

# ThermaSmart® PRO Tube

Thermal insulation by Thermaflex®

Fully recyclable, thermal insulation foam, direct extruded, closed-cell, made from high quality Thermoplast-Elastomer



## Benefits

- Condensation free system for life-time installed by qualified insulator, when installed according to manual
- Low risk of corrosion under the insulation
- Consistent performance - Damage free, robust insulation material
- Safety - Excellent fire and smoke behavior
- Fast fabrication of fitting insulation - Welding technique up to ID42 mm
- Gain point for Green building program - Cradle to Cradle Certified™ Bronze, EPD and REACH compliant

## Applications

- All HVAC-R systems: Heating, Cooling, Air conditioning and Refrigeration



**Design**  
Thermoplast-Elastomeric foam  
durable insulation material



### 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 products will not infringe rights belonging to other parties. We reserve the right to change product design and properties without notification.





## Technical properties

Properties	Units SI	Values	Testing method
<b>Physical properties</b>			
Dimensional tolerances	-	Coherent	EN 14313
Density	kg/m <sup>3</sup>	18 - 40	-
Structure	-	Fine, closed cells	-
Color	-	Anthracite	-
<b>Thermal properties</b>			
Service temperature range	°C	-80 to +95	-
Maximum service temperature	°C	+95	EN 14707
Thermal conductivity ( $\lambda$ )	W/m·K	0.035 @ 10°C 0.038 @ 40°C	EN ISO 8497
<b>Fire properties</b>			
SBI classification wall thickness 9 – 25 mm wall thickness 30 mm	-	BL-s1, d0 DL-s2, d0	EN 13501-1
British standard	-	Class 1	BS 476 Part 7
British standard	-	Class 0	BS 476 Part 6
Flammability of Plastic materials	-	HF-1	UL94
<b>Water resistance properties</b>			
Water vapor diffusion	$\mu$	$\geq 10,000$	EN 13469
Water absorption	kg/m <sup>2</sup>	0.02	EN 13472



## Availability

- Standard product length is 2 m (198-204 cm) in carton boxes (205x60x40 cm)
- Tubes non-slit



Tube Insulation							
Service Pipe Ø max. [mm]	Service Pipe Ø max. [inch]	ID Copper / CTS [inch]	ID Iron, PVC, IPS [inch]	Tube Insulation Ø [mm]	Insulation Wall thickness [mm]		
					9 (7.5-10.5)	13 (11.0-15.0)	19 (16.5-21.5)
6				7.0-10.0	3004-009006-000	-	-
8				9.0-12.0	3004-009008-000	3004-013008-000	-
10	3/8"	1/4"	1/8"	11.0-14.0	3004-009010-000	3004-013010-000	3004-019010-000
12	1/2"	3/8"		13.0-16.0	3004-009012-000	3004-013012-000	3004-019012-000
15	5/8"	1/2"	1/4"	16.0-19.0	3004-009015-000	3004-013015-000	3004-019015-000
18	3/4"	5/8"	3/8"	19.0-22.0	3004-009018-000	3004-013018-000	3004-019018-000
20				21.0-24.0	3004-009020-000	3004-013020-000	3004-019020-000
22	7/8"	3/4"	1/2"	23.0-26.0	3004-009022-000	3004-013022-000	3004-019022-000
25				26.0-29.0	3004-009025-000	3004-013025-000	3004-019025-000
28	1-1/8"	1"	3/4"	29.0-32.0	3004-009028-000	3004-013028-000	3004-019028-000
32				33.0-36.0	3004-009032-000	3004-013032-000	3004-019032-000
35	1-3/8"	1-1/4"	1"	36.0-39.0	3004-009035-000	3004-013035-000	3004-019035-000
40				42.0-46.0	3004-009040-000	3004-013040-000	3004-019040-000
42	1-5/8"	1-1/2"	1-1/4"	44.0-48.0	3004-009042-000	3004-013042-000	3004-019042-000
48	1-1/2"	1-3/8"	1-1/2"	50.0-54.0	3004-009048-000	3004-013048-000	3004-019048-000
50				52.0-56.0	3004-009050-000	3004-013050-000	3004-019050-000
54	2-1/8"	2"		56.0-60.0	3004-009054-000	3004-013054-000	3004-019054-000
57				59.0-63.0	3004-009057-000	3004-013057-000	3004-019057-000
60	2"		2"	62.0-66.0	3004-009060-000	3004-013060-000	3004-019060-000
63				65.0-69.0	3004-009063-000	3004-013063-000	3004-019063-000
70	2-5/8"	2-1/2"		72.0-76.0	3004-009070-000	3004-013070-000	3004-019070-000
76	2-1/2"		2-1/2"	78.0-82.0	3004-009076-000	3004-013076-000	3004-019076-000
80	3-1/8"	3"		82.0-86.0		3004-013080-000	3004-019080-000
89	3"	3-1/2"	3"	91.0-95.0	-	3004-013089-000	3004-019089-000
102	4-1/8"	4"	3-1/2"	105.0-110.0	-	3004-013102-000	3004-019102-000
108				111.0-116.0	-	3004-013108-000	3004-019108-000
114	4"	4-1/2"	4"	117.0-122.0	-	3004-013114-000	3004-019114-000



