

BUILDING PRODUCTS LISTING PROGRAM

Customer: Amvic Corporation
Class: Thermal Insulation – Foam Plastic
Location: 501 McNicoll Avenue, Toronto, Ontario, M2H 2E2 Canada
Website: <http://www.amvicsystem.com>

Listing No. B1061-1
Project No. B1061-1
Effective Date: August 31, 2021
Last Revised December 2, 2022
Expiration: N/A

Standards: CAN/ULC S701.1 *Standard for Thermal Insulation, Polystyrene Boards.*
ASTM C578 *Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.*
ASTM D6817 *Standard Specification for Rigid Cellular Polystyrene Geofoam.*
CAN/ULC S102.2 *Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies.*
ASTM E84 *Standard Test Method for Surface Burning Characteristics of Building Materials.*
ASTM E96 *Standard Test Method for Water Vapor Transmission of Materials.*
ASTM E2178 *Standard Test Method for Air Permeance of Building Materials.*

Product: Amvic Expanded Polystyrene (EPS) Thermal Insulation including the following products:

- Amvic Type 1, Type 2, Type 3 thermal insulation.
- Amvic Amdry EPS Insulated Subfloor
- Amvic Ampex Panel
- Amvic Amrad Radon Barrier
- Amvic Geofoam

Markings: Products are marked in a permanent manner with the following:

- a) Company Name: Amvic Corporation.
- b) CAN/ULC S701.1 / ASTM C578 / ASTM D6817 Type as appropriate
- c) CAN/ULC S102.2 Flame Spread Smoke Developed Index (FSI ≤ 290 / SDI ≥ 500) (where applicable).
- d) ASTM E84 Flame Spread Smoke Developed Index (FSI ≤ 25 / SDI ≤ 450) (where applicable).
- e) Traceability code including date of manufacture.
- f) QAI Mark as shown below:

Labels are applied to palletized finished products to ensure visibility on the jobsite.

Ratings:

AMVIC EPS THERMAL INSULATION TYPES PER CAN/ULC S701.1			
PROPERTY	TYPE 1	TYPE 2 EN-40 ¹	TYPE 3 EN-60 ^{1,2}
Thermal Resistance Minimum at 25 mm Thickness (m ² *°C/W)	0.65	0.70	0.74
Water Vapour Permeance Maximum at 25 mm Thickness (Ng/Pa*s*m ²)	300	200	130
Dimensional Stability Maximum Linear Change (%)	1.5	1.5	1.5
Flexural Strength Minimum (kPa)	170	240	300
Water Absorption By Volume Maximum (%)	6.0	4.0	2.0
Compressive Strength Minimum at 10% Deformation (kPa)	70	110	140
Limiting Oxygen Index Minimum (%)	24	24	24

Note 1: EN-40 and EN-60 products meet Type 3 thermal insulation requirements but are used where higher compressive resistance applications are required.

AMVIC EPS THERMAL INSULATION TYPES PER ASTM C578					
PROPERTY	TYPE I	TYPE VIII	TYPE II	TYPE IX	TYPE XIV EN-60
Compressive Strength, Minimum @ 10% Deformation (psi)	10.0	13.0	15.0	25.0	40.0
Thermal Resistance, Minimum @ 1 inch Thick (F*ft ² *h/Btu)	3.6	3.8	4.0	4.2	4.2
Flexural Strength, Minimum (psi)	25.0	30.0	35.0	50.0	60.0
Water Vapor Permeance, @ 1 inch Thickness, Maximum (Perms)	5.0	3.5	3.5	2.5	2.5
Water Absorption By Volume, Maximum (%)	4.0	3.0	3.0	2.0	2.0
Dimensional Stability	2.0	2.0	2.0	2.0	2.0



Linear Change, Maximum (%)					
Oxygen Index, Minimum (%)	24.0	24.0	24.0	24.0	24.0
Density, Minimum (lbs/ft ³)	0.90	1.15	1.35	1.80	2.40

