# ISOLEX

## POLYISOCYANURATE INSULATION BOARD

## DESCRIPTION & USE

LEXCOR'S ISOLEX family of polyisocyanurate ("polyiso") roof insulation offers the building owner the perfect combination of features so important for long-term performance. Aside from enhanced energy savings and the other benefits shown below, ISOLEX provide excellent initial installation cost as well as attractive life cycle payback rates.

LEXCOR'S ISOLEX is a closed-cell polyisocyanurate foam core panel, integrally laminated to heavy (non-asphaltic) fibre reinforced felt facers. It is recommended for use under single ply, modified bitumen and built-up roof systems. ISOLEX is available in two panel sizes: 122 cm x 122 cm (4' x 4') and 122 cm x 244 cm (4' x 8'). It is also available in a 25 psi formulation for superior compressive strength.

TAPERED ISOLEX is specially manufactured in a tapered profile to provide positive drainage while maintaining high thermal efficiency. Panels are only available in 122 cm x 122 cm (4' x 4') with slopes of 3 mm (1/8"), 6 mm (1/4") and 12 mm (1/2") per foot.TAPERED ISOLEX is optionally available in a 25-psi density.

## FEATURES & BENEFITS

**High R-Value**

Polyiso is one of the most thermally efficient insulation on the market today. It's high R-Value "per inch" means a cost-effective solution for any building application

**Dimensionally Stable**

With high compressive strength and dimensional rigidity, ISOLEX provide a stable building panel that helps resist installation traffic, supports fasteners loads and reduces thermal deck movement.

**Highly Compatible**

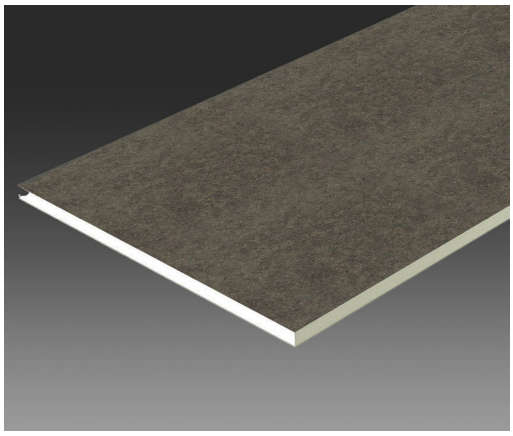
ISOLEX may be used with virtually all types of roofing systems and is a key component of a fire resistive roof assembly.

**Environmentally Friendly**

ISOLEX is HCFC free and has zero ozone depletion potential.

**The Backing of Lexsuco Corp**

One of Canada's oldest suppliers to the commercial roofing industry. No other company can match Lexsuco Corporation's breadth of experience in Canadian industrial roofing.



## TECHNICAL DATA

Many features that designers need when specifying insulation are offered by polyiso insulation:

- Excellent fire test performance
- Dimensional stability
- Compressive strength
- Moisture resistance
- Extensive building code approval
- Cost-effective insurance rating
- Superior R-values and thermal performance
- Compatibility with commonly used construction adhesives and solvents

**COMMERCIAL BUILDING PRODUCTS**

**Ontario & Western Canada 1.800.268.2889 / Quebec & Atlantic 1.800.363.2307**

Distr. By/Par Lexsuco 2010 Corporation, 3275 Orlando Drive, Mississauga, ON, L4V 1C5

