

# Shieldfoam XPS

## Extruded Polystyrene Foam Insulation Sheets



MICSHIELD®

### Description

**Shieldfoam XPS** Extruded polystyrene foam insulation sheets with their closed-cell structure and lack of voids, provide excellent resistance to moisture and air infiltration, feature a low thermal conductivity, and maintain a stable long-term R-value. They are impervious to rot, mildew, and corrosion, controlled compressive strength, resistance to chemicals commonly found in soil, and retain their insulating performance over time.

### Uses

- Used on basement walls and under slab on grade to reduce heat loss and prevent moisture penetration.
- Installed behind cladding and stone walls.
- Used in external wall insulation systems (ETICS), cavity walls, and interior wall applications.
- Roof Insulation
- Suitable for commercial wall systems, insulated concrete sandwich panels, and steel-stud framing with exterior sheathing.

### Characteristics / Advantages

- Available in wide range of thicknesses.
- Excellent thermal insulation with low thermal conductivity.
- Long-term thermal insulation performance.
- High mechanical and compressive strength.
- High resistance to thermal cycle (freeze/thaw).
- Low moisture absorption.
- Resistant to rotting, mould, and fungal growth.
- Strong resistance to chemicals and soil acids.

### Standard Compliance

ASTM C 578 - 13 Type VII

### Shelf Life and Storage

**Shieldfoam XPS** has an unlimited shelf life when stored in cool and dry conditions, protected from direct sunlight, heat, and moisture.

### Technical Support

Refer to contacting technical information, method statement or technical support team for any inquiry.

### Typical Properties

|                                                                                                                                                                                                                            |                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Color                                                                                                                                                                                                                      | Blue, Yellow, or green.                                                       |
| Density (ASTM D 162, BS4370-2)                                                                                                                                                                                             | 32 – 35 kg/m³                                                                 |
| Width x Length (EN 822)                                                                                                                                                                                                    | 600 x 1250 mm                                                                 |
| Thermal Conductivity<br>Tested @ (4.4°C Fresh) (DIN 52612, DIN 52615)<br>Tested @ (10°C after 90 days) (ISO 8302, BS 874-2)<br>Tested @ (24°C after 5 years) (ASTM C 578, ASTM C 177)<br>Recommended design value @ RH 90% | 0.016 W/mK<br>0.27 W/mK<br>0.32 W/mK                                          |
| R-Value (ASTM C 578, ASTM C 518)<br>@ 24°C mean temperature of 1-inch thickness, Aged 180 days.                                                                                                                            | 0.87 m²K/w                                                                    |
| Service Temperature (ASTM C 578)                                                                                                                                                                                           | -50 – 75 °C                                                                   |
| Compressive Strength Vertical @ 10% Deflection for short-term load (EN 862)                                                                                                                                                | 310 kPa                                                                       |
| Design Load for traffic                                                                                                                                                                                                    | 120 kn/m²                                                                     |
| Tensile strength perpendicular to faces (ASTM D 1632)                                                                                                                                                                      | 590 kPa                                                                       |
| Flexural Strength (ASTM C 203)                                                                                                                                                                                             | 520 kPa                                                                       |
| Shear Strength (ASTM C 273)                                                                                                                                                                                                | 345 kPa                                                                       |
| Water Vapor Permeability (BS 3837, ISO 1863)                                                                                                                                                                               | 46 ng/pa.s.m                                                                  |
| Water Absorption (% by volume)<br>@ 28 days of immersion 24°C (ASTM 272)                                                                                                                                                   | 0.2 max <1                                                                    |
| Freeze/Thaw resistance (% by volume) (EN 13164)                                                                                                                                                                            | <1.0                                                                          |
| Fire Behavior                                                                                                                                                                                                              | Flame Retardant, Self-Extinguishing Difficult to ignite                       |
| Building Material Flammability Class                                                                                                                                                                                       | Class B2 (DIN 4102)<br>Class A (BS 38370)                                     |
| Flame Spread                                                                                                                                                                                                               | 5<75 (UL) ASTM E84<br>165<450 (UL) ASTM E84<br>Under Designation of ASTM C578 |
| Dimensional Stability % per change<br>60°C, 28h & 90%RH (ASTM D 2126)                                                                                                                                                      | 1.5 max                                                                       |

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