AMVIC AMDRY INSULATED SUBFLOOR TYPES PER CAN/ULC S701.1	
PROPERTY	TYPE 2
Thermal Resistance Minimum at 25 mm Thickness (m ² *°C/W)	0.70
Water Vapour Permeance Maximum at 25 mm Thickness (Ng/Pa*s*m ²)	200
Dimensional Stability Maximum Linear Change (%)	1.5
Flexural Strength, Minimum (kPa)	240
Water Absorption By Volume Maximum (%)	4.0
Compressive Strength Minimum at 10% Deformation (kPa)	110
Limiting Oxygen Index Minimum (%)	24

AMVIC AMDRY INSULATED SUBFLOOR TYPES PER ASTM C578	
PROPERTY	TYPE II
Compressive Strength, Minimum @ 10% Deformation (psi)	15.0
Thermal Resistance, Minimum @ 1 inch Thick (F*ft ² *h/Btu)	4.0
Flexural Strength, Minimum (psi)	35.0
Water Vapor Permeance, @ 1 inch Thickness, Maximum (Perms)	3.5
Water Absorption By Volume, Maximum (%)	3.0
Dimensional Stability Linear Change, Maximum (%)	2.0
Minimum Oxygen Index, Minimum (%)	24.0
Density, Minimum (lbs/ft ³)	1.35

AMVIC AMPEX INSULATED SUBFLOOR TYPES PER CAN/ULC S701.1		
PROPERTY	TYPE 2	TYPE 3
Thermal Resistance Minimum at 25 mm Thickness (m ² *°C/W)	0.70	0.74
Water Vapour Permeance Maximum at 25 mm Thickness (Ng/Pa*s*m ²)	200	130
Dimensional Stability Maximum Linear Change (%)	1.5	1.5
Flexural Strength Minimum (kPa)	240	300
Water Absorption By Volume Maximum (%)	4.0	2.0



Compressive Strength Minimum at 10% Deformation (kPa)	110	140
Limiting Oxygen Index Minimum (%)	24	24

AMVIC AMPEX INSULATED SUBFLOOR TYPES PER ASTM C578		
PROPERTY	TYPE II	TYPE IX
Compressive Strength, Minimum @ 10% Deformation (psi)	15.0	25.0
Thermal Resistance, Minimum @ 1 inch Thick (F*ft ² *h/Btu)	4.0	4.2
Flexural Strength, Minimum (psi)	35.0	50.0
Water Vapor Permeance, @ 1 inch Thickness, Maximum (Perms)	3.5	2.5
Water Absorption By Volume, Maximum (%)	3.0	2.0
Dimensional Stability Linear Change, Maximum (%)	2.0	2.0
Limiting Oxygen Index, Minimum (%)	24.0	24.0
Density, Minimum (lbs/ft ³)	1.35	1.80

AMVIC AMRAD INSULATED SUBFLOOR TYPES PER CAN/ULC S701.1	
PROPERTY	TYPE 2
Thermal Resistance Minimum at 25 mm Thickness (m ² *°C/W)	0.70
Water Vapour Permeance Maximum at 25 mm Thickness (Ng/Pa*s*m ²)	200 ¹
Dimensional Stability Maximum Linear Change (%)	1.5
Flexural Strength, Minimum (kPa)	240
Water Absorption By Volume Maximum (%)	4.0
Compressive Strength Minimum at 10% Deformation (kPa)	110
Limiting Oxygen Index Minimum (%)	24

AMVIC AMRAD INSULATED SUBFLOOR TYPES PER ASTM C578	
PROPERTY	TYPE II
Compressive Strength, Minimum @ 10% Deformation (psi)	15.0
Thermal Resistance, Minimum @ 1 inch Thick (F*ft ² *h/Btu)	4.0
Flexural Strength, Minimum (psi)	35.0
Water Vapor Permeance, @ 1 inch Thickness, Maximum (Perms)	3.5 ¹
Water Absorption By Volume, Maximum (%)	3.0
Dimensional Stability Linear Change, Maximum (%)	2.0
Limiting Oxygen Index, Minimum (%)	24.0
Density, Minimum (lbs/ft ³)	1.35

Note 1: Amrad product Type 2 / Type 2 EPS foam water vapor permeance values noted. Amrad finished product water vapor permeance values are outlined below.