Service Pipe Ø max. [mm]	Service Pipe Ø max. [inch]	ID Copper / CTS [inch]	ID Iron, PVC, IPS [inch]	Tube Insulation Ø [mm]	Insulation Wall thickness [mm]	
					25 (22.5-27.5)	30 (27.5-32.5)
6	-	-	-	7.0-10.0	-	-
8	-	-	-	9.0-12.0	-	-
10	3/8"	1/4"	1/8"	11.0-14.0	3004-025010-000	-
12	1/2"	3/8"	-	13.0-16.0	3004-025012-000	3004-030012-000
15	5/8"	1/2"	1/4"	16.0-19.0	3004-025015-000	3004-030015-000
18	3/4"	5/8"	3/8"	19.0-22.0	3004-025018-000	3004-030018-000
20	-	-	-	21.0-24.0	3004-025020-000	3004-030020-000
22	7/8"	3/4"	1/2"	23.0-26.0	3004-025022-000	3004-030022-000
25	-	-	-	26.0-29.0	3004-025025-000	3004-030025-000
28	1-1/8"	1"	3/4"	29.0-32.0	3004-025028-000	3004-030028-000
32	-	-	-	33.0-36.0	3004-025032-000	3004-030032-000
35	1-3/8"	1-1/4"	1"	36.0-39.0	3004-025035-000	3004-030035-000
40	-	-	-	42.0-46.0	3004-025040-000	3004-030040-000
42	1-5/8"	1-1/2"	1-1/4"	44.0-48.0	3004-025042-000	3004-030042-000
48	1-1/2"	1-3/8"	1-1/2"	50.0-54.0	3004-025048-000	3004-030048-000
50	-	-	-	52.0-56.0	3004-025050-000	3004-030050-000
54	2-1/8"	2"	-	56.0-60.0	3004-025054-000	3004-030054-000
57	-	-	-	59.0-63.0	3004-025057-000	3004-030057-000
60	2"	-	2"	62.0-66.0	3004-025060-000	3004-030060-000
63	-	-	-	65.0-69.0	3004-025063-000	3004-030063-000
70	2-5/8"	2-1/2"	-	72.0-76.0	3004-025070-000	3004-030070-000
76	2-1/2"	-	2-1/2"	78.0-82.0	3004-025076-000	3004-030076-000
80	3-1/8"	3"	-	82.0-86.0	3004-025080-000	3004-030080-000
89	3"	3-1/2"	3"	91.0-95.0	3004-025089-000	3004-030089-000
102	4-1/8"	4"	3-1/2"	105.0-110.0	3004-025102-000	3004-030102-000
108	-	-	-	111.0-116.0	3004-025108-000	3004-030108-000
114	4"	4-1/2"	4"	117.0-122.0	3004-025114-000	3004-030114-000



- In coils up to Ø28 mm and wall thickness 6 - 13 mm
- in carton boxes (61x61x25 cm)



