

# NUDO SecureShield™ Forced Entry Resistance Panels

Rev. 01 9/13

## Please Read Disclaimers:

PLEASE READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION.

These guidelines are provided in good faith to help prevent any problems caused by common errors in installation. The manufacturer and/or distributor of this product shall not be held responsible for installation actions taken or not taken. It shall be the sole responsibility of the user to determine the suitability of the Nudo products or materials sold for each intended use. There are many details of installation that are assumed to be general construction knowledge to experienced installers; which are not included in these instructions. These installation guidelines are intended to be strictly recommendations and are NOT to serve as a step-by-step, fail-safe installation checklist. Selection of an experienced installer is the sole responsibility of the project owner and architect.

Nudo Products, Inc. does not accept any responsibility for job failure resulting from or associated with improper site environmental conditions.

**Safety Instructions:** When cutting or drilling, always wear protective glasses or goggles and a face mask which covers the face and mouth. Itching due to fibers may be avoided by the use of barrier creams on exposed skin areas.

### Tools Needed

- 4" Circular saw, band saw, jig saw and hacksaw can be used. Circular saw with Tungsten carbide tip is preferred.

### Materials Needed

- Power drill with Tungsten carbide bits
- Secure Shield Panels
- Screws: #6 Bugle-head corrosion-resistant fasteners 1-1/4" minimum in length
- Construction Adhesive
- Optional vinyl trims
- Silicone Sealant (for installation in high moisture areas)
- Personal protection equipment (goggles & mask)
- Tape measure
- Saw horses
- Drywall tape
- Spackle
- Plywood larger than panels

## Preparation:

### Storage

Secure Shield should be handled in the same manner as gypsum to prevent damage. Panels are delivered in plastic packaging intended to provide temporary protection during shipping and not storage. This plastic packaging should be removed *immediately upon receipt of panels*, failure to remove may result in condensation which can lead to moisture damage. The panels should be stored indoors on a solid, flat surface and kept dry. Do not stand panels on edge or stack on fresh concrete floor or any other surface that emits moisture. Lay panels flat with proper support on the ends of panels. Panels are heavy and may fall over causing death or injury. Do not move panels unless authorized. Optimum storage conditions are 60°F (16°C) to 75°F (24°C) and 35% to 55% relative humidity. Do not slide, drag or drop.



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### **Prior to Installation**

Installation should NOT begin until building is enclosed (windows and doors installed). Permanent heating and cooling equipment is in operation, and residual moisture from plaster, concrete, etc. is dissipated. Prior to installation, the installer must verify that the supporting structure will withstand the appropriate threat resistance energy transfer without failure. They must also determine that the environmental conditions meets or exceeds all requirements specified in the installation guidelines. Packaging materials should be removed upon receipt to avoid condensation. Allow the panels to acclimate to the room temperature and humidity for 48 hours before installing. Acclimation temperature range should be 60° to 75°F (16°C to 24°) and relative humidity should be 35% to 55%. Ideally, the room temperature and humidity during acclimation and installation should be the same as the final operation conditions. Secure Shield panels are limited to use in areas where exposure to temperatures shall not exceed 125°F (52°C) for extended periods of time.

### **Framing Preparation**

Secure Shield panels are designed to offer impact resistance of up to 3200 pounds of energy, to the ASTM D2394-83 Standard and Class 2, Sequence 5 when attached framing studs 16" on center. The contractor must verify, prior to installing Secure Shield, that all supports/structural members have been selected and installed to meet specified threat requirements. Framing shall be straight and true, attached securely following accepted engineering practices required for the intended purpose. The surfaces to which Secure Shield abutting edges or end shall be attached shall be no less 1 ¼ for steel framing and 1½ for wood framing. Framing member should provide an even plane, for Secure Shield panels, unless otherwise specified. The fastening surface shall not vary more the 1/8 from the plane of the faces of adjacent framing members with a maximum spacing of 24" on center.

### **Environmental Conditions**

SecureShield panels are subject to some expansion and contraction due to changes in temperature and environment. In *high humidity*, acclimate panels in operational room conditions for 48 hours prior to installation. When using an adhesive during installation, use one that is recommended for high humidity, following the manufacturer's application guidelines. Check with the local building codes for specific requirements. In *low temperature* conditions, acclimate panels in operational room conditions for 48 hours prior to installation. Use an adhesive recommended for low temperature conditions, following the manufacturer's application guidelines. Check with the local building codes for specific requirements. Do NOT use SecureShield panels, in high temperature conditions, exceeding 125°F (52°C). Prolonged exposure to direct sunlight MAY CAUSE rapid expansion. Please use extreme caution when installing panels in these type environments.

### **Pre-Installation Inspection**

Panels should be inspected upon receipt. Nudo Products, Inc. inspects composite panels for physical and cosmetic abnormalities prior to shipment; however it is the installer's responsibility to fully inspect all panels for defects prior to installation. If they panels are not acceptable, please contact Nudo Products, Inc. customer services immediately. DO NOT INSTALL QUESTIONABLE PANELS! Nudo Corporation will NOT be responsible for installation or removal cost of unacceptable panels.



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## Pre-Install Planning

Secure Shield should be installed according to gypsum panels products GA-216 guidelines for application and finishing of gypsum board. Measure Area. Secure Shield Panels should be pre-fit prior to fastening to structural framing of a building with the *polycarbonate side always installed facing the studs* and not the exposed surface. When cutting, the installer must cut completely through the polycarbonate layer, then separate by scoring and snapping the gypsum or gypsum/FRP layer away to fracture the core. Holes for penetrations, fixtures or pipes shall be scored or saw-cut from the face side before removing cutout. All vertical ends and edge joints shall abut over the centers of framing members and shall be offset a minimum of one framing bay between adjacent rows of panels. Panel orientation may be governed by local code or by the requirements for fire-rated construction. Please consult local codes and site-specific construction documents to ensure requirements are met prior to construction.

## Installation

### Method

- Secure Shield should be installed according to gypsum panels products GA-216 guidelines for application and finishing of gypsum board.
- Cut panels (as needed)
- Install panel with polycarbonate side facing studs.
- First panel installed should be centered on framing members. Fit panels closely to edges and ends, but do not force together, leaving appropriate room for expansion and contraction.
- Secure panels to frame with specified fasteners.
- Fasteners shall be driven flush with the panel surface, without countersinking.
- Fasten the panels to framing 8" on center, working from the center of the panel toward the edges and ends, and throughout the field, with a minimum fastener to edge distance of 3/8" to end of panel.
- In conjunction with fasteners, adhesive can be use to strengthen the connection and bridge minor irregularities between panel and framing.
- Continue the method working in one direction around the field.
- GA-216 Guidelines for finishing procedures, such as taping and spackling should be followed to complete installation.
- When Secure Shield is faced with FRP, utilize extruded PVC vinyl trims to cover exposed edges and joints.

## Finish Work

Waste materials shall be disposed of in a safe manner and in compliance with site, local, state and/or federal requirements.



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