TROCELLEN PRO THERMAL INSULATION

BS 476 Part 6 & 7 Class 0
MS 2095 Certified

TROCELLEN
INSULATION

TROCELLEN PRO

Project Reference: Kuala Lumpur Convention Centre

Trocellen Cross-linked Polyethylene foam finds many applications in the HVAC, plumbing, construction and roofing industries. It is used for insulation of hot and cold water pipes, air ducts, computer raised floor, wall and floor insulation, roofing structures, heat exchangers, split air conditioning systems, and many internal components found in large air handling units. In transportation markets, Trocellen can also be found in automotive, rail and marine applications.

A good insulation product has always been determined by its thermal conductivity and water resisting performance until now. Fire safety has increasingly gained importance throughout the years and is a required safety standard by fire departments around the world.

Trocellen Pro is a line of product that complies with the safety standards of Class '0' in accordance to British Standards (BS) 476 part 6 and part 7. To satisfy the Class '0' classification, the material must adhere to the various testing methods of part 6 and 7.

At Trocellen S.E.A., besides providing quality, comfort and convenience to our customers, we also emphasize on safety of the products. We take fire hazard very seriously, by making our products comply with Class 0 certification, it can be the deciding factor in determining whether a fire can be contained and extinguished quickly or not. Our foams are low in smoke emission and toxicity, the leading cause of death during a fire outbreak. In most cases, pipes and ducts are the carrier of flames that spreads to other parts of a building as they are interconnected throughout the building, therefore it is imperative for these materials to strictly adhere to the fire standards.

Why Trocellen?

Trocellen Cross-linked Polyethylene foam contributes to both the Green Building Index (GBI) and the Leadership in Energy and Environmental Design (LEED) certification. We are proud to be part of the Energy Commisions Building Malaysia and Kompleks Kerja Raya 2 (KKR2), both platinum rated buildings by GBI standards. We are also a proud partner of the Malaysian Green Building Confederation.

Energy Efficiency

Heat gain is the number one energy-draining nemesis in hot climates. Heat energy naturally transfers from hot areas to cooler ones. Trocellen's foam excellent insulation properties improves energy efficiency by minimizing unnecessary heat gain, reducing energy consumption. This will help achieve long lasting energy savings and increase overall energy efficiency of the building.

Indoor Environment Quality

Trocellen's foam are non-toxic and contains no volatile organic compound materials. It is non-fibrous materials which alleviates any chance of fibre erosion. In addition to having good resistance against ozone and UV, it is also fire retardant and emits minimal, non-harming levels of smoke and toxicity.

Environmental Friendly

Trocellen's foam are certified by the Australian Green Star standard, which means they are free from toxic chemicals and heavy metals. Our foam is also produced without the use of CFC, HCFC, VOC, or HC's. Unlike fibre glass insulation, our foam has minimal, non-harming levels of cancer inducing, formaldehyde gasses.

World-Class Standards

Trocellen's foam has been tested on many international standards:

- British Standard (BS)
- DIN standard
- ASTM
- AS/NZS
- JIS Standard
- Australian Green Star
- European Standard (EN)
- MS 2095
- UL Standard
- ISO

Project Reference: Energy Commission Building (Diamond Building)

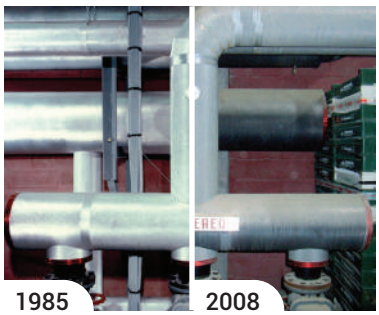
Trocellen AirPro

State-of-the-art Technology

Trocellen AirPro-Plus polyethylene foam comes laminated with a highly reflective reinforced aluminium foil specially designed to meet global air-conditioning duct insulation standards. It's flexibility allows the foam to be bent around the corners of air-conditioning ducts with ease, further reducing installation time and cost. Trocellen AirPro-Plus helps regulate the temperature inside and outside the air-conditioning duct with minimal thermal conductivity to prevent heat gain or heat loss. This minimizes energy loss, reduces energy consumption and ultimately enhances energy efficiency.

Trocellen AirPro-Plus

For added convenience, our optional Trocellen AirPro-Plus line of foam comes with our in-house factory coated industrial strength adhesive. Unlike conventional tissue interlayer glue in the market, which may be easily detachable in the presence of water moisture, our adhesive is both waterproof and long lasting. Perfect for projects that require minimal installation time and costs.