Tube Insulation coil							
Service Pipe Ø max. [mm]	Service Pipe Ø max. [inch]	ID Copper / CTS [inch]	ID Iron, PVC, IPS [inch]	Tube Insulation Ø [mm]	Insulation Wall thickness [mm]		
					6 (5.0-7.0)	9 (7.5-10.5)	13 (11.0-15.0)
6	-	-	-	7.0-10.0	3104-006006-000	-	-
8	-	-	-	9.0-12.0	3104-006008-000	3104-009008-000	3104-013008-000
10	3/8"	3/8"	1/8"	11.0-14.0	3104-006010-000	3104-009010-000	3104-013010-000
12	1/2"	1/2"	-	13.0-16.0	3104-006012-000	3104-009012-000	3104-013012-000
15	5/8"	5/8"	1/4"	16.0-19.0	3104-006015-000	3104-009015-000	3104-013015-000
18	3/4"	3/4"	3/8"	19.0-22.0	3104-006018-000	3104-009018-000	3104-013018-000
22	7/8"	7/8"	1/2"	23.0-26.0	3104-006022-000	3104-009022-000	3104-013022-000
28	1-1/8"	1-1/8"	3/4"	29.0-32.0	3104-006028-000	3104-009028-000	3104-013028-000



- Pre-fabricated parts



### 2-elements elbow

Service Pipe Ø max. [mm]	Service Pipe Ø max. [inch]	ID Copper / CTS [inch]	ID Iron, PVC, IPS [inch]	Tube Insulation Ø [mm]	Insulation Wall thickness [mm]		
					9 (8.0-10.0)	13 (12.0-14.0)	19 (16,5.0-21.5)
8	-	-	-	9.0-12.0	-	3504-013008-001	-
10	3/8"	1/4"	1/8"	11.0-14.0	-	3504-013010-001	-
12	1/2"	3/8"	-	13.0-16.0	-	3504-013012-001	-
15	5/8"	1/2"	1/4"	16.0-19.0	3504-009015-001	3504-013015-001	-
18	3/4"	5/8"	3/8"	19.0-22.0	3504-009018-001	3504-013018-001	-
20	-	-	-	21.0-24.0	3504-009020-001	3504-013020-001	-
22	7/8"	3/4"	1/2"	23.0-26.0	3504-009022-001	3504-013022-001	3504-019022-001
25	-	-	-	26.0-29.0	3504-009025-001	3504-013025-001	-
28	1-1/8"	1"	3/4"	29.0-32.0	3504-009028-001	3504-013028-001	3504-019028-001
32	-	-	-	33.0-36.0	-	3504-013032-001	-
35	1-3/8"	1-1/4"	1"	36.0-39.0	3504-009035-001	3504-013035-001	3504-019035-001
38	-	-	-	40.0-44.0	-	3504-013038-001	-
42	1-5/8"	1-1/2"	1-1/4"	44.0-48.0	3504-009042-001	3504-013042-001	3504-019042-001
48	1-1/2"	1-3/8"	1-1/2"	50.0-54.0	3504-009048-001	3504-013048-001	3504-019048-001
54	2-1/8"	2"	-	56.0-60.0	3504-009054-001	3504-013054-001	3504-019054-001
60	2"	-	2"	62.0-66.0	3504-009060-001	3504-013060-001	3504-019060-001
63	-	-	-	65.0-69.0	3504-009063-001	3504-013063-001	3504-019063-001
76	2-1/2"	-	2-1/2"	78.0-82.0	3504-009076-001	3504-013076-001	-
89	3"	3-1/2"	3"	91.0-95.0	-	3504-013089-001	-
108	-	-	-	111.0-116.0	-	3504-013108-001	-
114	4"	4-1/2"	4"	117.0-122.0	-	3504-013114-001	-



