

ProGUARD Guide Specification

MANUFACTURER

T.Clear Corporation
3255 Symmes Rd.
Hamilton, OH 45015
Phone: 800-544-7398
Phone: 513-870-9246
Fax: 513-870-9606

Section: 072100 – Insulating Sheathing
072113 – Cementitious Sheathing

1. PRODUCT NAME:

ProGUARD Concrete Faced Insulated Sheathing

2. PRODUCT DESCRIPTION:

ProGUARD is a concrete faced exterior insulation consisting of 1/4" thick Util-A-Crete cement backerboard laminated to Dow Extruded Styrofoam or 2 lb. / cu.ft. Expanded Polystyrene in thicknesses of 1", 1-1/2" or 2" creating overall panel thicknesses of 1-1/4", 1-3/4", 2-1/4", 3-1/4" or 4-1/4".

3. BASIC USE:

ProGUARD is intended to be applied directly to the exterior side of steel or wood studs with the concrete side facing out and the insulation placed directly against the studs. ProGUARD can also be attached to concreted foundation walls providing thermal protection for the building space from floor line to below ground line. The "R" value is 5 per inch for extruded Styrofoam and 4.65 per inch for expanded polystyrene. The shiplap edge reduces thermal transfer through the studs and greatly reduces air leaks that occur with butt joint applications. The concrete exterior surface is designed to receive direct application of synthetic stucco finishes as well as sand and cement stucco, siding, synthetic stone, thin brick or other exterior finish systems. Additional waterproof coatings such as Water Armor may be applied as required by local code.

4. SIZES:

Thickness: 1-3/4", 2-1/4" are standard. Other thicknesses are available upon request. Width is 36" and length is 96" (Other lengths are available as special items).

5. APPLICABLE STANDARDS:

ASTM International

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

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

ASTM C272 – Standard Test method for Water Absorption of Core Materials for Structural Sandwich Constructions

ASTM E96 – Standard Test Methods for Water Vapor Transmission of Materials

ASTM D696 – Standard Test Method for Coefficient of Thermal Expansion of Plastics

ASTM C578 – Standard Specification for Rigid Cellular Polystyrene Insulation

ASTM D2842 – Standard Test Method for Water Absorption of Rigid cellular Plastics

ASTM D3273 – Standard Test Method for mold and Mildew Resistance

ASTM D2394 – Standard Test Method for Compressive Strength (Indentation)

ASTM C947 - Standard Test Method for Flexural Strength

ASTM D1037 – Standard Test Method for Linear Variations with Change in Moisture to Air Dry

ASTM E84 - Standard Test Method for Surface Burning Characteristics

ASTM D1037 – Standard for Fastener Pull Through

NFPA - 285 - Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior No-load Bearing Wall Assemblies Containing Combustible Components Using the Intermediate Scale Multi-story Test Apparatus, 2006 Edition.

6. PHYSICAL / CHEMICAL PROPERTIES:

ProGUARD Concrete Insulated Sheathing exhibits the properties and characteristics indicated in Tables 1 and 2. When properly installed, prolonged exposure of the Util-A-Crete cement board surface will not be significantly damaged by exposure to Ultra violet radiation.

All joints and exposed foam edges should be sealed prior to any extended exposure.

Physical Properties**

Util-A-Crete Concrete Skin		
Performance Property	Test Method	Value
Compressive Strength-psi	ASTM D2394	≥ 2600
Flexural Strength-psi	ASTM-C947	≥ 1500
Linear Variations with change in Moisture to air dry (50% R.H., 73 ° F)	ASTM D-1037	
Width		0.02%
Length		0.02%
Surface Burning Characteristics		
Flame Spread	ASTM-E84	5
Smoke Developed	ASTM-E85	0
Weigh per Sq.Ft. (lbs)		1.98
Fastener Pull Through		≥ 195 lbs.
K-Factor		1.6
R-Factor		0.16

Dow Extruded Styrofoam Insulation (XPS)**

Thickness		1", 1.5" & 2"
Density - lbs/c.f.		1.3
Compressive Strength - psi		15
R Value per inch- (75 deg. Mean temp)		5 per inch
Water Absorption (% by volume Max)		0.30%
Water Vapor Permeance (Perm)1-1/2" & 2"		.733 & .55
Flame Spread Styrofoam		5
Smoke Developed Styrofoam		165
ASTM C 578b		Type X

EXPANDED POLYSTYRENE

Thickness		1", 1.5" & 2"
Density - lbs/c.f.		1.8 Min
Compressive Strength - psi		25 psi
R Value per inch- (75 deg. Mean temp)		4.35 to 5.0 per inch
Water Absorption (% by volume Max)		<2% by volume
Water Vapor Permeance (Perm) – 1-1/2" and 2"		<2.5
Flame Spread EPS @4" Thick		5
Smoke Developed EPS @4" Thick		40-100
ASTM C 578 – 08b		Type IX

Installation:

Steel or Wood Studs:

ProGUARD Concrete Insulated sheathing is installed horizontally with the 8' dimension perpendicular to the studs. The layout should permit the panel ship-lap joint to fall on a stud line and fasteners should be placed 6" on center on the panel joint. Field fasteners should be placed a minimum of 6" on the stud line if the studs are 16" or less on center and 4-1/2" on center if the studs are 24" on center.

Fastening Screws: Shall be 1/4" x 1-5/8" to 7" long as determined by the thickness of the ProGUARD Sheathing used. The screws shall be self drilling and shall have a 5/8" pancake head with either a square or star drive head. The screws shall be Climacoated to resist weather corrosion and slat spray. The screws shall be supplied by T. Clear Corp. in order to maintain the product warranty.

Masonry Substrates:

For installation directly to concrete block or poured concrete, masonry type fasteners shall be used. Four 1/4" beads of a high quality, non-expanding, urethane adhesive similar to "PL Premium" shall be applied to the foam side of the panel along the four outer edges and at 12" from the 8' edge of the panel running the full length of the panel. Screws as described above and of the appropriate length shall be applied through the concrete panel skin and foam insulation and into the masonry substrate. Holes for these screws shall be pre-drilled with drill bits supplied with the masonry screws. These screws shall be placed 12" O.C. over the entire panel surface. The panel screws will vary in length from 3-1/4" to 6" as determined by the thickness of the ProGUARD. These shall have a weather resistant coating and all screw heads and panel joints shall be coated with Water Armor as described above.

All joints should be sealed with fiberglass mesh tape embedded in an approved waterproofing compound such as Water Armor as supplied by T. Clear Corp. All screw heads should also be covered with Water Armor or approved equal. The exterior Finish manufacturer may supply an appropriate sealing compound compatible with the synthetic finish that will be used.

AVAILABILITY

ProGUARD Concrete Insulated Sheathing is distributed through a national network of distributors and contractors. Please call 800-544-7398 to obtain the name and contact information for your local T. Clear Sales Agent.

WARRANTIES:

T.Clear Corp. warrants ProGUARD to be free of material defects.

MAINTENANCE

Not applicable. Will be a function of the finish system applied to the surface of the ProGUARD.

TECHNICAL ASSISTANCE

T. Clear Corp. can provide technical information to address questions about using ProGUARD. Please contact T.Clear Corp. corporate office at 800-544-7398.

FILING SYSTEM

www.tclear.net