



## **MANUFACTURER'S INSTALLATION RECOMMENDATION FOR ARMORCORE BULLET RESISTANT PANELS**

### **Health & Safety Precautions**

ArmorCore Bullet Resistant Panels come under the category of Laminated FRP (Fiber Reinforced Plastic) products. It is important for installers of fiberglass products to be properly supplied with basic health and safety equipment such as:

1. Gloves-cotton or leather to provide protection from cuts and abrasions associated with handling, drilling or cutting fiberglass materials.
2. Dust/Particle masks or respirators to provide respiratory protection against dust associated with cutting or drilling fiberglass materials. Two good products on the market are Moldex 2300 Dust and Mist Respirators, and Drager-Picco 20 Respirator Filter for Dust and Mist.
3. Protective Wear to be worn over clothing to provide protection from fibrous dust that can settle in the clothing or on the skin when cutting, sanding or drilling fiberglass materials. DuPont makes an excellent protective wear product called Tyvek Protective Wear.
4. Protective Eyewear, especially when cutting, sanding or drilling fiberglass materials.

The above listed items should be worn if workers will be cutting, sanding, or drilling fiberglass materials.

### **Storage Precautions**

We recommend that ArmorCore Panels be stored inside under cover, stacked flat and off the floor. If moving materials with a forklift is needed, please keep panels stored on the pallets that they were originally received with to avoid cracking, chipping or abrading the panels.



## **Bullet Resistant Panels**

### **Installation**

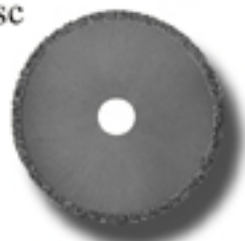


ArmorCore panels can be cut, drilled, or sanded with the following recommendations:

#### **1. Cutting**

A Circular Saw is recommended. Material should be cut slowly with either Masonry Concrete cutting blade or a diamond tip blade. Cut at a medium speed and don't force the blade or put side pressure on the blade. If dry cutting, please remove blade from cut every minute for a few seconds to cool. A panel or sabre saw can be used with a "gritedge" blade that is designed for cutting composites.

One excellent blade for circular saw cutting is a Hilti Dry-Cutting Diamond Disc (DC 7 x .085 x DM/MC) for use with circular saws at 8500



rpm. These are available at many specialty saw supply stores or can be ordered from Waco Composites.

#### **2. Drilling**

When pre-drilling ArmorCore panels it is recommended to use a carbide or cobalt tip drill bit at medium speed and with medium pressure. A counter-sinking drill hole is acceptable when a flush surface is desired. 1-3/4" wood screws are commonly used to secure panels to wood studs. Self-tapping drywall screws work well when affixing drywall to the ArmorCore Panels or when affixing then ArmorCore panels to steel studs.

#### **3. Sanding**

If you will be laminating materials against the fiberglass panels it is recommended to lightly "rough-up" the panel surface with a sander using a 120-grit paper and medium pressure. If we are notified at the time of your order that you will be laminating, we can sand the panels prior to shipment.





