

**COREGUARD™ FORCED ENTRY RESISTANT SECURITY WALL PANELS**  
**ARCHITECTURAL INSTALLATION**  
**SPECIFICATION**

**PART 1 GENERAL**

**1.1 REFERENCE**

The publications listed below form part of this specification.

ASTM F1233-93 Standard Test Method for Security Glazing Materials and Systems.

ASTM C840-01 Standard Specification for Application and Finishing of Gypsum Board.

ASTM C1396/C1396M-01 Standard Specification for Gypsum Board.

ASTM C36/C36M-01 Standard Specification for Gypsum Wallboard.

ASTM C11-02a Standard Terminology Relating to Gypsum and Related Building Materials and Systems.

ASTM D696-98 Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C With a Vitreous Silica Dilatometer.

ASTM D1529 Specification for Methods of Test for Random Chopped-Glass Fiber Mats for Reinforced Plastics (Discontinued 1965).

ASTM D2843-99 Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics.

ASTM D2394-83(1994) Standard Methods for Plastics Impact Resistance.

ASTM E84-01 Standard Test Method for Surface Burning Characteristics of Building Materials.

ASTM E119-00a Standard Test Methods for Fire Tests of Building Construction and Materials.

UL263 Standard for Safety for Fire Tests of Building Construction and Materials.

UL Fire Resistance Rating U409 Nonbearing Wall 1 hr.

UL Fire Resistance Rating U495 Nonbearing Wall 1 or 2 hr.

UL Fire Resistance Rating V416 Nonbearing Wall 1 hr.

UL Fire Resistance Rating V412 Nonbearing Wall 2 hr.

UL Fire Resistance Rating V409 Nonbearing Wall 1 hr.

UL Fire Resistance Rating V410 Nonbearing Wall 2 hr.

**1.2 SUBMITTALS**

The following shall be submitted in accordance with the Construction Specifications Institute, under Division 9 – Finishes, Section 9250 – Gypsum Board, Division 10 – Specialties, Section 10260 – Impact Resistant Wall Protections, Section 10600 – Partitions, and the special contract requirements: submit for approval prior to fabrication samples, brochures, specifications, current test verification and results, and printed data in sufficient detail to indicate compliance with the contract documents, and manufacturer’s instructions for installation of the CoreGuard™ Composite Wall Panels.

### 1.3 DESIGN

CoreGuard™ security wall systems are designed for applications 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 forced entry penetration. The CoreGuard™ system offers impact resistance from 650 to greater than 950 ft. pounds of energy. The CoreGuard™ product lines are ideal for security walls and barriers in prisons, jails, interrogation rooms, hospitals, schools, municipal buildings and areas subjected to high vandalism rates such as restroom walls, corridor walls, etc.

The CoreGuard™ product lines are approved by The New York State Department of Corrections; The State of New York Office of General Services and Division of Youth, Office of Mental Health; and The California Office of Statewide Health Planning and Development.

The CoreGuard™ product lines feature tapered edges and are finished using the same techniques as those required for standard gypsum wallboard installations.

The CoreGuard™ security wall system has four types of compositional configurations dependent upon use.

**CoreGuard™** is a gypsum and polycarbonate composition board designed for forced entry resistance as part of a security wall barrier system, coupled with fire resistance.

**CoreGuard CB™** is a gypsum and fiber-cement sheet composition board for a combination of low forced entry resistance and the capability of a prepped surface for tiled applications, coupled with fire resistance.

**CoreGuard C™** is a polycarbonate and fiber-cement composition board for higher levels of forced entry resistance and the capabilities of a prepped surface for tiled applications.

**CoreGuard CBR™** is a gypsum, polycarbonate and fiber-cement composition board designed for all three applications of higher levels of forced entry resistance, fire resistance and the prepped surface for tiled applications.

**CoreGuard FRP™** is a gypsum, polycarbonate and fiberglass reinforced plastic composition board designed for higher levels of forced entry resistance, coupled with fire resistance.

