

THERMOBREAK[®] LS

Thermal Insulation

*Physically crosslinked polyolefin foam
insulation tested & classified in
accordance with ISO 9705*



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.

Superior Fire & Smoke Performance

Third Party Certifications

Thermobreak® LS is tested and classified in accordance with ISO 9705 Full Scale Room Fire Test.

Thermobreak® LS is Codemark certified, providing a means of compliance with all relevant requirements of the Building Code of Australia and the Building Code of New Zealand.



Compliance to International Fire & Smoke Standards

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

- > ISO 9705
- > AUSTRALIAN (AS 1530.3)
- > ISO STANDARD (ISO 5659-2)
- > BRITISH (BS 476 Class 0)

The Address Sky View Dubai, UAE
Norr Consulting Engineers

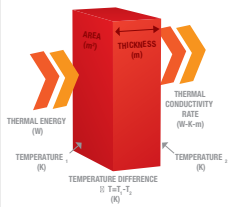


Engineered to Perform

Market leading performance

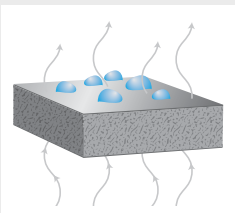
Our unique physically crosslinked technology results in a smaller and more evenly distributed cell structure. Cell structure directly affects thermal conductivity and vapour permeability. Both are key factors in insulation performance.

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



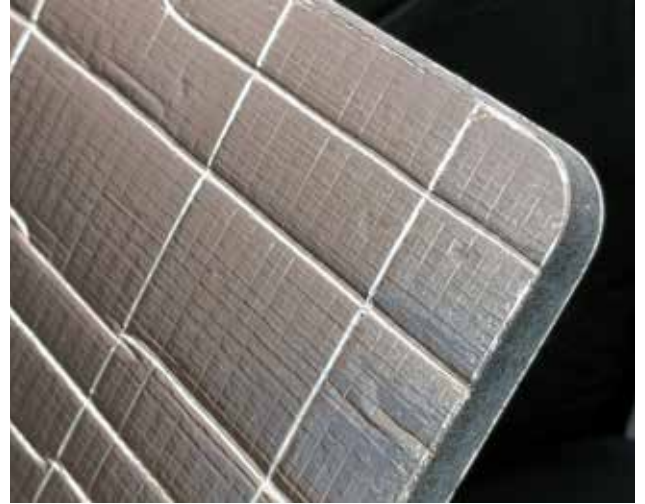
Thermal Conductivity:

0.032 W/mK (23°C) is the lowest of any flexible insulated 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 = 2.3×10^{-15} Kg/
Pa.s.m Permeability Resistance Factor: $\mu > 80,000$



Engineered to Last

Thermobreak® is supplied with factory applied reinforced aluminium foil facing and repositionable acrylic tissue adhesive system.

Our materials are of the highest quality ensuring longevity and continuous energy savings.

- **Thicker, reinforced aluminium foil vapour barrier** provides additional physical protection to the insulation and at the same time reduces heat flow thus providing additional energy savings.
- **Thermobreak®** is the only material that uses tissue interlayer based acrylic adhesive system. Unlike conventional direct coated adhesives, our system ensures that the adhesive provides 100% coverage on the duct surface and on the foam insulation. This feature also provides the additional benefit of repositionability, an essential requirement during installation. The insulation can be lifted off the duct numerous times during alignment without tearing the insulation.
- **Closed cell structure** with almost zero water absorption.
- 10 year manufacturer warranty.



Burj Vistas, Dubai UAE



Fountain Views, Dubai UAE



Westfield, Sydney Australia



Coca-Cola Factory, Cambodia



Avenues Mall, Muscat Oman



Environmental Benefits

Building Sustainability, 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
- Fibre free
- Zero PVC, Zero Formaldehyde
- Resistance to Mould Growth



Leaders in HVAC Insulation

Proven Reliability for Over 30 Years

With **Thermobreak**® installed in over 600 projects worldwide, our experience and results speak for themselves.

Tested and proven and in a variety of climatic conditions, **Thermobreak**® has established an enviable reputation as a quality, reliable, closed cell insulation performing flawlessly and delivering significant energy savings to building owners and operators.

Technical Support

Thermobreak® is backed by a series of software programs to enable proper thickness selection and assist designers with heat flow scenarios and temperature profiling:

- **ThermaCalc™** – thickness selection to avoid condensation and maximise energy savings
- **Temperature Profiles** - software demonstrating the temperature profile of air or water in duct and pipes
- **Thermal Conductivity V time** – software that compares thermal performance of **Thermobreak**® and competitor insulation materials over time given certain design parameters such as vapor permeability



Extensive Distribution Network

Thermobreak® is distributed globally through a series of authorised distributors that specialise in the HVAC market. This increasing network of HVAC specialised companies ensure that the material is readily available for projects. For your nearest distributor please consult our webpage.

The extensive distribution network is supported by regional Sekisui offices.



THERMOBREAK[®] LS

TECHNICAL SPECIFICATIONS

Physical Properties

Material: Physically (irradiation) crosslinked closed cell polyolefin foam with factory applied reinforced aluminium foil

Density: 25 kg/m³ (foam core only)

Thermal Conductivity: 0.032W/mK (@ 23° mean temp.)
(ASTM C518)

Water Vapor Permeability: 2.3 x 10⁻¹⁵ kg/Pa.s.m
(ASTM E96)

Water Vapor Permanence: 0.000195 µg/N.s
12mm thickness

Water Absorption by Volume: <0.2% v/v
(ASTM C1763, Procedure B, 24h)

Permeability Resistance Factor: µ > 80,000

Resistance to Fungi: Zero Growth
(ASTM G21)

Ozone Resistance: Excellent

Operating Temperature Range: -80°C ~ +100°C

GreenStar Rating: Low VOC Emitting
(ASTM D5116)

Leachable Chlorides: < 12 ppm (0.0012% w/w)
(ASTM C871)

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

Distributed by

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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

ISO 9705 (25mm): Group 2 Classification (BCA)
Group 2 Classification (BCNZ)

BS 476 Parts 6 & 7: CLASS 0

Size Availability

Rolls: (1200mm wide) in thickness
from 5mm to 25mm

Sheets: (1200mm x 2400mm) in thickness
from 30mm to 50mm

Other sizes available on request



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SEKISUI

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