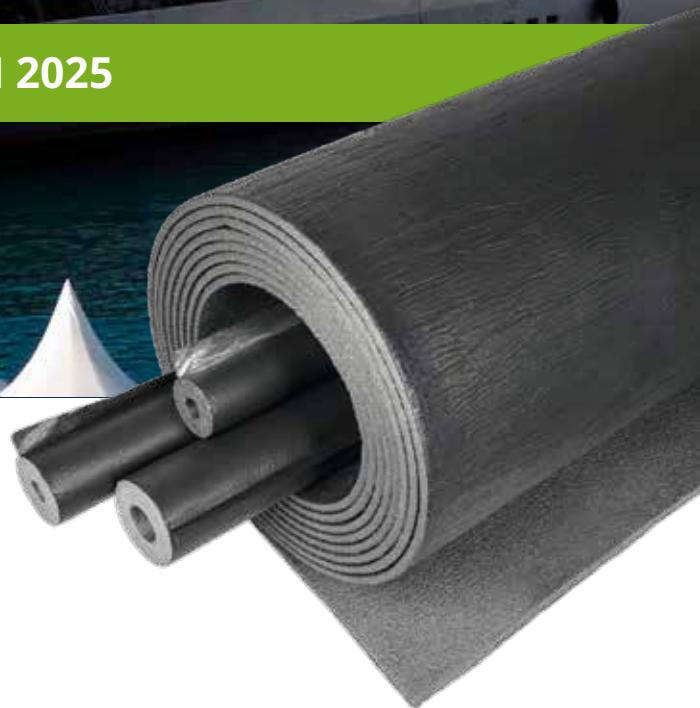




THERMAFLEX®

Sustainable Insulation Solutions for Maritime Industry

ThermaSmart® Marine Brochure | EN 2025



Disclaimer:

All recommendations and information provided on this document are based on our knowledge and experience. Product specifications are intended as guidelines. Since conditions of service are beyond our control, users must satisfy themselves that products are suitable for the intended use. No guarantee or warranty is given or implied or that any use of products will not infringe rights belonging to other parties. We reserve the right to change product design and properties without notification.

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About Thermaflex

Thermaflex is a global company, headquartered in the Netherlands, with 4 production locations, sales offices and distribution partners worldwide. We develop and produce high-quality sustainable insulation and pre-insulated piping solutions that help clients save energy and extend the system lifespan. Our goal is to help minimize energy waste and optimize the use of natural resources.

We have developed a complete insulation solution for the maritime sector: ThermaSmart® Marine, tailored for maritime standards.

We are a proud member of: NMT



Thermaflex founded by
Leendert Baars

1976

Direct extrusion of
polyolefin foam

1983

(H)CFC-free production
of foams

1990

Thermaflex acquires
Flexalen®

2001

Worldwide sales & distribution with 4 production plants

The Netherlands, Poland,
Turkey, Thailand

Engineering and support

Thermaflex provides expert engineering assistance to help customers select the optimal solutions for their technical requirements. We offer installation trainings and project support.

Customized solutions

Thermaflex collaborates closely with customers to develop tailored solutions to their specific needs and requirements.

More than 45 years of innovation

Founded in 1976, Thermaflex quickly grew into a prominent international player, providing a wide range of smart and sustainable solutions for heating, cooling and potable water, including a revolutionary way to construct district heating networks.

Launch of
Flexalen® 600

2002

Proven sustainability -
Cradle To Cradle Certified® & EPD

2020

Development of ThermaSmart® Marine 2.0 Black to
meet the high standards of the maritime market.

2020

Sustainability at Thermaflex

At Thermaflex, our goal is to make a positive contribution to our environment by delivering sustainable insulation solutions that help minimize energy waste and optimize the use of natural resources.

We are Thermaflex. We develop and produce high-quality and sustainable insulation solutions across the world. Our innovative solutions help clients save energy and extend the lifespan of both insulations and the system it protects.

Our purpose is to deliver energy savings and sustainability with high-quality, innovative insulation concepts. Lower energy consumption means lower costs for our customers and their end users, lower emissions of harmful substances, and longer service lifespans for buildings, systems, appliances, and machines. Win-win-win!

Our often customized insulation materials also offer protection, impact resistance, and sound insulation. They are suitable for many applications, including heating and cooling systems for buildings, district heating networks, transport, shipbuilding, machines, equipment manufacturing, and packaging.

We carry out comprehensive life-cycle assessments (LCAs) for our products to demonstrate and share the environmental friendliness of our products through all stages of their life cycle. Based on these assessments we publish environmental product declarations (EPDs), certified by an external party. Through this transparent 'sustainability passport' of our products we are enabling companies to make sustainable decisions.



Hans de Haas
CEO of Thermaflex



Furthermore, our marine insulation ThermaSmart® Marine is a fully certified product meeting the highest international standards. Approved by **Lloyd's Register** confirms our insulation achieved compliance with strict safety and quality regulations that protect not only people or the property but also the environment. It means improved safety and pollution prevention.

