

MFLEX FOIL TUBES

MFlex Foils are made from closed cell cross linked polyolefin foam with excellent properties in terms of condensation control, long term thermal block and sound absorption. The polyethylene tubes have thicknesses and the diameters, which match most of the usual pipe sizes up to 40" and can be coated with foil or can be plain.

The MFlex Foil tubes have a very good dimensional stability, showing a "memory effect" (they tend to come to their original shape after being compressed).

The tubes represent no hazard to the human health, being used no CFC or HCFC in their production and having a very low VOC level. They are considered environmental friendly products (with low Ozone Depletion Potential – ODP – and Global Warming Potential – GWP) and comply with the LEED requirements, helping buildings to get more LEED points.



PRODUCT

Material:	closed cell cross linked polyolefin (Polyethylene) foam with alupet foil
Density:	30 kg/m ³
Thickness:	5 mm, 10 mm, 12 mm, 15 mm, 20 mm, 25 mm, 30 mm, 40 mm, 50 mm
Diameter:	1/2" – 40"
Length:	1 m, 1.2 m, 1.5 m
Color:	grey with silver foil

TEST DATA

Hira Industries LLC performs regularly tests according to the most important **standards**. Our products are tested in different laboratories around the world (ex.: Tuv Singapore, Exova, Thomson Research Assoc., CETEC, etc.).

1. Thermal Conductivity (ASTM C518) – available for 3 different temperatures
2. Water Absorption (BS EN 12087)
3. Water Vapor Permeability (ASTM E96)
4. Water Vapor Diffusion Factor (BS EN 12086)
5. Smoke & Toxicity (IMO MSC 61(67) – Annex 1, Part 2)
6. Smoke emission (BS 6853)
7. Fire Propagation (BS 476 Part 6)
8. Surface Spread of Flame (BS 476 Part 7)
9. Temperature Range (DIN EN 14706)
10. Antifungal Resistance (ASTM G21)
11. Antibacterial Resistance (ISO 22196)
12. Volatile Organic Compound emission level (ASTM D5116)
13. Sound Absorption (ISO 354)
14. Salt Spray Testing (ASTM B117)
15. UV Resistance Test (ASTM G155)
16. Chlorine Content – CFC Free
17. Ozone Depletion Potential & Global Warming Potential Values – ODP = 0; GWP < 5

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The Foil Sheet thermal insulation is an all-in-one closed cell *physically crosslinked polyolefin* foam that is manufactured in compliance to ASTM C1427 Standard.

The Foil Sheets was developed in Australia and has sold worldwide for over 20 years. The revolutionary insulation product has a factory applied reinforced foil facing and adhesive backing.

The Foil Sheets are manufactured using our proprietary physically crosslinked polyolefin foam technology, invented and commercialised by the Sekisui Chemical group in Japan. The technology allows crosslinking of the polyolefin without the use of chemical agents. Instead the Sekisui process utilises clean and precise crosslinking through irradiation (physical) means.

Sekisui has been manufacturing crosslinked polyolefin foams since 1967. Today Sekisui Foam division is the largest and leading crosslinked polyolefin foam manufacturer in the world operating 10 foam factories located in Europe, USA, Thailand, Japan, Korea, and Australia.

Our commitment to quality and the protection of the environment is embodied by our operations all being certified to both the ISO 9001 Quality Assurance and ISO 14001 Environmental standards.

Energy Efficiency & Building Sustainability



Building Sustainability, Energy Efficiency, Indoor Air Quality and Health & Safety, are all key elements embodied in the Green Building concept.

Green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment through energy efficiency, protecting occupant health, improving employee productivity, and reducing waste, pollution and environmental degradation.

Central to the green building concept is thermal insulation. **Foil Sheet** insulation is manufactured to support and comply with such initiatives and enables credit point accumulation through various building accreditation systems such as LEED and Estidama.

- > Green Star Compliant (VOC)
- > No CFCs or HCFCs
- > Zero Ozone Depletion Potential (Montreal Protocol)
- > Low GWP
- > Superior thermal insulation
- > Relatively constant thermal conductivity over a 10 year period
- > Zero PVC, Zero Formaldehyde
- > Compliance to RoHS Directive
- > Compliance to REACH Directive
- > Resistance to Mould Growth
- > Non-Allergenic Properties



Technical Specifications

Physical

Material:	Physically (irradiation) crosslinked closed cell polyolefin foam with factory applied reinforced aluminium foil and acrylic adhesive backing
Density:	25 kg/m ³ (foam core only)
Thermal Conductivity: (ASTM C518)	0.032 W/m/°K (@ 23°C mean temp.) 0.036 W/m/°K (@ 36°C mean temp.)
Water Vapour Permeability: kg/Pa.s.m (ASTM E96)	2.3 x 10 ⁻¹⁵
Water Vapour Permeance: µg/N.s 12mm thickness	0.000195
Water absorption by volume: (JIS K6767)	<0.1% v/v (0.00038 g/cm ²)
Permeability Resistance Factor:	µ > 80,000
Resistance to fungi: Growth (ASTM G21)	Zero
Ozone Resistance:	Excellent
UV Resistance:	Excellent
Noise Reduction Coefficient: (AS 1045)	0.20 (12mm foam thickness) 0.30 (25mm foam thickness)
Operating Temperature Range:	-80 °C ~ +100 °C (no adhesive)
GreenStar Rating: (ASTM D5116)	Low VOC Emitting
Physical Property Requirements:	COMPLIES (Type II - Sheet) (ASTM C1427)

Product Certification may be plant specific. Please consult with your local representative.

Distributed by

Fire and Smoke Behaviour

BS476 Parts 6 & 7:	CLASS 0
AS1530 Part 3	Ignitability Index: 0 Spread of Flame Index: 0 Heat Evolved Index: 0 Smoke Developed Index: 0-1
ASTM E84:	COMPLIES (NFPA 90A & B) Flame Spread Index: <2 5 Smoke Developed Index: <5 0
ASTM C411:	COMPLIES (NFPA 90A & B)
FM 4924:	Thermobreak Sheet APPROVED (143961) Up to 25mm thickness
EN ISO 11925	Reaction to Fire Complies (Euroclass E)
AS 3837:	BCA Group 1 Number: Smoke ≤250 Index:
BS 6853 Annex B: Smoke Toxicity	COMPLIES (R < 1.0)
IMO MSC 61(67) Part 2: Smoke Toxicity	COMPLIES
ISO 5659 Part 2	Smoke Density COMPLIES (IMO MSC 61(67) Part 2) D _m < 200 Satisfies max allowable concentrations for the following combustion gases: CO, HCl, HBr, HF, HCN, NO _x , SO ₂
UL 94	Horizontal Burn APPROVED (HF-1) (E193277)

- 5mm: 50m x 1200mm rolls
- 10mm: 25m x 1200mm rolls
- 12mm: 20m x 1200mm rolls
- 15mm: 20m x 1200mm rolls
- 20mm: 15m x 1200mm rolls
- 25mm: 15m x 1200mm rolls
- 25-60mm: 2400mm x 1200mm sheets

Other sizes available