ProGuard Concrete Insulated Sheathing Product Specs

**Insulation (EPS) Expanded Polystyrene**

- **Thickness**: 1" / 1 1/2" / 2"
- **Density**: 2.0 lbs. per cu. ft.
- **Compressive Strength**: 25 lbs. psi
- **R-Value per in. (40˚ mean temp)**: 4.76
- **Water absorption**: .3% by volume max
- **Water Vapor Permeance**: 2 perms
- **Flame Spread EPS**: 15
- **Smoke Developed EPS**: 145

Facing util-a-Crete® Concrete Backer Board

- **Thickness**: 1/4"
- **Compressive Strength**: 2600 lbs. per square inch
- **Flame Spread**: 5
- **Smoke Developed**: 0

ProGuard Concrete Insulated Sheathing Product Specs

**Insulation (XPS) Extruded Polystyrene**

- **Thickness**: 1" / 1 1/2" / 2"
- **Density**: 1.3 lbs. per cu. ft.
- **Compressive Strength**: 15 lbs. psi
- **R-Value per in. (75˚ mean temp)**: 5
- **Water absorption**: .3% by volume max
- **Water Vapor Permeance**: 1.1 perms
- **Flame Spread XPS**: 5
- **Smoke Developed XPS**: 165

Facing util-a-Crete® Concrete Backer Board

- **Thickness**: 1/4"
- **Compressive Strength**: 2600 lbs. per square inch
- **Flame Spread**: 5
- **Smoke Developed**: 0

**Technical Information**

- **Mold/Mildew Resistance**
- **Meets ASTM D-3273**
- **Superior Fire Protection**
- **Meets NFP 285 Fire Protection Standards**
- **Thermal Break Elimination**
- **Up to R-10 Insulation is on the OUTSIDE of studs!**
- **Impact Resistant Surface**
- **Ready for Direct Application of Exterior Finishes**
- **Wind Resistance**
- **Up to 160 mph!**
- **Code Listings**
  - TCC022305-25
- **Insect Resistance**
- **Contributes to LEED Points!**

**INSTALLATION TO STUD WALLS:**

When installing ProGUARD™ to steel or wood stud wall structures, begin at the bottom of the wall and run the 8’ dimension of the ProGUARD™ parallel with the ground line and/or roof line of the building. The 8’ dimension of the ProGUARD™ panel should cross the studs. It is recommended that the studs be placed 16” O.C. or closer. ProGUARD™ is not a structural sheathing. Structural requirements for the wall system should be accommodated through the design of the wall stud and allied structural bracing.

To insure a sealed bottom edge at ground line, when installing on stud walls, a steel or plastic “J” channel should first be installed along the bottom of the stud and perpendicular to them. The size of the “J” channel will vary depending on the thickness of the ProGUARD™ panel being used. This channel should be level and securely attached to each stud. This will serve as a track to insure proper alignment of the first row of panels. The track can be fastened to the studs using self-drilling pancone head screws.

Once the track has been installed, insert the bottom row of ProGUARD™ panels with the 8’ edge inserted into the bottom “J” track. Please note that the heads of the screws that fasten the “J” track to the studs may interfere with the foam insulation on the panel causing difficulty when inserting the panel into the track. To alleviate this, cut a slight bevel on foam at the lower edge of the panel. This will allow clearance of the screw heads that fasten the track to the studs. This bevel can easily be cut with a circular saw.

Upon start of the panel installation, insure that the vertical panel joints fall on a stud. If you have to cut a panel to accommodate this, do so. It is likely that you will have to cut the end panel. We recommend that you cut a 45° angle on the 3’ panel dimension. By doing this, all outside corners will be 90° and will be covered with cement board. No foam edges will be exposed.

When screwed to steel studs, use the appropriate size pancone head self-drilling screw provided by T. Clear. If attaching to wood studs use the appropriate screw. In all cases, when attaching to studs, the screws should be placed 6” O.C. along the stud line or closer.

When attaching ProGUARD™ to masonry walls, use flat headed Tapcon screws typically #12 or heavier and of the appropriate length.

