

CoreGuard™ Inc. Security Wall System

Product Description

CoreGuard Security Wall System is shipped as a high impact, one-piece, laminated panel consisting of polycarbonate sheet and gypsum board. Rigidity is supplied by the gypsum board surfacing, with penetration resistance offered by the polycarbonate backing.

Basic Use

CoreGuard walls provide security for psychiatric institutions, hospitals, correctional facilities, schools and similar structures where high impact wall strength is required. The product is designed as a non-structural, non-load-bearing wall surface that will provide resistance to penetration.

Composition and Materials

The *CoreGuard* system is composed of 0.081-inch (2.4-mm) *Lexan*® LT300W sheet bonded with adhesive to 3/4" (19 mm) or 5/8" (16 mm) gypsum board with tapered edges.

Sizes

CoreGuard is supplied in standard 4' x 8' (1219 mm x 2438 mm) sheets with gypsum board thicknesses of 3/4" (19 mm) or 5/8" (16 mm). 1/2" (13 mm) gypsum and lengths to 10 feet (3048 mm) are available as special orders.

PHYSICAL PROPERTIES

Weight, 0.081" *Lexan*
LT300W sheet, lb/ft² (kg/m²) ... 0.58 (3)
Weight, *Coreguard*
with 3/4" gypsum
wallboard, lb/ft² (kg/m²) ... 3.34 (16)
Weight, *CoreGuard*
with 5/8" gypsum
wallboard, lb/ft² (kg/m²) ... 2.28 (14)
Impact resistance,
3/4" or 5/8" gypsum
wallboard with
0.081" *Lexan*
LT300W sheet, ft-lb ... 600+

Technical Data

Penetration Resistance

Lexan LT3000W is virtually unbreakable and provides superior penetration resistance.

Environmental Impact

The *Lexan* polycarbonate sheet used in the *CoreGuard* Security Wall System is manufactured from 100% recycled materials.

Fire Rating

As tested in conformance with ASTM E-84, "Standard Method of Test of Surface Burning Characteristics of Building Materials," *Lexan LT300W* has a flame spread of 35 and smoke density of 230, and a NFPA Class B flame spread classification. Testing per UP 263 (ASTM E-119) has been conducted and the product is UL classified for one-hour applications. Two hour classification has been obtained when a second gypsum sheet is installed. The *CoreGuard* Security Wall System is classified as limited combustible materials per NFPA 259 and NFPA 101 total BTU pound content limitations.

UL Fire Ratings

Independent fire tests conducted have confirmed the performance of the *CoreGuard* system. To date, the system has received Underwriters Laboratories (UL) classification for one-and two-hour fire resistance Nonbearing Wall Ratings (Design No. U495).

- The one-hour classifications were awarded by UL to a system comprised of 0.081" (2.4 mm) *Lexan LT300W* sheet plastic adhered to 5/8" (16 mm) Type C or 3/4" (19 mm) *Ultracode*^{™ 3} gypsum wallboard, using an approved adhesive, with the finished panel's plastic surface screwed to the steel studs.

- The two-hour classification was awarded to a system comprised of a 5/8" (16 mm) or 3/4" (19 mm) *CoreGuard* panel with a second piece of 5/8" (16 mm) Type C gypsum wallboard installed on site.

Approvals

California

The State of California Office of Statewide Health Planning and Development has approved the *CoreGuard* Security Wall System, as specified in UL Design Number U495, as a substitute for plywood-backed gypsum board walls meeting the US listing limitations.

New York

The State of New York Office of Mental Health, Office of General Services, and Division of Youth specified *CoreGuard* security wall system. New York MEA number 389-93-M.

Cost Comparison

The economic advantages of the *CoreGuard* system relate directly to a contractor's ability to capitalize on the reduced steps required for single-panel handling and installation. Additionally, because *CoreGuard* panels feature standard tapered edges, they are finished using the same techniques as those required for standard gypsum wallboard installations.

Installation

The *CoreGuard* security wall is a one-component system for ease of installation. *CoreGuard* is installed using the same techniques used for gypsum board. Standard power tools utilized for cutting wood are adequate for cutting the *CoreGuard* panel.

CoreGuard is secured to the steel studs using 1-1/4" (32 mm) or longer self-tapping bugle-head screws.

Finishing procedures, such as taping and spackling, are the same as for standard gypsum board.

¹ *Lexan* is a registered trademark of GE Plastics

³ *Ultracode* is a trademark of U.S. Gypsum.

Guide Specifications

I. General

Furnish and install CGS, tape, compound, and fasteners as required by drawings and as specified herein.

II. Product

Submit the following for approval:

- 4" x 4" (101 mm x 101 mm) *CoreGuard* Security Wall System with *Lexan* LT300W, 0.081" (2.4 mm) thickness as specified.

- Most recent copy of manufacturer's literature applicable to products and specifications including test reports and recommended installation guidelines.

- Provide data from manufacturer demonstrating wall panel impact resistance meets or exceeds 600 foot pounds.

- Provide data from Underwriters Laboratories indicating product is UL classified for one hour and two hour fire test.

Performance Requirements

- The polycarbonate sheet manufacturer must perform all operations in house to ensure the quality and impact resistance.

- The polycarbonate sheet manufacturer must have a minimum five year history of successfully manufacturing impact resistance sheet.

- The polycarbonate sheet manufacturer must be ISO 9002 registered to ensure a commitment to quality manufacturing processes.

- The gypsum manufacturer's sheet must be individually classified by UL for each thickness specified.

- The laminated panel system comprised of polycarbonate, gypsum, and adhesive must be classified as a system by UL for one hour and two hour ratings.

Storage and Handling

- Store panels flat in packaging on pallets and covered out of direct sunlight, moisture, and water.

- Store in locations with low humidity and temperatures below 80°F.

- Handle material in the same manner as gypsum to prevent damage: DO NOT SLIDE, DRAG,

OR DROP *COREGUARD* PANELS.

American Society for Testing and Materials (ASTM)

1. D-696: Thermal specifications for coefficient of thermal expansion.
2. D-1529: Flammability specification for ignition temperature of LT 300W.
3. D-2843: Smoke density specification including research report.
4. E-84/E-119: Standard method of test of surface burning.

Underwriters Laboratories

1. UL263 (ASTM E-119)

Approved Manufacturers

CoreGuard, Inc.
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(517) 686-3077

III. Execution

1. Install in accordance with instructions of security panel manufacturer.
2. When required, cut panel in accordance with manufacturer's instructions.
3. Install wall system using specified self-tapping screws.
4. Finish joints with vinyl, dry or premixed joint compound and 2" wide paper tape.

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