

# PROGUARD™

CONCRETE INSULATED SHEATHING

## THE NEXT GENERATION IN SHEATHING!



### Thermal Break Elimination

Up to R-10 Insulation is on the OUTSIDE of studs!



### Superior Fire Protection

Meets NFP 285 Fire Protection Standards



### Mold/Mildew Resistance

Meets ASTM D-3273



### Wind Resistance

Up to 160 mph!



### Impact Resistant Surface

Ready for Direct Application of Exterior Finishes



### Code Listings

TCC022305-25



### Insect Resistance



CONTRIBUTES TO LEED POINTS!

Another fine building product from

**CLEAR**  
CORPORATION

800-544-7398 • [www.tclear.net](http://www.tclear.net)

# PROGUARD™

CONCRETE INSULATED SHEATHING

## PROGUARD™ CONCRETE INSULATED SHEATHING

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" or 2" (the composite panel thicknesses are 1 1/4", 1 3/4" and 2 1/4").



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.

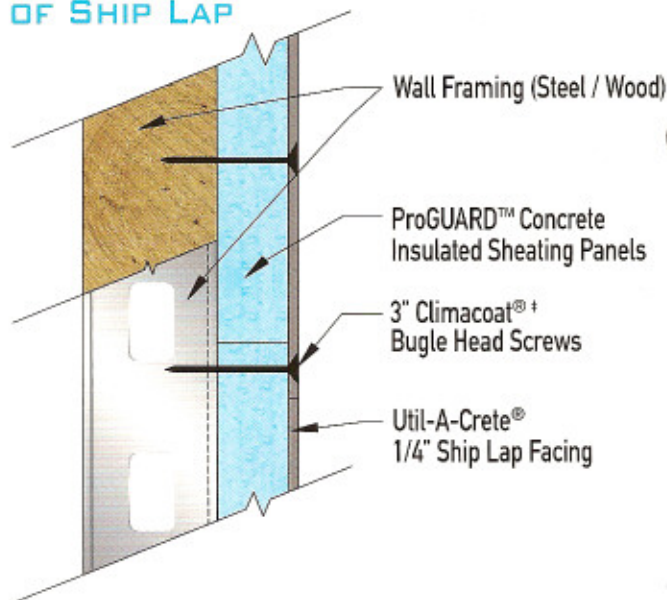
### CODE APPROVAL:

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

Code Listing by NTA, Inc. Listing Report # TCC022305-25

## SECTION VIEW OF SHIP LAP



### INSULATION:

Extruded Styrofoam® has an R-Value of 5 per inch of thickness at 75° F and 2 lb. /ft<sup>3</sup> density Expanded polystyrene has an R-Value of 4.76 per inch at 40°F± 2°.

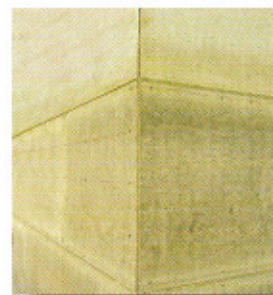


Because the insulation is placed on the outside of the wall studs, heat transfer through the studs is greatly reduced. ASHRAE states that this heat transfer can be as high as 25% on conventional steel stud construction (it will be slightly less on wood stud construction). The stud wall cavity can still be insulated thus

creating highly efficient thermal wall system. In addition, by insulating the outside of the stud, it is unlikely that the dew point will be reached within the wall cavity thus preventing condensation and greatly reducing the likelihood of mold and mildew formation within the wall structure.

### CONCRETE SURFACE:

The Util-A-Crete® fiberglass reinforced concrete surface of ProGUARD™ has a compressive strength of 2600 psi



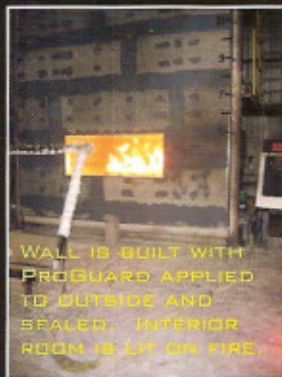
providing a hard durable surface that is resistant to impact. The ship-lapped joint detail helps reduce thermal transfer at the panel joints while insuring a continuous concrete surface for the wall. The Util-A-Crete® surface provides a suitable base for the application of synthetic acrylic exterior coatings, siding, synthetic stone, brick and thin-brick.