1985 2008

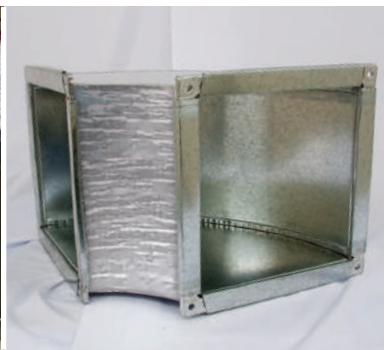
Unrivaled reliability

One of Trocellen's project, Vintage S.p.A., Italy, in 1985 was revisited after operation 23 years later in 2008. Thermal conductivity performance value of our foam remained constant despite all those years. This itself is a solid testimony to the quality of our product

PROPERTY	UNIT	1985	2008
Thermal Conductivity	W/mK	0.0394	0.0394

THICKNESS	LENGTH
6 mm	72 m
9 mm	47 m
12 mm	35 m
15 mm	28 m
20 mm	20 m
25 mm	18 m

Other thicknesses and dimensions available upon request. Standard width is 1.2m.



Installation process

Our flexible AirPro-Plus foam allows for an effortless installation process. Just bend it around the duct and let the built-in glue do the work. Scan the QR code on the right to witness the convenience of installing our AirPro-Plus insulation polyethylene foam.

TECHNICAL DATA		TEST STANDARD	UNIT	TROCELLEN AIRPRO
BARE FOAM				
Density		ISO 845	Kg/m³	25
Tensile Strength	Longitudinal Transversal	ISO 1798	Mpa Mpa	0.20 0.16
Elongation At Break	Longitudinal Transversal	ISO 1798	% %	140 160
Compression Stress Strain At Deflection	10% 25% 50%	ISO 3386	KPa KPa KPa	6 24 69
Compression Set (22h 25% 23°C) After Compression Release	24hr	ISO 1856	%	<9
Water Absorption		JIS K 6767 Method B	g/cm²	0.0001
FOAM LAMINATED WITH REFLECTIVE FOIL				
Tear Strength	Longitudinal Transversal	DIN 53507	N/mm N/mm	0.9 0.9
Operating Temperature Range		-	°C	-40 to 95
Dimensional Stability		DIN 53431	°C	95
Emissivity Of Foil Face		ASTM C 1371	-	≤0.05
Thermal Conductivity	0°C 23°C 40°C	JIS A 1412-2	W/mK	0.032 0.034 0.035
Noise Reduction Coefficient		ASTM C 423	-	0.3
Ozone Depleting Substances (Namely CFCs, HCFCs, HBFCs)		US EPA 5021A (MDL 1PPM)	-	Not Detected
Green Star Specification - Total VOC Emission Rate		ASTM D 5116	-	Low VOC Emitting (<0.5mg/m²/hr)
Volatile Organic Compounds (VOCs)		US EPA 5021A (MDL 1PPM)	-	Not Detected
Resistance To Fungi		ASTM G 21	-	Zero Growth
FIRE BEHAVIOUR				
Fire Rating		BS 476 Part 6 & 7	-	Class 0
Burning Test		UL 94	-	HF-1
Burning Test - Flame Spread And Smoke Developed Index		ASTM E 84	-	Class A
Ignitability Index Spread Of Flame Index Heat Evolved Index Smoke Developed Index		AS/NZS 1530.3	-	0 0 0 1
Maximum Specific Optical Smoke Density		ISO 5659-2	-	Ds(Max) < 50
GLUE PERFORMANCE For AirPro-Plus				
Adhesive Strength				
90° Peeling Test (PET Film) 180° Peeling Test (PET Film)		JIS Z 0237	N/mm	> 0.5 > 1

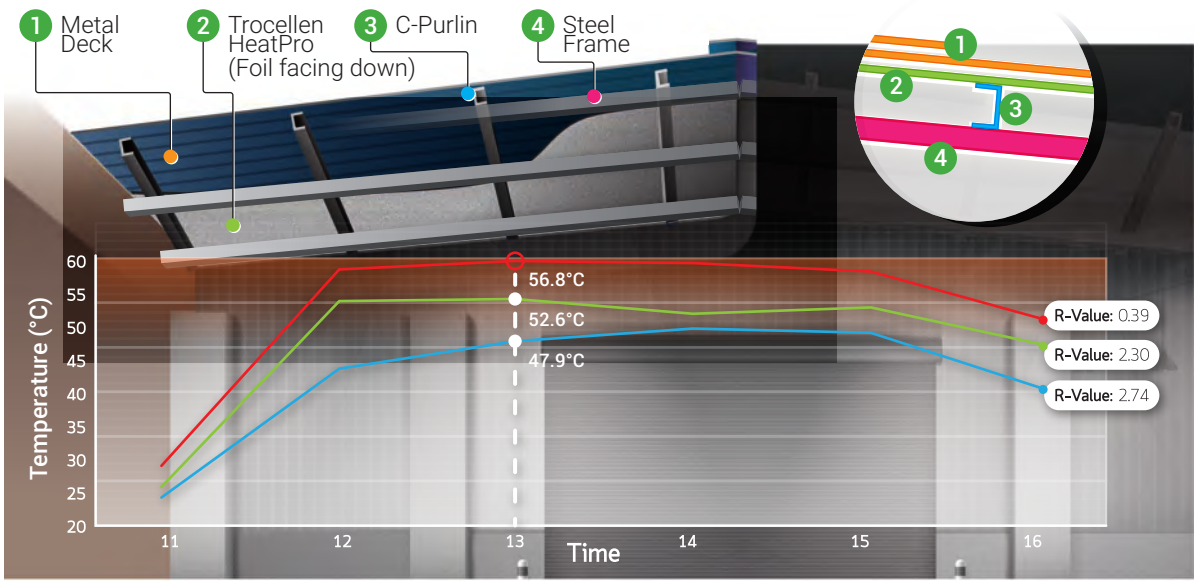
The data and information represented above are intended as general guide only and are not construed as specification limits.