### 3-Elements elbow

Service Pipe Ø max. [mm]	Service Pipe Ø max. [inch]	ID Copper / CTS [inch]	ID Iron, PVC, IPS [inch]	Tube Insulation Ø [mm]	Insulation Wall thickness [mm]		
					9 (7.5-10.5)	13 (11.0-15.0)	19 (16.5-21.5)
15	5/8"	1/2"	1/4"	16.0-19.0	3504-009015-031	3504-013015-031	-
18	3/4"	5/8"	3/8"	19.0-22.0	3504-009018-031	3504-013018-031	-
22	7/8"	3/4"	1/2"	23.0-26.0	3504-009022-031	3504-013022-031	3504-019022-031
28	1-1/8"	1"	3/4"	29.0-32.0	3504-009028-031	3504-013028-031	3504-019028-031
35	1-3/8"	1-1/4"	1"	36.0-39.0	-	3504-013035-031	3504-019035-031
42	1-5/8"	1-1/2"	1-1/4"	44.0-48.0	-	3504-013042-031	3504-019042-031
48	1-1/2"	1-3/8"	1-1/2"	50.0-54.0	3504-009048-031	3504-013048-031	3504-019048-031
54	2-1/8"	2"	-	56.0-60.0	-	3504-013054-031	3504-019054-031
60	2"	-	2"	62.0-66.0	3504-009060-031	3504-013060-031	3504-019060-031
63	-	-	-	65.0-69.0	3504-009063-031	3504-013063-031	3504-019063-031



#### 4-Elements elbow

Service Pipe Ø max. [mm]	Service Pipe Ø max. [inch]	ID Copper / CTS [inch]	ID Iron, PVC, IPS [inch]	Tube Insulation Ø [mm]	Insulation Wall thickness [mm]		
					9 (7.5-10.5)	13 (11.0-15.0)	19 (16.5-21.5)
8	-	-	-	9.0-12.0	-	3504-013008-041	-
10	3/8"	1/4"	1/8"	11.0-14.0	-	3504-013010-041	-
12	1/2"	3/8"	-	13.0-16.0	-	3504-013012-041	-
15	5/8"	1/2"	1/4"	16.0-19.0	3504-009015-041	3504-013015-041	3504-019015-041
18	3/4"	5/8"	3/8"	19.0-22.0	3504-009018-041	3504-013018-041	3504-019018-041
20	-	-	-	21.0-24.0	3504-009020-041	3504-013020-041	-
22	7/8"	3/4"	1/2"	23.0-26.0	3504-009022-041	3504-013022-041	3504-019022-041
25	-	-	-	26.0-29.0	3504-009025-041	3504-013025-041	-
28	1-1/8"	1"	3/4"	29.0-32.0	3504-009028-041	3504-013028-041	3504-019028-041
32	-	-	-	33.0-36.0	-	3504-013032-041	-
35	1-3/8"	1-1/4"	1"	36.0-39.0	3504-009035-041	3504-013035-041	3504-019035-041
38	-	-	-	40.0-44.0	-	3504-013038-041	-
42	1-5/8"	1-1/2"	1-1/4"	44.0-48.0	3504-009042-041	3504-013042-041	3504-019042-041
48	1-1/2"	1-3/8"	1-1/2"	50.0-54.0	3504-009048-041	3504-013048-041	3504-019048-041
54	2-1/8"	2"	-	56.0-60.0	3504-009054-041	3504-013054-041	3504-019054-041
60	2"	-	2"	62.0-66.0	3504-009060-041	3504-013060-041	3504-019060-041
63	-	-	-	65.0-69.0	3504-009063-041	3504-013063-041	3504-019063-041
70	2-5/8"	2-1/2"	-	72.0-76.0	-	-	3504-019070-041
76	2-1/2"	-	2-1/2"	78.0-84.0	3504-009076-041	3504-013076-041	-
89	3"	3-1/2"	3"	91.0-95.0	-	3504-013089-041	3504-019089-041
108	-	-	-	110.0-114.0	-	3504-013108-041	-
114	4"	4-1/2"	4"	116.0-122.0	-	3504-013114-041	-

