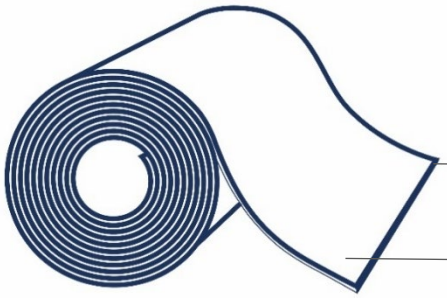
ThermaSmart® Marine 4.0 Sheet

Thermal Insulation by Thermaflex®

Advanced thermal halogen-free sheet insulation, crafted from direct-extruded, closed-cell high-quality Polyolefin Elastomer foam and reinforced with a black aluminum foil layer. This cutting-edge material not only ensures superior thermal performance and durability but also offers enhanced flexibility, making it ideal for varied applications.



Design

Polyolefin elastomer foam
Robust & high quality insulation

Aluminum black foil
Vapor barrier & mechanical strength

Benefits

- Improved flexibility, effortlessness installation and handling
- Prevents condensation
- Features an excellent fire rating for enhanced protection
- Develops less, non-toxic smoke in case of fire
- Excellent sustainability: durable and energy saving
- Free of halogens and other harmful substances like: PFAS, ATO, PVC, SCCP and MCCP
- Fast and easy installation
- No fungus growth

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Disclaimer
All recommendations and information provided on this data sheet 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 the products will not infringe rights belonging to other parties. We reserve the right to change product design and properties without notification.

Applications

- Maritime sector – the preferred choice for marine applications, ensuring durability in harsh environments
- Perfect for air conditioning ducts, refrigeration and freezing systems and components
- Comprehensive system compatibility: an uniform and seamless insulation for your complete system – pipes, ducts, chillers, fans, coils, air handlers, and tanks

Technical Properties

Properties	Units SI	Values	Testing method
Physical properties			
Dimensional tolerances	-	Coherent	EN 14313
Density (foam)	kg/m^3	≤ 40	-
Foam structure	-	Fine, closed-cells > 85%	-
Color	-	Foam: grey Aluminum layer: black	-
Thermal properties			
Service temperature range	°C	-80 to +95	EN 14706
Maximum service temperature	°C	+95	EN 14707
Thermal conductivity (λ)	W/m·K	0.038 @ 40°C	EN 12667
Thermal conductivity (λ)	W/m·K	0.035 @ 10°C	ISO 8301:1998
Fire properties			
Fire rating IMO	-	Pass	IMO 2010 FTP Code Annex 1 Part 5 Part 2 not required
Approvals	-	-	Lloyd's Register
Water resistance properties			
Water vapor diffusion resistance factor	μ	> 22.000 (10 mm) >18.000 (13 mm) > 14.000 (19 mm) > 12.000 (25 mm)	-
Water absorption (hydrostatic buoyant)	%	2,6 ± 1,2	ISO 2896:2001
Water absorption	kg/m²	WS 005	EN 1609
Health			
Antimicrobial behavior	-	no fungal growth	ASTM C1338-19
Additional features		SCCP, MCCP, PFAS, ATO, PVC, and halogen free	-
Flexibility			
Shore hardness	scale OO	46	-

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www.thermaflex.com

Availability

- Standard Rolls, width 1000 mm (990 – 1010 mm)

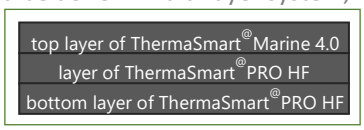
Item Code	Wall thickness [mm]	Content [m²]	Dimensions
Medium rolls ThermaSmart Marine 4.0, Width = 1000 mm			
3206-010100-870	10 (8.5-11.5)	40	1m x 40m roll*
3206-013100-870	13 (11.5-13.5)	34	1m x 34m roll*
3206-019100-870	19 (16.0-20.0)	20	1m x 20m roll*
3206-025100-870	25 (22.0-26.0)	16	1m x 16m roll*
Medium Rolls **ThermaSmart PRO HF, Width = 1000 mm			
3204-010100-804	10 (8.5-11.5)	40	1m x 40m roll*
3204-013100-804	13 (11.0-15.0)	34	1m x 34m roll*
3204-019100-804	19 (17.0-21.0)	20	1m x 20m roll*
3204-025100-804	25 (23.0-27.0)	16	1m x 16m roll*

Above 25 mm till 150 mm multi-layer application
* Roll may consist of 2 pieces with the total roll length as declared in the table with 1 extra meter as compensation.
"*For certification purposes ThermaSmart Pro HF Sheet can only be applied in a multilayer system. The layer on top should always be ThermaSmart Marine 4.0. All seems need to be covered with the ThermaSmart Marine Black ALU tape.
Please see the Thermaflex Installation manual for further instructions."

Application thickness above 25 mm and up to 150 mm

- Applications may require larger thickness which can and should be done in multi-layer system, i.e.:

  bottom layers ThermaSmart® PRO HF version
  final top layer ThermaSmart® Marine 4.0



- Combinations of all thicknesses from the range can be used for this with the remark that the total thickness doesn't exceed the maximum allowed 150 mm
- After installing the top layer of ThermaSmart® Marine 4.0, all seams longitudinally as well as front side connections must be covered with self-adhesive ThermaSmart® Marine Black Tape with a minimum width of 50 mm

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