### 1.4 DELIVERY, STORAGE AND HANDLING

Deliver CoreGuard™ materials for the project with the manufacturer's labels intact and legible. Handle all materials with care and prevent damage. Store all materials inside under cover, stack flat and off the floor. Do not stack other crates, pallets, cartons, boxes, materials, etc. on top of the CoreGuard™ to prevent damage. Do not allow direct contact with water. Store in locations with low humidity and temperatures below 80° F. Handle in the same manner as gypsum to prevent damage.

**Do not slide, drag or drop.**

### 1.5 WARRANTY

Security Wall Products Inc. has a policy of handling quality merchandise. All statements, technical information and recommendations regarding such products are based on tests and examinations believed to be reliable. But Security Wall Products Inc. neither guarantees nor warrants their accuracy or completeness.

It shall be the sole responsibility of the user to determine the suitability of the products or material sold by Security Wall Products Inc. for each intended use. The user assumes all risks and liability in connection with the use, or inability to use the products or materials.

Security Wall Products Inc. guarantees the products or materials to be free from defects in materials or workmanship under normal use and service for a period of one year from receipt. Our liability under this guarantee is limited to replacement of goods which is proven upon inspection, to be defective in material or workmanship. No claims for faulty or improper installation, consequent damages, repairs or back charges will be allowed. This guarantee does not cover defects or damage resulting from vandalism, abuse, attack, improper maintenance, improper storage, shipping or handling, alteration or removal of factory applied finishes.

## **PART 2 PRODUCTS**

### **2.1 COREGUARD™ SECURITY WALL COMPOSITES**

**CoreGuard™** – a two-ply laminated system comprised of 5/8" or 3/4" gypsum board and .030" or .080" polycarbonate (PC) sheet with a one or two hour UL fire rating capability.

**CoreGuard CB™** – a two-ply laminated system comprised of 1/2", 5/8" or 3/4" gypsum board and 1/4" cement board. One hour UL fire rating capability.

**CoreGuard C™** – a two-ply laminated system comprised of .030" or .080" polycarbonated sheet of 1/4" cement board.

**CoreGuard CBR™** – a three-ply laminated system comprised of 1/4" cement board, .030" or .080" polycarbonate and either 1/4", 1/2", 5/8" or 3/4" gypsum board.

**CoreGuard FRP™** – a three-ply laminated system comprised of .080" polycarbonate and either 5/8" or 3/4" gypsum board and .080" fiberglass reinforced plastic with a one or two hour UL fire rating capability.

### **2.2 MATERIAL FINISH**

Each of the CoreGuard™ products except the RFP, are finished to allow for tapered edges and are finished in a fashion analogous to drywall, including taping, spackling and finishing. The CoreGuard™ FRP can be finished with PVC vinyl extruded mouldings.

### **2.2 SECURITY LEVEL**

**Forced Entry Threats** - The CoreGuard™ security wall panels are designed to offer impact resistance of up to 950 ft. pounds of energy, to the ASTM D2394-83 Standard and Class 2, Sequence 5 when attached to standard framing studs 16" on center for the both perimeter and field of the sheets. Additional reinforcement can be made with the application of a construction adhesive in addition to the screw anchors.

## **PART 3 EXECUTION**

### **3.1 SUPPORTING STRUCTURE / MEMBERS**

Prior to installing the CoreGuard™ system, the new or existing support structure must be verified to withstand the appropriate threat resistance energy transfer without failure. The CoreGuard™ frame system is designed to be installed directly into the structural framing system of the building. The contractor shall verify that all supports/structural members have been selected and installed as required to meet the specified threat requirements by the contract

documents, risk analysis and/or vulnerability assessment documents, engineering analysis and architectural drawings.

### 3.2 JOINTS

Any and all joints are to be kept to the minimum. Joints around the perimeter should not exceed .125" and should be taped or caulked as required.