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| Standard Thicknesses, LTTR-Values | | | |
|---|---|---|---|
| **Inches** | **mm** | **LTTR** | **RSI²** |
| **1.0** | 25 | 5.7 | 1.04 |
| **1.1** | 28 | 6.2 | 1.09 |
| **1.2** | 30 | 6.7 | 1.18 |
| **1.3** | 33 | 7.3 | 1.29 |
| **1.4** | 36 | 7.9 | 1.39 |
| **1.5** | 38 | 8.6 | 1.51 |
| **1.6** | 41 | 9.1 | 1.60 |
| **1.7** | 43 | 9.7 | 1.71 |
| **1.8** | 46 | 10.3 | 1.81 |
| **1.9** | 49 | 10.8 | 1.90 |
| **2.0** | 51 | 11.4 | 2.01 |
| **2.1** | 53 | 12.0 | 2.11 |
| **2.2** | 56 | 12.6 | 2.22 |
| **2.3** | 59 | 13.2 | 2.32 |
| **2.4** | 61 | 13.8 | 2.43 |
| **2.5** | 63 | 14.4 | 2.54 |
| **2.6** | 66 | 15.0 | 2.64 |
| **2.7** | 69 | 15.6 | 2.75 |
| ***2.8** | 71 | 16.2 | 2.85 |
| ***2.9** | 74 | 16.8 | 2.96 |
| ***3.0** | 76 | 17.4 | 3.06 |
| ***3.1** | 79 | 18.0 | 3.17 |
| ***3.2** | 81 | 18.6 | 3.28 |
| ***3.3** | 84 | 19.2 | 3.38 |
| ***3.4** | 86 | 19.9 | 3.50 |
| ***3.5** | 89 | 20.5 | 3.61 |
| ***3.6** | 91 | 21.1 | 3.72 |
| ***3.7** | 94 | 21.7 | 3.82 |
| ***3.8** | 97 | 22.3 | 3.93 |
| ***3.9** | 99 | 23.0 | 4.05 |
| ***4.0** | 102 | 23.6 | 4.16 |
| ***4.5** | 114 | 26.80 | 4.72 |

[1]LTTR (long-term thermal resistance) values were determined in accordance with CAN/ULC-S770-09. Test samples were third party selected and tested by an accredited material testing laboratory. The LTTR results were reviewed by FM Global and certified by the PIMA Quality Mark Program.

RSI² is the metric expression of R-Value (m².K/W).
Note: Multi-layer application is strongly recommended when the total insulation thickness exceeds 2.7".

LEXCOR ISOLEX meets or exceeds the following physical properties:

| Physicals Properties | | | |
|---|---|---|---|
| **Property** | **ASTM Test** | **Typical Results** | |
| | | **20 psi** | **25 psi** |
| **Dimensional Stability:** | D 2126 | <2% linear change | <2% linear change |
| **Compressive Strength:** | D 1621 | 140 kPa (20 psi) | 172 kPa (25 psi) |
| **Tensile Strength:** | ASTM D 1623 | > 35 kPa (730 psf) | > 35 kPa (730 psf) |
| **Water Absorption:** | D 2842, C 209 | <1%, <3.5% | <1%, <3.5% |
| **Moisture Vapour Transmission:** | E 96 | <1.5% Perm (86 ng/Pa • s • m²) | <1.5% Perm (86 ng/Pa • s • m²) |
| **Flame Spread:** | E 84 (10 min.) | 20-75[1] | 20-75[1] |
| **Smoke Development:** | E 84 (10 min.) | 50-250[1] | 50-250[1] |
| **Service Temp.:** | | -73˚C to 121˚C (-100˚F to 250˚F) | -73˚C to 121˚C (-100˚F to 250˚F) |

[1]Numerical ratings are not intended to reflect performance under actual fire conditions. Flame spread index of ≤ 75 and smoke development ≤ 450 meet code requirements for foam plastic roof insulation. Codes exempt foam plastic insulation when used in FM 4450 or UL 1256. Physical properties listed above are presented as typical average values as determined by accepted ASTM Test methods and are subject to normal manufacturing variation.

