

Press release

[Frenzelit develops new thermal insulation board solution for marine engines](#)

No hotter than 220 degrees Celsius!

NFrenzelit's latest thermal insulation innovation: Frenzelit has developed its isoTHERM® 800 CG insulation boards especially for encapsulating exhaust components in marine engines. The insulation boards are manufactured using a needlemat process. The boards interlock precisely to ensure that the legally required temperature limits for exhaust pipes are not exceeded, thereby preventing any media that escapes, such as diesel fuel, oil or hydraulic fluids from igniting on hot surfaces in the event of leakage.

The globally binding SOLAS220 (International Convention for the **Safety of Life at Sea**) regulation has been in force for the thermal insulation of engines on large container and cargo ships as well as cruise liners since 2014. The convention states that engine room surfaces must not exceed 220 degrees Celsius to reduce the risk of any escaping liquids from igniting. Many diesel-driven engines will need to be retrofitted and thermally insulated in order to meet these requirements.

Insulation boards that interlock precisely based on CAD specifications

Frenzelit – the specialist for gaskets, technical textiles and high-temperature-resistant insulation – manufactures insulation boards for these retrofit projects using a special needlemat process. First, a fiber blend is used to create nonwoven fabric with a high density, which undergoes a pressing process to convert it into a board that can be precisely machined to size. Until now, only somewhat adaptable acoustic pillows were used for thermally insulating engine room heat zones. But these pillows could never be optimally adapted, they formed cavities inside the engine housing and were unable to withstand the powerful vibrations and heavy loads for long periods. Sebastian Kühn, Key Account Manager at Frenzelit, explains the

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11 / 2020
Seite 1 von 5

advantages of insulation boards compared to the pillow-based variant: “Our boards are manufactured and mechanically adapted exactly according to our customers’ CAD specifications. They can then be installed in the customers’ metal frames like the pieces of a puzzle. This greatly minimizes risk during installation because everything fits together precisely and the individual metal frame is used to build a fully closed, encapsulated system.” All of the materials Frenzelit uses in shipbuilding meet Marine Equipment Directive 2014/90/EU Module D guidelines.

Long fibers for high mechanical resistance

The new technical solution underwent 3,000 hours of continuous customer-side testing without incurring any damage. The extreme vibration resistance comes from the length of the insulation board fibers – ranging from 40 to 80 mm. The customer also appreciates its easy handling thanks to the low weight, uniformity and simple installation even in tight engine room spaces. Quick retrofit times ultimately also lead to major savings because they allow marine vessels to quickly return to full operation.

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Images:



Image 1: Retrofit solutions that ensure compliance with the SOLAS220 regulation are becoming more and more important in international maritime traffic; some ports only allow entry to vessels with the corresponding proof of compliance. Image: © Frenzelit GmbH



Image 2:
Conventional exhaust pipe housing in an engine room – these housings often contain acoustic pillows that have limits in terms of their mechanical strength and adaptability. This results in cavities and uneven thermal insulation.



Image 3: isoTHERM® 800 CG allows easy installation along with an even insulation effect thanks to its high mechanical strength and precision fit. Image: © Frenzelit GmbH



Image 4: isoTHERM® 800 CG can be precisely machined to size based on customer CAD specifications. Image: © Frenzelit GmbH

About Frenzelit

Frenzelit GmbH develops, produces and sells gaskets and gasket materials, technical textiles for insulation, seals and filtration systems and expansion joints for plant engineering. With its two strategic divisions “Industry” and “Mobility”, Frenzelit GmbH is in perfect alignment with the unique needs of its customers. Around 500 employees work at the Bad Berneck and Himmelkron plants. The family-owned company from Upper Franconia operates internationally with its own location in North Carolina, USA and has a global presence with additional subsidiaries and sales offices in the Czech Republic, China, India and Dubai. Frenzelit has been successful in the marketplace since 1881 and is certified according to IATF 16949 and ISO 9001 (Quality Management), ISO 14001 (Environmental Management) and ISO 50001 (Energy Management).

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