### 3.3 APPLICATION

CoreGuard™ – The installation of CoreGuard™ wallboard should be consistent with methods described in the Gypsum Association GA-216 (Application and Finishing of Gypsum Board) specifications. The polycarbonate side is always installed facing the studs and is not the exposed surface. The polycarbonate layer should be cut completely through, then the gypsum board layer may be scored and snapped. Corrosion resistant, drill point, bugle head screws 1-1/4" minimum length are recommended spaced on 12" centers around the perimeter, and through the field. Any finishing procedures, such as taping and spackling are the same as for standard gypsum board.

CoreGuard CB™ – The installation of CoreGuard CB™ wallboard should be consistent with methods described in the Gypsum Association GA-216 (Application and Finishing of Gypsum Board) specifications. The gypsum side is always installed facing the studs and is not the exposed surface. Straight cuts are achieved using a circular saw with a carbide blade with an 18 to 24 tooth configuration. For irregular cuts, (angles, pipe holes, outlet holes, etc.) use a router equipped with a carbide bit. Bits that are specifically designed for cutting through solid surface materials such as plastics, laminates, and cement board are more appropriate for this cutting than bits customarily used for dry wall paneling only. Corrosion resistant, drill point, bugle head screws 1-1/4" minimum length are recommended spaced on 12" centers around the perimeter, and through the field. Any finishing procedures, such as taping and spackling are the same as for standard gypsum board.

CoreGuard C™ – The installation of CoreGuard C™ wallboard should be consistent with methods described in the Gypsum Association GA-216 (Application and Finishing of Gypsum Board) specifications. The polycarbonate side is always installed facing the studs and is not the exposed surface. Straight cuts are achieved using a circular saw with a carbide blade with an 18 to 24 tooth configuration. For irregular cuts, (angles, pipe holes, outlet holes, etc.) use a router equipped with a carbide bit. Bits that are specifically designed for cutting through solid surface materials such as plastics, laminates, and cement board are more appropriate for this cutting than bits customarily used for dry wall paneling only. Corrosion resistant, drill point, bugle head screws 1-1/4" minimum length are recommended spaced on 12" centers around the perimeter, and through the field. Any finishing procedures, such as taping and spackling are the same as for standard gypsum board.

CoreGuard CBR™ – The installation of CoreGuard CBR™ wallboard should be consistent with methods described in the Gypsum Association GA-216 (Application and Finishing of Gypsum Board) specifications. The polycarbonate side is always installed facing the studs and is not the exposed surface. The polycarbonate layer should be cut completely through, then the gypsum board layer may be scored and snapped. Straight cuts are achieved using a circular saw with a carbide blade with an 18 to 24 tooth configuration. For irregular cuts, (angles, pipe holes, outlet holes, etc.) use a router equipped with a carbide bit. Bits that are specifically designed for cutting through solid surface materials such as plastics, laminates, and cement board are more appropriate for this cutting than bits customarily used for dry wall paneling only. Corrosion

resistant, drill point, bugle head screws 1-1/4" minimum length are recommended spaced on 12" centers around the perimeter, and through the field. Any finishing procedures, such as taping and spackling are the same as for standard gypsum board.

CoreGuard FRP™ – The installation of CoreGuard FRP™ wallboard should be consistent with methods described in the Gypsum Association GA-216 (Application and Finishing of Gypsum Board) specifications with the following exceptions: The polycarbonate side is always installed facing the studs and is not the exposed surface. The polycarbonate layer should be cut completely through, then score the FRP surface and snapped. Other methods utilizing a 4" circular saw may also be use to cut straight line dimensions. Corrosion resistant, drill point, bugle head screws 1-1/4" minimum length are recommended spaced on 12" centers around the perimeter, and construction adhesive used to attach the CoreGuard FRP™ wallboard to the metal or wood stud framing or anchored underlayment sheathing. Any finishing procedures are completed utilizing the extruded PVC vinyl moldings for the exposed edges and joints.