## APPROVALS & COMPLIANCES

- ASTM C1289, Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi).
- CAN/ULC-S704, Type 2, Class 3 or Type 3, Class 3.
- UL Certified for Canada - Insulated Roof Deck Assemblies Construction No. C38 and 52, Meet CAN-ULC-S126, CAN/ULC-S101 and CAN/ULC-S107.
- UL Standard 1256 Classification - Construction No. 120, 123 & 292.
- UL Standard 790 (ASTM E108) Roofing Systems Classification.
- UL Standard 263 (ASTM E119) Fire Resistance Classification.
- UL Standard 1897 Uplift Resistance.
- IBC Chapter 26 & NBC Sections on Foam Insulation.
- Miami-Dade County Approved.

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## PRODUCT INSTALLATION

Before installing the insulation, the roof deck should be firm, well attached, even, clean and dry. Proper attachment of the insulation is necessary to prevent roof failures. Lexsuco Corp. will not be responsible for any damage caused by improper attachment. LEXCOR ISOLEX products can be attached to decks that are approved by Factory Mutual and/or local code agencies. The responsibility for determining deck suitability is that of the designer/specifier and/or the building owner's representative.

Although LEXCOR ISOLEX products have been designed to withstand normal construction traffic, protection from damage by such traffic and/or abuse are extremely important. Surface protection such as plywood must be used in areas where heavy and/or repeated traffic is anticipated both during and after the installation.

### Moisture Vapour Control

Vapour retarders are recommended to prevent water vapour from passing into and damaging the insulation and roofing system. All LEXCOR ISOLEX without a vapour retarder, the need for which is determined by the designer. Consult the LEXCOR Technical Department for additional information and assistance. Concrete and poured gypsum decks require special consideration to handle the large amounts of inherent moisture. Vapour retarders are strongly recommended over these decks.

### Multi-Layer Application

Where possible, a two-layer application of ISOLEX is strongly recommended. The joints in each layer should be offset in order to avoid a vertically continuous joint through the total insulation thickness. Two layers (or more) with joints staggered can provide improved insulation performance by eliminating thermal bridges. This method also reduces condensation potential and thermal stress on the roof membrane.

### Mechanical Attachment

Mechanical fastening is the preferred method of attachment. Fastener frequency and spacing for steel, wood, concrete and poured gypsum decks vary depending on attachment method and ratings. Contact the LEXCOR Technical Department for details.

### Adhesive Attachment

For installing LEXCOR ISOLEX to a structural concrete deck, bitumen or adhesive (LEXCOR INSULTAC II ; LEXCOR LEXPHALT) * attachment is the preferred method. If using an approved adhesive, install according to the manufacturer's guidelines. When using ASPHALT on concrete decks, priming is necessary. Precautions must be taken to prevent bitumen drippage. When using hot-applied bitumen for attachment, care must be taken to apply the bitumen in sufficient quantity to cover the available deck surface. Use 9 to 14 kg (18 to 30 lb) of bitumen per square. To ensure positive attachment, the board must also be "stepped in" at several points while the bitumen is still hot. The recommended insulation panel size for hot asphalt attachment is 122 cm x 122 cm (4'x 4'). Due to the unevenness of solid decks, 122 cm x 244 cm (4'x 8') boards are not recommended for bitumen attachment.

**Note:** Adhesives must be recommended by the manufacturer for this type of application and approved by LEXCOR.

### Material Storage

Factory-applied packaging is only intended for protection during transit. When stored outdoors, or on the job site, packages should be stacked on pallets at least 10 cm (4") above ground level and completely covered with a weatherproof covering such as a tarpaulin. The temporary factory-applied packaging should be slit or removed to prevent accumulation of condensation. Roof insulation which has become wet and/or damaged should be removed and replaced with solid, dry insulation.

### Caution (Important Product Information)

This product is a polyisocyanurate organic plastic foam and will burn if exposed to an ignition source of sufficient heat and intensity, or open flame, such as a welder's torch. Like other organic materials, this product will release smoke if ignited. Do not apply flame directly to LEXCOR ISOLEX insulation products. This product should be used only in strict accordance with Lexcor recommended uses and application instructions.

## WARRANTY

Project specific warranties are available. Contact LEXCOR'S Technical Department for more information.

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