Below Ground Insulated Panel
PRODUCT DATA

Manufacturer

Advanced Panel Products Ltd.
3955 - 8th Street
Nisku, Alberta
T9E 8M1

Product Description

Below Ground Insulation Panel are a CS(Calcium Silicate) 3/8" thick pre finished board, factory applied to XPS Extruded Polystyrene Rigid Insulation. This product is a single step process for below grade exterior wall insulation. The product can be installed with through fastened screws or galvanized clips. As a Member of the concrete family, this product can be coated with concrete based coating.

Uses

BGIP is a single step below or above grade insulation board in one. This system is intended to work against concrete faced perimeter walls.

BGIP is intended for commercial and residential application. The installation can occur in all-weather condition with basic skilled Labour.

Sizes

BGIP Panel Size 2' x 4'
Foam thick / Panel thick
2" (R10) 2 3/8" butt edge
3" (R15) 3 3/8" butt edge
4" (R20) 4 3/8" butt edge
21lbs., 22lbs., 23lbs.

Technical Data Applicable Codes and Standards

National Building Code of Canada or provincial building Code
Canadian Standards (Underwriters Laboratories of Canada (ULC)

CAN/ULC-S701, Standard for Thermal Insulation, Polystrene, Boards and Pipe Covering

CAN/ULC-S102.2, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials and Assemblies

Canadian General Standards Board (CGSB)

CGSB 71-GP-24M, Adhesive, Flexible, for Bonding Cellular Polystyrene Insulations

ASTM C177, Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus

Number **CCMC 13430-L**

ATSM C203, Standard Test Method for Breaking Load and Flexural Properties of Block-Type Thermal Insulation

ASTM D2126, Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging

ASTM C518, Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

ASTM E96, Test Method for Water Vapor Transmission of Materials Thermal Expansion of Plastics Between -30°C and 30°C With a Vitreous Silica Dilatometer

ASTM D2842, Standard Method for Water Absorption of Rigid Cellular Plastics

ASTM D696, Standard Test Method for Coefficient of Linear

ASTM D1621, Standard Test Method for Compressive Properties of Rigid Cellular Plastics

Table 1.

Properties	Test Method	FOAMULAR® C-300 (CAN/ULC - S701, Type 4)
THERMAL RESISTANCE (1) r value per inch (ft2 hr °F/BTU) Rsi value per 25 mm (m2 °C/w)	C518 or C177	 5.0 .88
COMPRESSIVE STRENGTH, min.(2) psi (kpa)	D1621	30 (210)
COMPRESSIVE MODULUS psi (kpa)	D1621	1350 (9308)
WATER ABSORPTION (maximum % by volume)	D2842	0.70
WATER VAPOUR PERMEANCE, max. Perm (ng/Pa.s.m2)	E96	0.87 (50)
WATER CAPILLARITY		None
WATER AFFINITY		Hydrophobic
FLEXURAL STRENGTH, typical psi (kpa)	C203	60 (414)
LINEAR COEFFICIENT OF THERMAL EXPANSION in./in./°F (mm/mm/°C)	E228	3.5 x 10-5 (6.3 x 10-5)
DIMENSIONAL STABILITY, max. (% linear charge)	D2126	1.5
MAXIMUM SERVICE TEMPERATURE °F (°C)		165 (74)
LIMITING OXYGEN INDEX, min	D2863	24

(1) Thermal resistance per inch of thickness (25 mm) (2) at 10% deformation or yield

Physical Properties

Canadian Construction Materials Centre (CCMC) Product Evaluation FOAMULAR® C-300 complies to CAN/ULC S701, Type 4 and has a CCMC listing.

Codes & Standards Compliance

Zero Ozone Depletion Potential
70% Less Global Warming Potential
Product Evaluation Listing Number **CCMC 13430-L**

Technical Data Calcium Silicate - 3/8" Board

Board Materials Description

Is a non-combustible medium density calcium silicate board, used for constructive of non structural passive fire protection. It is a Class 0 product as defined in the Building Regulations.

Applicable Codes and Standards

ASTM E136, Non - Combustible
ASTM E84, Flame spread 0
ASTM E84, Smoke Development 0
Class A,Material Meets the requirements

Add on Technical

Based on adhesive testing, substrate will not delaminate from the insulation. Weather condition will not affect the bond strength.

ASTM D-095
Room temperature Strength
4000 psi
150 F Overnight Strength
800 psi

ANS/HPVA Type 1, water-resistance specification.

ASTM D4236
Conforms.

Table 2. Technical Specifications
Water Vapor Transmission (23 degrees - 50 +/- 5% RH

8 mm Z Value (GPa m2 s/kg	EN 12572	0.551
8 mm Z Value (GPa m2 s/kg	EN 12572	1.730

Table 3. Technical Specifications
Hygroscopic Properties and pH

Expansion from dry to wet	%	0.06
Moisture content at delivery	%	<18
pH value	pH	10

Table 4. Technical Specifications
Thermal Properties

Thermal conductivity	W/mc	.22
Coefficient of thermal expansion	Mm/m C	.008

Table 5. Technical Specifications
Bending Strength MPa

Bending strength-dry-longitudinally	MPa/PSI	11/1595
Bending strength - dry - across	MPa/PSI	8/1160
Modulus of elasticity	GPA	3.8

Moisture-Resistance, Mold & Fungus

The panel is not weakened when wet. The high pH value makes the board very resistant to attack by mold and fungus. The panel will not rot or degrade in a humid environment.

Handling / Installation

BGIB can be installed vertical or horizontally on the perimeter of the foundation walls. Caulking (sillicon/butyl) or insulting polyurethane foam can be placed between joints for added protection. Ensure there are no inconsistencies on the perimeter wall when installing. Walls may need to be scraped for a smooth installation. Foam can be cut to accommodate inconsistencies. Based on local building codes. Perimeter may need air or vapor barrier to installation. Do not install BGIB if the perimeter is saturated.

BGIB can be installed using correct fasteners. BGIB can also be installed using a galvanized clip designed for the Panel.

Please contact your local distribution for installation guides or visit www.advancedpanel.com for more information.

Warranty

For more information pertaining to warranty please refer to www.advancedpanel.com or contact your local distributor.

Please note
Advance Panel Products Ltd. Can only aid with technical or questions regarding the panel. All purchases must be made through our dealer network.