Service Pipe Ø max. [mm]	Service Pipe Ø max. [inch]	ID Copper / CTS [inch]	ID Iron, PVC, IPS [inch]	Tube Insulation Ø [mm]	Insulation Wall thickness [mm]	
					25 (24.0-26.0)	30 (29.0-31.0)
28	1-1/8"	1"	3/4"	29.0-32.0	-	3504-030028-041
35	1-3/8"	1-1/4"	1"	37.0-39.0	-	3504-030035-041
54	2-1/8"	2"	-	56.0-60.0	3504-025054-041	-
60	2"	-	2"	62.0-66.0	3504-025060-041	-
76	2-1/2"	-	2-1/2"	78.0-84.0	3504-025076-041	-
108	-	-	-	111.0-116.0	3504-025108-041	-
114	4"	4-1/2"	4"	117.0-122.0	-	3504-030114-041



T-pieces							
Service Pipe Ø max. [mm]	Service Pipe Ø max. [inch]	ID Copper / CTS [inch]	ID Iron, PVC, IPS [inch]	Tube Insulation Ø [mm]	Insulation Wall thickness [mm]		
					9 (7.5-10.5)	13 (11.0-15.0)	19 (16.5-21.5)
8	-	-	-	9.0-12.0	-	3504-013008-301	-
10	3/8"	1/4"	1/8"	11.0-14.0	-	3504-013010-301	-
12	1/2"	3/8"	-	13.0-16.0	-	3504-013012-301	-
15	5/8"	1/2"	1/4"	16.0-19.0	3504-009015-301	3504-013015-301	3504-019015-301
18	3/4"	5/8"	3/8"	19.0-22.0	3504-009018-301	3504-013018-301	3504-019018-301
20	-	-	-	21.0-24.0	3504-009020-301	3504-013020-301	-
22	7/8"	3/4"	1/2"	23.0-26.0	3504-009022-301	3504-013022-301	3504-019022-301
25	-	-	-	26.0-29.0	3504-009025-301	3504-013025-301	-
28	1-1/8"	1"	3/4"	29.0-32.0	3504-009028-301	3504-013028-301	3504-019028-301
32	-	-	-	33.0-36.0	-	3504-013032-301	-
35	1-3/8"	1-1/4"	1"	36.0-39.0	3504-009035-301	3504-013035-301	3504-019035-301
38	-	-	-	40.0-42.0	-	3504-013038-301	-
42	1-5/8"	1-1/2"	1-1/4"	44.0-48.0	3504-009042-301	3504-013042-301	3504-019042-301
48	1-1/2"	1-3/8"	1-1/2"	50.0-54.0	3504-009048-301	3504-013048-301	3504-019048-301
54	2-1/8"	2"	-	56.0-60.0	3504-009054-301	3504-013054-301	3504-019054-301
60	2"	-	2"	62.0-66.0	3504-009060-301	3504-013060-301	3504-019060-301
63	-	-	-	65.0-69.0	3504-009063-301	3504-013063-301	3504-019063-301
70	2-5/8"	2-1/2"	-	72.0-76.0	-	-	3504-019070-301
76	2-1/2"	-	2-1/2"	78.0-84.0	3504-009076-301	3504-013076-301	-
89	3"	3-1/2"	3"	91.0-95.0	-	3504-013089-301	3504-019089-301
108	-	-	-	111.0-116.0	-	3504-013108-301	-
114	4"	4-1/2"	4"	117.0-122.0	-	3504-013114-301	-

Service Pipe Ø max. [mm]	Service Pipe Ø max. [inch]	ID Copper / CTS [inch]	ID Iron, PVC, IPS [inch]	Tube Insulation Ø [mm]	Insulation Wall thickness [mm]	
					25 (22.5-27.5)	30 (27.5-32.5)
28	1-1/8"	1"	3/4"	29.0-32.0	-	3504-030028-301
35	1-3/8"	1-1/4"	1"	36.0-39.0	-	3504-030035-301
54	2-1/8"	2"	-	56.0-60.0	3504-025054-301	-
60	2"	-	2"	62.0-66.0	3504-025060-301	-
76	2-1/2"	-	2-1/2"	78.0-84.0	3504-025076-301	-
89	3"	3-1/2"	3"	91.0-95.0	3504-025089-301	-
108	-	-	-	111.0-116.0	3504-025108-301	-
114	4"	4-1/2"	4"	117.0-122.0	3504-025114-301	3504-030114-301