**NFPA 285 FIRE COMPLIANCE INSTALLATIONS:**

When applying ProGUARD™ on projects that must meet the requirements of NFPA 285 Fire Standard, installation proceeds as described above. However a special MINERAL WOOL ProGUARD™ panel must be used above all window and door openings (this is a header panel). The util-A-Crete cement board is laminated to the mineral wool backing. The mineral wool replaces either the extruded or expanded polystyrene insulation backing. Use the same screw as you use for the standard panel and the same spacing of 6” O.C. or closer. The mineral wool prevents flame penetration and heat transfer along the vertical wall chase should a fire engulf the window or door openings.
ProGUARD™ CONCRETE INSULATED SHEATHING, manufactured by T. Clear Corp., is a unique next generation building product designed for both commercial and residential applications. It is a light-weight, durable, ready to finish, insulated sheathing that attaches directly to steel or wood studs. By putting the insulation on the outside of the studs, heat transfer through the stud is greatly reduced and the thermal efficiency of the wall system significantly increased. The wall cavity can still be insulated which further enhances the thermal efficiency of the wall system.

In addition, the concrete skin provides a durable, ready to finish surface that is installed along with the insulation. Significant labor savings results when the insulation and sheathing are installed in a single unified product.

PRODUCT:
ProGUARD™ consists of a nominal 1/4" thick concrete skin that is reinforced with two layers of fiberglass mesh. This concrete panel is laminated to extruded or expanded polystyrene in thicknesses of 1", 1-1/2" and 2". Thicker foam panels are available as “Special Request” items.

A ship lapped edge is created on all four sides of the panel. This edge detail greatly reduces heat transfer and air leaks through the panel joints when installed on the wall structure. The tough concrete surface is weather resistant and serves as a durable base for trowel or spray applied acrylic exterior finishes, siding or other finish materials.

CODE APPROVAL:
ProGUARD™ meets the requirements of the following Building Codes:
- 2003 International Building Code (IBC)
- 2003 International Residential Code (IRC)
- 2004 Florida Building Code
- 2004 Florida Residential Code
- Rule 9b-72 F.A.C., Florida Approval Act

ProGUARD™ meets the rigorous requirements of NFPA 285 Standard Method of Test for the evaluation of Flammability Characteristics of Exterior Non-load bearing Wall Assemblies Containing Combustible Components. In addition, ProGUARD™ meets the requirements of ASTM E84 as a Class “A” non-combustible building material.

MOLD, MILDEW AND MOISTURE RESISTANT:
Water absorption of ProGUARD™ is less than 2% by volume when tested in accord with ASTM C 272, and the water vapor permeability is <2 indicating that additional building wrap may not be needed. Local codes will dictate the necessity for additional wrap or water resistant coating. Keeping moisture out is the first priority in preventing mold and mildew from forming. ProGUARD™ is highly resistant to mold and mildew in accordance with ASTM D3273.

TERMITES AND INSECT RESISTANT:
The concrete skin of ProGUARD™ is impervious to termite and insect infestation. In addition when used with the expanded polystyrene (EPS) insulation, the substrate is treated with ONGUARD® or Tim-Bor™ termite and insect repellant.

USGBC APPROVED:
T. Clear Corp. is a member of the United States Green Building Council. ProGUARD™ may help your building qualify for LEED points. 25% of the ProGUARD™ concrete skin is manufactured with recycled material. In addition, no external heat sources are used to cure the cement skin. All curing is natural from the heat of hydration generated by the natural curing of the Portland cement.
**ProGuard is Smokin’ Hot – Can Withstand Temperatures in Excess of 1,700°F!**

**ProGuard Passed the Flammability Test with High Marks!**

**ProGuard™ Concrete Insulated Sheathing**

ProGuard™, manufactured by T. Clear Corp. is a unique next generation building product designed for both commercial and residential applications. It is a light-weight, durable, ready to finish, insulated sheathing that attaches directly to steel or wood studs. By putting the insulation on the outside of the studs, heat transfer through the stud is greatly reduced and the thermal efficiency of the wall system significantly increased. The wall cavity can still be insulated which further enhances the thermal efficiency of the wall system.

In addition, the concrete skin provides a durable, ready to finish surface that is installed along with the insulation. Significant labor savings results when the insulation and sheathing are installed in a single unified product.

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ProGuard™ consists of a nominal 1/4” thick concrete skin that is reinforced with two layers of fiberglass mesh. This concrete panel is laminated to extruded or expanded polystyrene in thicknesses of 1”, 1-1/2” or 2”. Thicker foam panels are available as “Special Request” items.

A ship lapped edge is created on all four sides of the panel. This edge detail greatly reduces heat transfer and air leaks through the panel joints when installed on the wall structure. The tough concrete surface is weather resistant and serves as a durable base for trowel or spray applied acrylic exterior finishes, siding or other finish materials.

