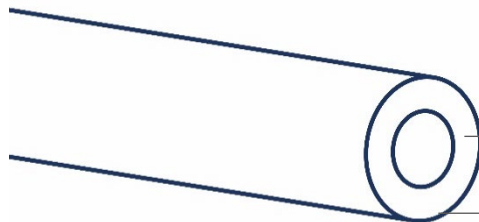


ThermaSmart® Marine 4.0 Tube

Thermal Insulation by Thermaflex®

Advanced thermal halogen-free insulation, crafted from direct-extruded, closed-cell high-quality polyolefin 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 foam

Robust & high-quality insulation

Aluminum black foil

Vapor barrier & mechanical strength

Benefits

- 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.
- Fast and Easy Installation: Glueless installation method for all ThermaSmart Marine 4.0 laminated tubes.



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Lloyd's
Register



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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: a 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 14313
Maximum service temperature	°C	+95	EN 14707
Thermal conductivity (λ)	W/m·K	0.035 @ 10°C	ISO 8301
Fire properties			
Fire rating	-	Pass	IMO 2010 FTP Code Annex 1 Part 5 Part 2 not required
Approvals	-	-	Lloyds Register
Water resistance properties			
Water vapor diffusion resistance factor	μ	>21.000	-
Water absorption (hydrostatic buoyant)	%	2,6 ± 1,2	ISO 2896:2001
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	-



Availability

- Standard product length is 1m (96-102cm) in carton boxes (105x60x40cm).

Insulation wall thickness [mm]				
		19 (16.5-21.5)	25 (22.5-27.5)	30 (27.5-32.5)
Service pipe Ø max. [mm]	Tube insulation Ø [mm]	Item code		
12	13.0-16.0	3006-019012-208	3006-025012-208	3006-030012-208
15	16.0-19.0	3006-019015-208	3006-025015-208	3006-030015-208
18	19.0-22.0	3006-019018-208	3006-025018-208	3006-030018-208
20	21.0-24.0	3006-019020-208	3006-025020-208	3006-030020-208
22	23.0-26.0	3006-019022-208	3006-025022-208	3006-030022-208
25	26.0-29.0	3006-019025-208	3006-025025-208	3006-030025-208
28	29.0-32.0	3006-019028-208	3006-025028-208	3006-030028-208
32	33.0-36.0	3006-019032-208	3006-025032-208	3006-030032-208
35	36.0-39.0	3006-019035-208	3006-025035-208	3006-030035-208
40	42.0-46.0	3006-019040-208	3006-025040-208	3006-030040-208
42	44.0-48.0	3006-019042-208	3006-025042-208	3006-030042-208
48	50.0-54.0	3006-019048-208	3006-025048-208	3006-030048-208
50	52.0-56.0	3006-019050-208	3006-025050-208	3006-030060-208
54	56.0-60.0	3006-019054-208	3006-025054-208	3006-030064-208
60	62.0-66.0	3006-019060-208	3006-025060-208	3006-030060-208
63	65.0-69.0	3006-019063-208	3006-025063-208	3006-030063-208
70	72.0-76.0	3006-019070-208	3006-025070-208	3006-030070-208
76	78.0-82.0	3006-019076-208	3006-025076-208	3006-030076-208
80	82.0-86.0	3006-019080-208	3006-025080-208	3006-030080-208
89	91.0-95.0	3006-019089-208	3006-025089-208	3006-030089-208
102	105.0-110.0	3006-019102-208	3006-025102-208	3006-030102-208
108	111.0-116.0	3006-019108-208	3006-025108-208	3006-030108-208
114	117.0-122.0	3006-019114-208	3006-025114-208	3006-030114-208

Above 30 mm till 150 mm multi-layer application.



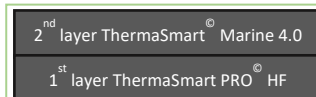
Application thickness above 30 mm

For insulation thicknesses above 30 mm the product will be delivered in two layers

- Applications may require larger thickness which can and should be done in layers:

1st layer ThermaSmart® PRO HF version

2nd layer ThermaSmart® Marine 4.0



- Combinations of all wall thicknesses from the range can be used for this with the remark that the total wall thickness doesn't exceed the maximum allowed 150 mm.
- After installing the 2nd and another 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.

Table for multi-layer sets			
		Insulation wall thickness 38mm (34.0-42.0)	Insulation wall thickness 45mm (41.0-49.0)
Service pipe Ø max. [mm]	Tube insulation Ø [mm]	Item code	
12	13.0-16.0	3006-038012-208	
15	16.0-19.0	3006-038015-208	
18	19.0-22.0	3006-038018-208	3006-045018-208
22	23.0-26.0	3006-038022-208	3006-045022-208
25	26.0-29.0	3006-038025-208	3006-045025-208
28	29.0-32.0	3006-038028-208	3006-045028-208
32	33.0-36.0	3006-038032-208	3006-045032-208
35	36.0-39.0	3006-038035-208	3006-045035-208
42	44.0-48.0	3006-038042-208	3006-045042-208
48	50.0-54.0	3006-038048-208	3006-045048-208
54	56.0-60.0	3006-038054-208	3006-045054-208
60	62.0-66.0	3006-038060-208	3006-045060-208