



# Metal Building Installation Guide

**PLEASE READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION**

These guidelines are provided in good faith to help prevent installation problems caused by common errors. The manufacturer and/or distributor of the product bears no responsibility for installation action taken or not taken. There are many nuances for installation that are assumed to be general construction knowledge to an experienced installer; such nuances are not included in these instructions. Rather, these installation guidelines are strictly recommendations and are not intended to serve as a step-by-step, foolproof installation checklist. Selection of an experienced FRP installer is the sole responsibility of the project owner and architect/engineer. If you have any questions about installation techniques for particular project, please call Customer Care for assistance.

**TOOLS REQUIRED**

**Sealant Cartridge Gun:**  
(if silicone sealant is required)

**Screw Gun & Drivers/sockets:**  
Variable torque slip clutch at 500 rpm for installing fasteners.

**Saw:**  
Power saw, hand saw or hack saw. Carbide coated abrasive blades for circular saws and 18 tooth per inch metal cutting blades for saber saws also work well.

**Drill:**  
Variable speed 0 - 2500 rpm for drilling holes in panels and structural supports.

**Drill Bits:**  
For pre-drilling panels, use 1/4" high speed or carbide tipped drill bits for #14 structural fasteners (if required) and use 3/8" bit for SB2 sidelap grommet fasteners (if required).

For structural supports, if self drilling fasteners are used, follow manufacturers recommendations; if self tapping fasteners are used, bit size may vary depending upon type of support and material thickness. Consult fastener manufacturers recommendations for the intended applications.

<b>Drill Bit Guide for Structural Supports</b>		
<b>Fastener Type</b>	<b>Structural Framing</b>	<b>Drill Bit Diameter Type</b>
# 14 B	14 to 10 ga. steel	No. 8 - 0.199"
	10 ga. to 3/16"	No.4 - 0.209"
	3/16" to 1/2"	No. 1 - 0.228"
	1/2" or greater	0.231" - 0.231"

## **FIELD CUTTING AND DRILLING**

### **Sawing:**

FRP panels are provided cut to length (square cut) from the factory. Some field cutting may be required such as along the top of gable end walls and around openings and penetrations. FRP panels may be cut with a power saw, hand saw or hack saw. The tooth arrangement and set should be such that it will not chip or fray the material. Saw operators should wear ear protection, dust filter masks and safety glasses or goggles.

### **Drilling:**

FRP panels should be pre-drilled at a position no less than 1-½" from the end of the panel. More than one panel can be drilled at a time using the recommended drill bit size identified.

When pre-drilling more than one panel at a time, align and stack several sheets and support them directly under the area to be drilled. Use high speed or carbide tipped drill bits under moderate pressure. Care should be taken to drill the appropriate size hole in the appropriate location for the fastener being installed. The hole must be drilled straight through (perpendicular to the plane of the panel) to insure a watertight seal under the washer of the bold head is achieved.

When pre-drilling structural supports, use the drill bit recommended by the fastener manufacturer for the specific project. Please note that the drill bit sizes are approximate. Variations in hardness of supporting steel materials or other factors may require adjustment in drill bit size to permit proper installation.

## **PANEL INSTALLATION**

Installation of FRP panels should start at the corner of the building opposite of the prevailing wind. The minimum end lap is 6" for roofing panels and 4" for siding panels. These materials cannot be reshaped by application of external force, such as hammering or extreme bending.

Since FRP panels are flexible by nature, applying pressure to the panels during installation can easily vary the panel coverage. In order to maintain panel alignment, periodic checks of the panel coverage and squareness should be made. When fastening the panel the installer should use caution not to apply an excess amount of pressure to the unsecured flutes or corrugations such that they will tend to expand the panel coverage. All panels shall be installed plumb and true in proper alignment and relation to the structural framing.

## **INSTALLATION STEPS**

1. Cut panels as required for tapers or penetrations.
2. Mark and drill pilot holes for structural fasteners and sidelap fasteners (as required) at distances specified.
3. Place any flashing, closures, sealants and accessories required for a complete installation at locations indicated on design drawings.
4. Position panels and attach to structural support members using self-tapping fasteners.
5. Drill through pilot holes and install sidelap fasteners (if required).
6. Always fasten the panel from the overlapping side first and work outward. DO NOT FASTEN the panel ends where laps of flashing will be installed later.
7. Care shall be taken not to over tighten the fasteners. This could casue the sealing washers to invert thus reducing their effectiveness to resist leaking around the fastener hole. Additionally, an over tightened fastener could overstress the panel resulting in panel crazing around the fastener.