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- 2003 International Building Code (IBC)
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Code Listing by NTA, Inc. Listing Report # TCC022305-25

**Extruded Styrofoam™ has an R-Value of 5 per inch of thickness at 70°F and 2 lb. /ft² density Expanded polystyrene has an R-Value of 4.76 per inch at 40°F± 2°. 因为绝缘材料被放置在外墙的外面，热量通过墙壁的热量大大减少。ASHRAE规定，这种绝缘材料可以在2%的常规钢框架结构中使用（它将比木框架结构略低）。这种绝缘框架墙体可以在安装绝缘物时仍然可以绝缘，从而创造了高效能的墙体系统。在安装过程中，由绝缘材料的外面，这很可能是由于绝缘材料在安装过程中可能创造出密封性和气密性，从而降低由绝缘材料的外层可能影响的板面和湿气形成在墙壁结构中。

**CONCRETE SURFACE:**

The Util-A-Crete® fiberglass reinforced concrete surface of ProGuard™ has a compressive strength of 2600 psi providing a hard durable surface that is resistant to impact. The ship-tapped joint detail helps reduce thermal transfer at the panel joints while ensuring a continuous concrete surface for the wall. The Util-A-Crete™ surface provides a suitable base for the application of synthetic acrylic exterior coatings, siding, synthetic stone, brick and thin-brick.

**JOINT SEALING:**

All panel joints shall be sealed with SealGUARD™ provided by T. Clear Corp. or an approved equal as specified by the exterior finish manufacturer. The panel joints shall be sealed prior to the application of any type of exterior finish.

**MOLD, MILDEW AND MOISTURE RESISTANT:**

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**TERMINAL VIEW OF SHIP LAMP**

**Extruded Styrofoam™ has an R-Value of 5 per inch of thickness at 70°F and 2 lb. /ft² density Expanded polystyrene has an R-Value of 4.76 per inch at 40°F± 2°. 因为绝缘材料被放置在外墙的外面，热量通过墙壁的热量大大减少。ASHRAE规定，这种绝缘材料可以在2%的常规钢框架结构中使用（它将比木框架结构略低）。这种绝缘框架墙体可以在安装绝缘物时仍然可以绝缘，从而创造了高效能的墙体系统。在安装过程中，由绝缘材料的外面，这很可能是由于绝缘材料在安装过程中可能创造出密封性和气密性，从而降低由绝缘材料的外层可能影响的板面和湿气形成在墙壁结构中。

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<th>R-Value per in</th>
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<td>1&quot;</td>
<td>2.0 lbs. per cu. ft.</td>
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<td>2 perms</td>
<td>15</td>
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<td>1 1/2&quot;</td>
<td>2.0 lbs. per cu. ft.</td>
<td>35 lbs. psi</td>
<td>5</td>
<td>.3% by volume max</td>
<td>3 perms</td>
<td>15</td>
<td>15</td>
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<tr>
<td>2&quot;</td>
<td>2.0 lbs. per cu. ft.</td>
<td>40 lbs. psi</td>
<td>6.2</td>
<td>.3% by volume max</td>
<td>4 perms</td>
<td>15</td>
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### Facing util-a-Crete® Concrete Backer Board

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<tr>
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<tr>
<td>1/4&quot;</td>
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When screwing the panels to steel studs, use the appropriate size pancake head self-drilling screw provided by T. Clear. If attaching to wood studs use the appropriate screw. In all cases, when attaching to studs, the screws should be placed 6" O.C. along the stud line or closer.

When attaching ProGUARD™ to masonry walls, use flat headed Tapcon screws typically #12 or heavier and of the appropriate length.

## Code Listings

- NFPA 285
- NFPA 101
- ASTM D-3273
- UL-973
- UL-1709
- UL-253

## NFPA 285 FIRE COMPLIANCE INSTALLATIONS:

When applying ProGUARD™ on projects that must meet the requirements of NFPA 285 Fire Standard, installation proceeds as described above. However, a special MINERAL WOOL ProGUARD™ panel must be used above all window and door openings (this is a header panel). The util-a-Crete cement board is laminated to the mineral wool backing. The mineral wool replaces either the extruded or expanded polystyrene insulation backing. Use the same screw as you use for the standard panel and the same spacing of 6" O.C. or closer. The mineral wool prevents flame penetration and heat transfer along the vertical wall chase should a fire engulf the window or door openings.