## ***Bullet Resistant Panels***

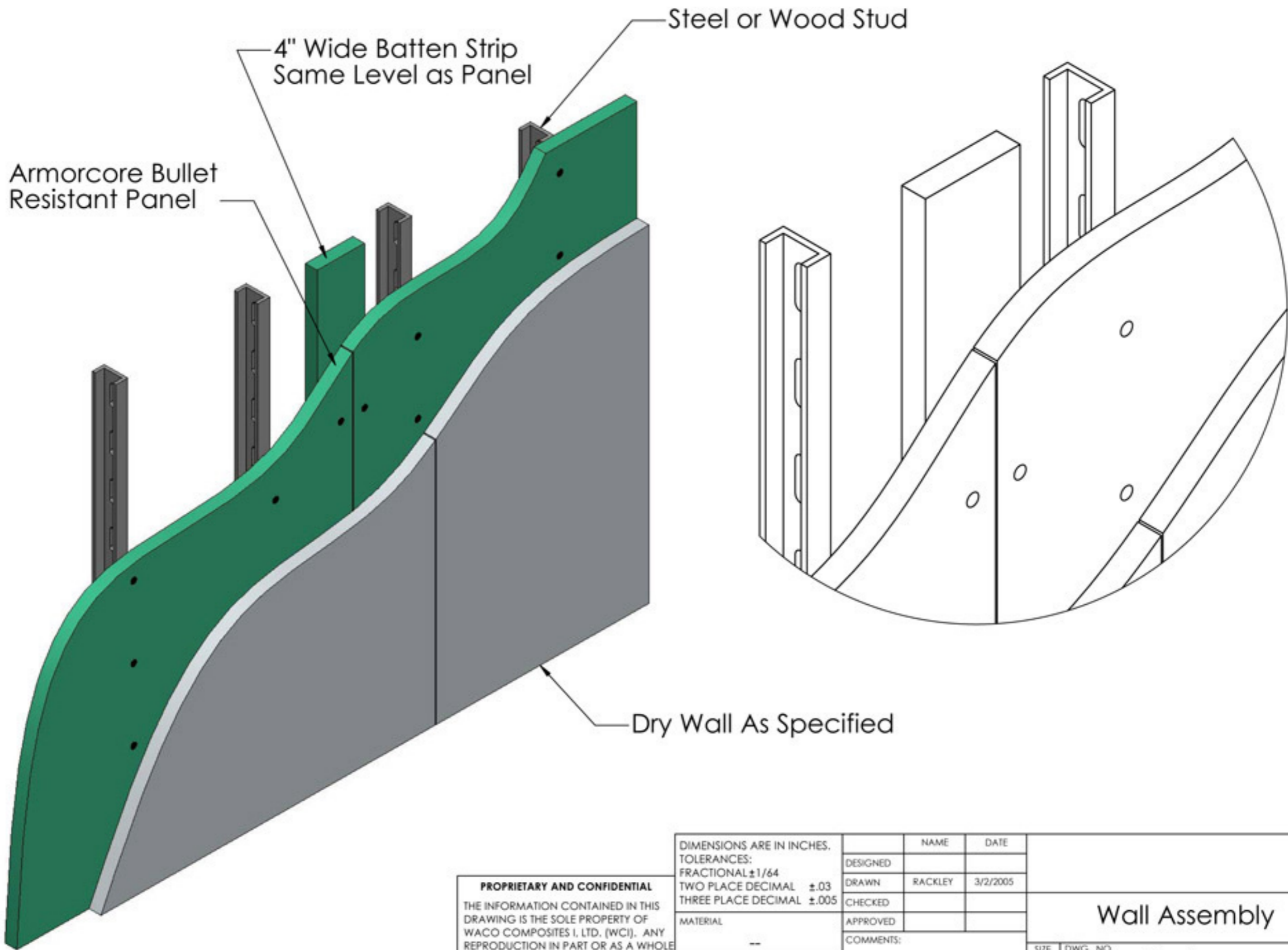
### **4. Laminating**

If laminating or gluing to the panels is a requirement, there are many commercial grade adhesives available. We recommend PL Premium Polyurethane Construction Adhesive or a two component acrylic, water-based adhesive. H.B. Fuller Company manufactures a product (RK-3850, X-PB), (XR-1392) that works well for fiberglass to wood applications. Their phone number is 800-328-7307.

### **5. Painting**

Fiberglass panels can be painted directly provided the surface is lightly sanded and a primer base-coat is applied. Either oil or water base may be applied. Surface must be wiped clean of all dust, dirt or grime.





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DIMENSIONS ARE IN INCHES. TOLERANCES: FRACTIONAL $\pm 1/64$ TWO PLACE DECIMAL $\pm .03$ THREE PLACE DECIMAL $\pm .005$		NAME	DATE		
MATERIAL	--	DESIGNED			
FINISH	--	DRAWN	RACKLEY	3/2/2005	
		CHECKED			
		APPROVED			
		COMMENTS:			
<b>Wall Assembly</b>				SIZE	REV.
				<b>A</b>	<b>A</b>
				DWG. NO.	
				<b>Number</b>	
SCALE: 1:8				SHEET 1 OF 1	

## Wide Flat Head Phillips Drywall



Also known as wafer head screws. Join dense material to metal or wood with these screws. Use them to attach cement-type boards, dense sheathings, wire lath, and plywood to steel or wood studs. Ribs beneath the head countersink the head and prevent strip-out. Made of weather-resistant coated steel. Length is measured from top of head. Sizes up to 1 5/8" are fully threaded, longer screws are partially threaded. **Light Duty**— Fasten to metal studs up to 20 gauge (.036"). **Heavy Duty**— Fasten to metal studs up to 12 gauge (.105").

Lg. Pkg. Qty. Per Pkg.

### Light Duty— Sharp Point

#### 9-15— #2 Drive

Head: Dia. .395"; Ht. .111"

1 1/4"	100	<u>92050A100</u>	\$6.44
1 5/8"	100	<u>92050A200</u>	6.82
2 1/4"	100	<u>92050A300</u>	9.32

### Heavy Duty— Self Drilling

#### 8-18— #2 Drive

Drill Point #1

Head: Dia. .395"; Ht. .111"

1 1/4"	100	<u>92050A400</u>	\$7.94
1 5/8"	100	<u>92050A500</u>	8.63
2 1/4"	100	<u>92050A600</u>	9.81

Screws Available from McMaster-Carr Supply Company

(404) 346-7000

(630) 600-3600

<http://www.mcmaster.com>



## PL Premium Polyurethane Construction Adhesive

PL Premium is a polyurethane adhesive that provides superior results and is safer to use. PL Premium generates three times the power of traditional construction adhesives. It may be used inside or outside and will last as long as the surfaces it joins together.

- 3 times stronger than ordinary adhesives
- Water and weatherproof
- Bonds to wood, metal, stone, concrete, masonry, bricks
- 100% Polyurethane

### HOW TO USE:

To ensure positive adhesion, make sure the surfaces to be joined are clean and free of dirt and foreign material.

Cut the smallest opening possible in spout (just large enough so adhesive can flow easily when gunned). Because of PL Premium's unusual strength, much less adhesive is needed compared to traditional construction adhesives.

Place cartridge in caulking gun and puncture seal inside spout with nail.

Apply by forcing adhesive onto surfaces. When working on rough surfaces, use enough adhesive to fill gaps. PL Premium will bridge up to 3/8".

Use mechanical fasteners to hold the surface in place until the adhesive fully cures. Drying time may vary, depending on the humidity and porosity of the materials bonded together.

PL Premium's reactive nature allows the formation of high strength bonds quickly. Many applications will develop full strength in less than 24 hours. Material may be repositioned up to 30 minutes without losing adhesive strength.

Available in 10.2 oz. & 28 oz. Cartridges

Customer Service: 1-800-999-8920

Technical Service: 1-800-624-7767

<http://www.stickwithpl.com>