Cruise ships



Ferries



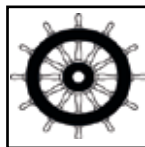
Yachts



Fishing vessels



Ideal Insulation Solution for All Types of Ships & Offshore Platforms



Cargo ships



Submarines



River cruise
boats



Icebreakers

Marine Challenges & Solutions

When on board a ship cruising across the vast blue waters, comfort and safety rhymes with a stable and healthy indoor climate. That requires an efficient and reliable level of refrigeration, cooling and ventilation – based on healthy materials. When it comes to cooling and refrigeration, condensation is a common, yet dangerous enemy that can lead to the formation of harmful fungi, hygienic problems, corroded systems, inefficient systems and poor air quality. So key is to ensure a solution that is safe, efficient and sustainably reliable in order to maximize peace of mind for both passengers, and operators.

Complete insulation solution for air conditioning & refrigeration applications in ships

ThermaSmart® Marine is a range of efficient, and durable insulation components from high quality polyolefin foam with aluminum black foil. It meets the strictest marine construction standards. The completely closed cell structure of the polyolefin material of ThermaSmart® Marine minimizes energy loss, prevents vapor diffusion, which minimize condensation and corrosion throughout its life cycle. On top of that, it also has a high resistance to mechanical damage.

Advantages

Low costs of ownership

Costs and energy saving

Environmental friendly & cost saving glueless application for ThermaSmart® Marine tubes.

Minimize the risk of condensation

Technical support & training programs



Product Features & Application



Refrigeration
systems

Air conditioning
systems

Cooling and ventilation
onboard ships



Download technical information



Close cell material with
integrated vapor barrier



μ value 12,000 - 23,000



High mechanical strength



Halogen and PFAS-free



Low smoke generating



Light weight



Glueless application



Engineered for safety, efficiency, and sustainability, ThermaSmart® Marine delivers low smoke production in the event of fire, significantly reducing the risk of intoxication or respiratory issues for passengers and crew. It is also PFAS and halogen free, ensuring minimal environmental impact and compliance with the latest health and safety regulations.

A key feature of this product is its integrated vapor barrier, **not only in the aluminum outer layer but also throughout the whole product**. Which provides robust protection against condensation. By effectively preventing moisture build-up, it safeguards system integrity, reduces the risk of corrosion and mold, and improves the energy efficiency and longevity of refrigeration, cooling, air conditioning and ventilation systems.

The insulation's ultra-lightweight construction contributes to overall vessel weight reduction, optimizing fuel efficiency and increasing payload capacity. Moreover, **the glueless application system** with the heat plate and insulation tape, can help us save up to 40% on labor time. Proven in numerous global marine projects—including large-scale vessels refurbishments and new builds—our solutions are backed by expert support in engineering, co-development, and installation training to ensure seamless implementation.

Training

Thermaflex offers specialized training programs designed for installers in the maritime sector to become certified experts in ThermaSmart® Marine insulation. This certification equips professionals with the skills to deliver high-quality insulation solutions for both maintenance and new-build maritime projects.

By participating in our comprehensive training, installers gain hands-on experience with thermoplastic tube and sheet insulation, mastering techniques for tees, bends, and complete cooling systems in ships. Certified installers ensure optimal system performance, energy efficiency, and long-term durability, making them invaluable partners in the maritime industry.



Check our
training page

Or our
training blog



Our trainings are organised worldwide and are led by our technical insulation experts with many years of experience.

Installation Guide

Check our marine
installation manual





Many riding teams and marine installers benefited from our training, for example on Scarlet Lady, Aurora, and Carnival Panorama, whose installers got certified. Our training maximally increases insulation performance and longevity by ensuring that it is applied correctly.



Worldwide Projects

Our solutions and technical support are trusted by a wide range of companies across various sectors.

These include major cruise liners like:

- Carnival Corporation
- Disney Cruise Line
- MSC Cruises
- Norwegian Cruise Line Holdings
- Royal Caribbean Group
- Virgin Voyages

As well as maritime organizations such as:

- Damen Naval
- Northern Marine
- Piriou
- Royal Dutch Navy
- Remontowa Holding

Together, we've successfully delivered numerous projects on a diverse array of vessels, including ocean and river cruises, icebreakers, naval ships, and more.



Thermaflex at Gdańsk shipyards

Our ThermaSmart® Marine insulation was installed by Termika on the new NB-101 and NB-102 ferries for the Polish Steamship Company. Moreover, twelve Termika specialists completed Thermaflex's certified training to ensure the highest performance of the insulation.

To learn more, visit our website:



ThermaSmart® Marine



Polyolefin foam with
black alu foil



-80 °C to +95 °C



$\lambda = 0,034$ at 0°C
 $\lambda = 0,038$ at 40°C



Tubes:
 $14,000 \leq \mu \leq 23,000$
Sheets:
 $12,000 \leq \mu \leq 22,000$



PASS IMO 2010 FTP
Code Annex 1 Part 5

Contact us

Our marine insulation experts are ready to support your next project with tailored solutions and reliable technical support.

Contact us today at **international@thermaflex.com** to connect with our team.

Let's set sail towards excellence!





THERMAFLEX®

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Ready to explore tailored solutions?

Schedule a personal appointment with
our experts!



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