All the above information is given in good faith and in accordance with our knowledge and experience. Any written and illustrated application instructions are without legal obligation and do not relieve you from testing and confirming the goods with regard to their suitability for the intended application, use or conversion. The high quality of our products is guaranteed according to our general sales condition.

Trocellen HeatPro

Impeccable performance

Our HeatPro line of foam are specifically engineered to insulate the intense heat of hot climates. HeatPro foam is especially suitable but not limited to roofing insulation. Our cutting-edge closed cell structure allows thermal conductivity to be at its optimal performance.



*This compilation of thermal performance facts are based on our own test system assemblies for the purpose of comparison. Individual results may vary depending on your roofing system.

- Roof temperature
- Indoor temperature with Trocellen HeatPro 5
- Indoor temperature with Trocellen HeatPro 10
- Peak roof temperature

THICKNESS	LENGTH
5 mm	80 m
10 mm	45 m

Other thicknesses and dimensions available upon request.

Standard width is 1.2m.

Quality assurance at its best

Stringent quality checks paired with the finest materials, our foam insulation never fails to impress when it comes to quality. Every HeatPro is supplied with factory laminated reinforced aluminium foil, providing additional physical strength and reducing thermal induction to the minimum.

Installation process

Installation of our foam is hassle-free, just unroll over the roof and secure it. Then mount roof sheets on top of it. No wiremesh required. Scan the QR code on the right to witness the convenience of installing our HeatPro insulation polyethylene foam.

TECHNICAL DATA		TEST STANDARD	UNIT	TROCELLEN HEATPRO
BARE FOAM				
Density		ISO 845	Kg/m³	33
Tensile Strength	Longitudinal Transversal	ISO 1798	Mpa Mpa	0.28 0.19
Elongation At Break	Longitudinal Transversal	ISO 1798	% %	100 120
Compression Stress Strain At Deflection	10% 25% 50%	ISO 3386	KPa KPa KPa	10 32 83
Compression Set (22h 25% 23°C) After Compression Release	24hr	ISO 1856	%	<10
Water Absorption		JIS K 6767 Method B	g/cm²	0.000084
FOAM LAMINATED WITH REFLECTIVE FOIL				
Tear Strength	Longitudinal Transversal	DIN 53507	N/mm N/mm	0.9 0.9
Operating Temperature Range		-	°C	-40 to 100
Dimensional Stability		DIN 53431	°C	100
Emissivity Of Foil Face		ASTM C 1371	-	≤0.05
Thermal Conductivity	0°C 23°C 40°C	JIS A 1412-2	W/mk	0.032 0.035 0.037
Noise Reduction Coefficient		ASTM C 423	-	0.1
Ozone Depleting Substances (Namely CFCs, HCFCs, HBFCs)		US EPA 5021A (MDL 1PPM)	-	Not Detected
Green Star Specification - Total VOC Emission Rate		ASTM D 5116	-	Low VOC Emitting (<0.5mg/m²/hr)
Volatile Organic Compounds (VOCs)		US EPA 5021A (MDL 1PPM)	-	Not Detected
Resistance To Fungi		ASTM G 21	-	Zero Growth
FIRE BEHAVIOUR				
Fire Rating		BS 476 Part 6 & 7	-	Class 0
Burning Test		UL 94	-	HF-1
Burning Test - Flame Spread And Smoke Developed Index		ASTM E 84	-	Class A
Ignitability Index Spread Of Flame Index Heat Evolved Index Smoke Developed Index		AS/NZS 1530.3	-	0 0 0 1
Maximum Specific Optical Smoke Density		ISO 5659-2	-	Ds(Max) < 50

The data and information represented above are intended as general guide only and are not construed as specification limits.

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TROCELLEN
A FURUKAWA COMPANY

SYSTEM CERTIFICATION ISO 9001 SGS UKAS MANAGEMENT SYSTEMS 0005
Cert no: MY02/20014

SYSTEM CERTIFICATION ISO 9001 SGS STANDARDS MALAYSIA ACCREDITED CERTIFICATION BODY QS 18112006 CB 04
Cert no: MY05/0153

MS SIRIM
Certified to: MS2095:2022
Certification no: PC002745

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