### JOINT SEALING:

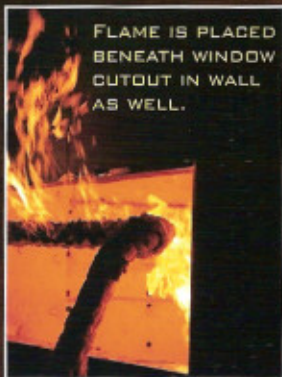
All panel joints shall be sealed with SealGUARD™ provided by T. Clear Corp. or an approved equal as specified by the exterior finish manufacturer. The panel joints shall be sealed prior to the application of any type of exterior finish.

# PROGUARD IS SMOKIN' HOT - CAN WITHSTAND TEMPERATURES IN EXCESS OF 1,700° F!

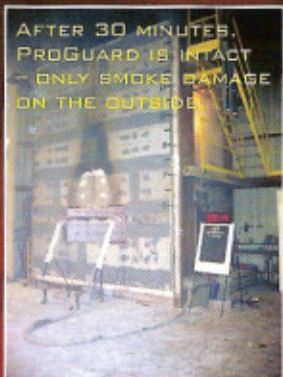
PROGUARD PASSED THE FLAMABILITY TEST WITH HIGH MARKS!



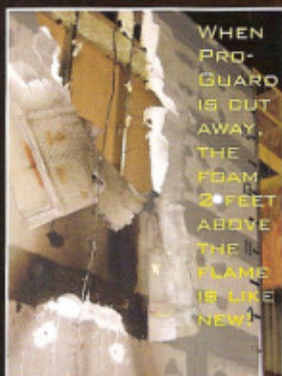
WALL IS BUILT WITH PROGUARD APPLIED TO OUTSIDE AND SEALED. INTERIOR ROOM IS LIT ON FIRE.



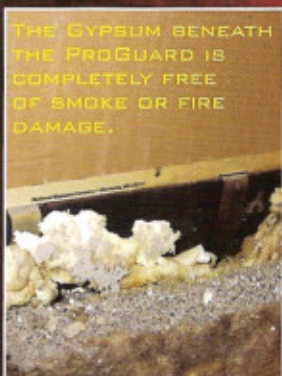
FLAME IS PLACED BENEATH WINDOW CUTOUT IN WALL AS WELL.



AFTER 30 MINUTES, PROGUARD IS INTACT - ONLY SMOKE DAMAGE ON THE OUTSIDE.



WHEN PROGUARD IS CUT AWAY, THE FOAM 2 FEET ABOVE THE FLAME IS LIKE NEW!



THE GYPSUM BENEATH THE PROGUARD IS COMPLETELY FREE OF SMOKE OR FIRE DAMAGE.

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  $\leq 2$  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.

## TERMITE 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®<sup>1</sup> or Tim-Bor®<sup>2</sup> termite and insect repellent.

## 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.



<sup>1</sup> Registered Trademark of Dow Chemical™ <sup>2</sup> Registered Trademark of Plymouth Firm™ <sup>3</sup> Registered Trademark of Nisus Corporation <sup>4</sup> Registered Trademark of Fisons™

**CLEAR**  
CORPORATION

3255 Symmes Road • Hamilton, OH 45015  
800-544-7398 • Fax 513-870-9606  
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## TECHNICAL INFORMATION



### 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.

### 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 (5yr/20yr)	25 lbs. psi
R-Value per in. (60° 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 (5yr/20yr)	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

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 studs 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 pancake 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 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.

### 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.



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