

# **THERMOBREAK<sup>®</sup> LS Tube**

Thermal Insulation



**Physically Crosslinked  
polyolefin foam pipe insulation**

**SEKISUI**

**FOAM  
INTERNATIONAL**  
Global Foam Solutions

**PHYSICALLY  
CROSSLINKED**  
SEKISUI TECHNOLOGY





## The New Standard in Polyolefin Insulation



**Thermobreak®** is the leading and most innovative polyolefin foam thermal insulation available to the HVAC and Building industry worldwide. Thermobreak's® performance is unsurpassed.

Developed in Australia over 30 years ago, Thermobreak® is manufactured using our proprietary physically crosslinked closed cell polyolefin foam technology, invented and commercialised by the Sekisui Chemical group in Japan. Laminated with reinforced foil and adhesive backing, Thermobreak® is widely recognised as the global leader in polyolefin insulation.

Thermobreak insulation is manufactured to ASTM C1427 Standard.

## Superior Fire & Smoke Performance

### Third Party Certifications

**Thermobreak®** LS offers the same features and benefits as our standard product with the added benefit of third party certifications including UL and TUV PSB thus meeting the highest fire ratings available today for duct and pipe insulation.



### Compliance to International Fire & Smoke Standards

**Thermobreak®** LS meets and complies with major international fire and smoke standards for duct and pipe insulation

- > BRITISH (BS 476 Class 0)
- > ASTM E 84, UL 723 (25/50)
- > AUSTRALIAN (AS 1530.3)

### Regulations and Compliancy

- > UAE Civil Defence Certificate of Compliancy
- > DCL Product Conformity
- > CE Certification

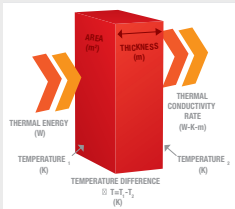


# Engineered to Perform

## Market leading performance

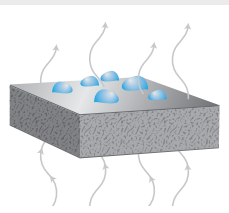
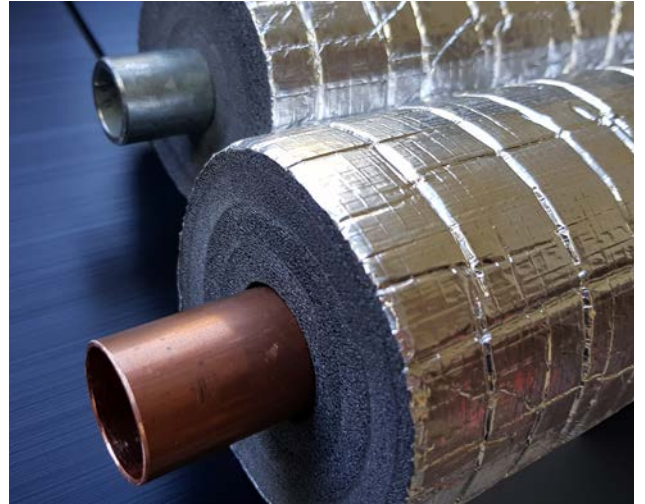
Our unique physically crosslinked technology results in a smaller and more evenly distributed cell structure. Cell structure directly affects thermal conductivity and vapour permeability. Both are key factors in insulation performance.

Thermobreak®'s thermal performance remains relatively unchanged over a 10 year period.



### Thermal Conductivity:

**0.032 W/mK (23°C)** is the lowest of any flexible insulation material. On equivalent thickness basis, **Thermobreak®** provides up to 18% better insulation than elastomeric and chemically crosslinked foams.



**Vapour Permeability of almost zero** ensures our thermal conductivity remains relatively constant for a period of 10 years thus significantly contributing to building sustainability and energy cost reduction.

Vapour Permeability =  $2.3 \times 10^{-15}$  Kg/Pa.s.m  
Permeability Resistance Factor:  $\mu > 80,000$

## Building Sustainability

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

**Thermobreak®** 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
- Low GWP
- Zero PVC, Zero Formaldehyde
- DUBAI GBR Approved
- Compliance to RoHS Directive
- Compliance to REACH Directive
- Resistance to Mould Growth

Grand Hyatt, Manila



University of Technology, Sydney AUS



Burwood Hospital, NZ



# THERMOBREAK<sup>®</sup> LS Tube

## TECHNICAL SPECIFICATIONS

### Physical Properties

Material:	Physically (irradiation) crosslinked closed cell polyolefin foam with factory applied reinforced aluminium foil
Density:	25 kg/m <sup>3</sup> (foam core only)
Thermal Conductivity: (ASTM C518)	0.032 W/mK (@ 23°C mean temp.)
Water Vapour Permeability: (ASTM E96)	2.3 x 10 <sup>-15</sup> kg/Pa.s.m
Water Vapour Permeance: 12mm thickness	0.000195 µg/N.s
Water absorption by volume: (JIS K6767)	<0.1% v/v (0.00038 g/cm <sup>2</sup> )
Permeability Resistance Factor:	µ > 80,000
Resistance to fungi: (ASTM G21)	Zero Growth
Ozone Resistance:	Excellent
UV Resistance:	Excellent
Operating Temperature Range:	-80 °C ~ +100 °C
GreenStar Rating: (ASTM D5116)	Low VOC Emitting
Physical Property Requirements: (ASTM C1427)	COMPLIES (Type I - Tube)
REACH Directives: (1907/2006/EC)	COMPLIES

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

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### Fire and Smoke Performance

AS1530 Part 3	Ignitability Index: 0 Spread of Flame Index: 0 Heat Evolved Index: 0 Smoke Developed Index: 0-1
ASTM E84 / UL 723	COMPLIES (NFPA 90A & B) Flame Spread Index: ≤25 Smoke Developed Index: ≤50
BS 476 Parts 6 & 7:	CLASS 0
ISO 5659 Part 2	Smoke Density: COMPLIES (IMO MSC 61(67) Part 2) Smoke Density: D <sub>01</sub> <200 Satisfies max allowable concentrations for the following combustion gases CO, HCl, HBr, HCN, NO <sub>2</sub> , SO <sub>2</sub>

### Size Availability

Wall Thickness	Min ID (mm)	Max ID (mm)	IPS Max (in)
15mm	7.0	273.0	10"
29mm	7.0	273.0	10"
25mm	7.0	273.0	10"
30mm / 35mm	9.5	254.0	8"
40mm / 50mm / 55mm	12.7	219.2	8"

Tube length: 2m  
Other sizes available on request



**SEKISUI**

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INTERNATIONAL  
Global Foam Solutions



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