AMVIC AMRAD INSULATED SUBFLOOR PERFORMANCE PROPERTIES	
PROPERTY	CLASSIFICATION
Water Vapor Permeance per ASTM E96	Class I Vapor Retarder: ≤ 0.1 Perms (≤ 5.4 ng/Pa*s*m ²)
Air Leakage @ 75 Pa per ASTM E2178	Air Barrier: ≤ 0.02 L/s*m ²

Note: Amrad insulated Radon Gas Mitigation Panels, when installed per the manufacturer's instructions and the NBC will meet the requirements for an air barrier system properties per section 5.4.1.2 and 9.25.3.6(1) of the National Building Code of Canada 2015 when used for under slab applications, including providing resistance to the ingress of soil gasses including Radon.

PROPERTY	AMVIC EPS GEOFOAM TYPES PER ASTM D6817					
	EN-12 (EPS15)	EN-16 (EPS19)	EN-20 (EPS22)	EN-30 (EPS29)	EN-40 (EPS39)	EN-50 (EPS46)
Density Minimum kg.m ³ (lbs/ft ³)	14.4 (0.90)	18.4 (1.15)	21.6 (1.35)	28.8 (1.80)	38.4 (2.40)	45.7 (2.85)
Compressive Strength kPa (psi) at:						
1% Compression:	25 (3.6)	40 (5.8)	50 (7.3)	75 (10.9)	105 (15.2)	128 (18.6)
5% Compression:	55 (8.0)	90 (13.1)	115 (16.7)	170 (24.7)	282 (40.9)	300 (43.5)
10% Compression:	70 (10.2)	110 (16.0)	135 (19.6)	200 (29.0)	308 (44.8)	345 (50.0)
Flexural Strength Minimum kPa (psi)	172 (25.0)	207 (30.0)	276 (40.0)	345 (50.0)	414 (60.0)	517 (75.0)
Oxygen Index Minimum (%)	24.0	24.0	24.0	24.0	24.0	24.0

AMVIC EPS products have been evaluated and found to have the following surface burning characteristics evaluated per CAN/ULC S102.2:

AMVIC EPS THERMAL INSULATION TYPES PER CAN/ULC S102.2				
AMVIC INSULATION	DENSITY	MAXIMUM THICKNESS	FLAME SPREAD INDEX	SMOKE DEVELOPED INDEX
Type 1, Type 2, Type 3 AmDry, AmPex, AmRad, Geofoam EN-12, EN-16, EN-20, EN-30	Maximum 32 kg/m ³	≤ 100 mm	≤ 290	≥ 500

AMVIC EPS products have been evaluated and found to have the following surface burning characteristics evaluated per ASTM E84:

AMVIC EPS THERMAL INSULATION TYPES PER ASTM E84 ³				
AMVIC INSULATION	DENSITY	MAXIMUM THICKNESS	FLAME SPREAD INDEX	SMOKE DEVELOPED INDEX
Type I, VIII, II, IX AmDry, AmPex, AmRad, Geofoam EN-12, EN-16, EN-22, EN-30	Maximum 2.0 lbs/ft ³	≤ 4 inches	≤ 25	≤ 450

Note 3: Ceiling measurement only. This measurement is conducted through determination of flame spread index and smoke developed index with the removal of any contribution of molten materials ignited on the floor of the tunnel assembly.

Note: The product must be installed in accordance with the code enforced by the authority having jurisdiction. Final acceptance of the product in the final installation is subject to inspection by the authority having jurisdiction.

The materials, products or systems listed herein have been qualified to bear the QAI Listing Mark under

The conditions stated with each Listing. Only those products bearing the QAI Listing Mark are considered to be listed by QAI.

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