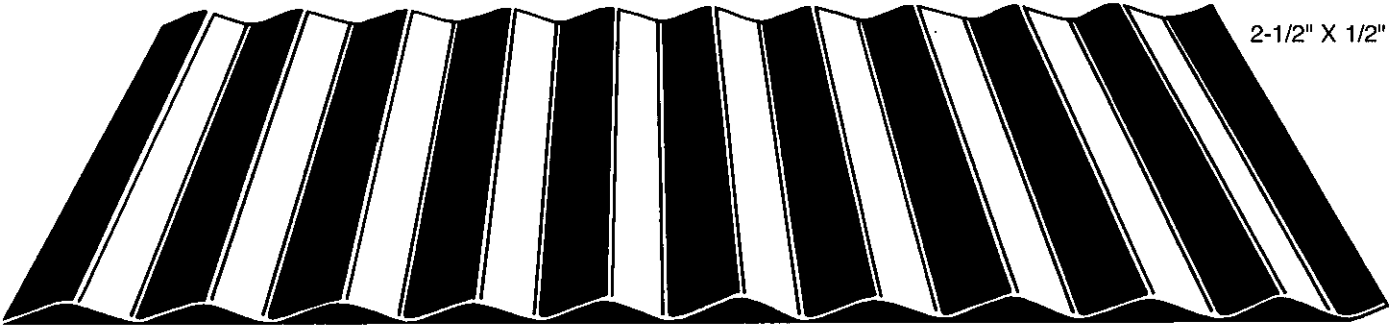
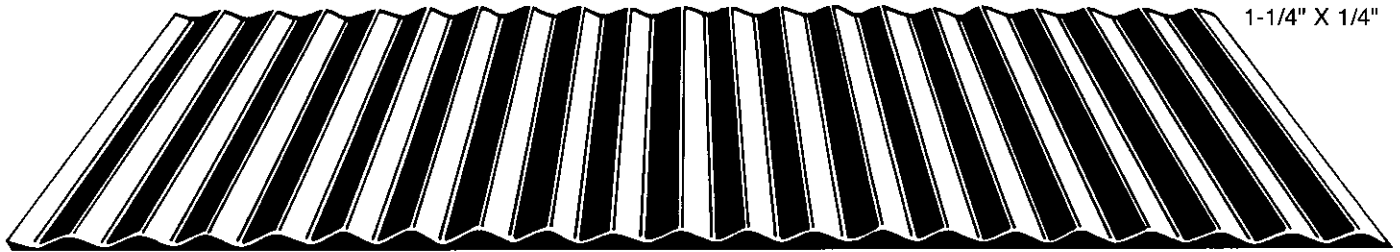


WHEELING BARNMASTER® INSTALLATION INSTRUCTIONS



Extremely Important

Store BARNMASTER panels in a dry place. Stand the panels on end and fan them out at the bottom to provide positive air circulation and moisture run-off. If panels must be stacked, they should be kept off the ground on wooden blocks or strips in an inclined position in a dry place.

The panels should be stored outside only when it is absolutely necessary and then only for short periods of time. The use of canvas or waterproof paper should be used only when allowing for ventilation. Plastic tarping, which may cause sweating and condensation and trap moisture, should never be used.

If these precautions are not taken and moisture is trapped in the panel, superficial staining may occur. When moisture remains in the bundle of BARNMASTER for a considerable time, wet-storage stains can occur, reducing the effective life of the panel.

Failure to comply with the above recommended procedures relieves Wheeling Corrugating Company of responsibility for any resultant damage to, or deterioration of, BARNMASTER and voids all warranties.



Wheeling Corrugating

A Division Of Wheeling-Pittsburgh Steel Corporation

Handling

When unloading bundles of BARNMASTER, extreme caution is advised. A forklift can dent or puncture the underside of the BARNMASTER sheet. It is recommended that a spreader device be used on the forklift for bundles over 18 feet in length to avoid bending in the middle of the sheets.

Care should also be exercised to protect the finish when lifting individual panels from the stack or bundle. Dragging of individual sheets from the bundle can

scratch the surface and reduce the performance of the galvanized finish.

The panel edges must be protected at all times during the unloading and handling process to assure good fitting and good looking lap joints on the finished installation.

CAUTION: Sheet metal roofing can have sharp edges. Safety equipment should be worn by workers.

Cutting, Trimming

There will always be a certain amount of cutting and trimming necessary on the jobsite, such as for openings and gable end panels. Whether cutting with the rib or against it, the use of a steel cutting blade or a

Carborundum Blade with electric saw is imperative.

CAUTION: When cutting roofing and siding, safety glasses and other safety equipment should be worn by workers.

Roofing Installation Sequence

Begin laying the roofing panels on the end of the building away from the prevailing wind so the side lap seams shall face away from the prevailing wind-driven rain. This provides extra security against water penetration.

The first panel determines the alignment of all remaining panels on the roof, so *extreme* care should be taken to accurately square the first sheet. The overlapping rib edge should be flush with the edge of the roof (Figure 1), and the panel should overhang the eave approximately three inches to provide for a drip edge. When the panel is positioned, it should be fastened through the first rib, top and bottom. The BARNMASTER panel should be attached completely before starting the next panel.

A tip for assuring straight alignment for successive rows of panels is to stretch chalk lines between nails driven into the ridge and end of each edge rafter.

These lines will serve as guidelines to align panels.

If roof requires more than one horizontal row of panels, begin by placing and temporarily fastening each panel at two locations along middle ribs (not the end lap) in the following manner: Place Panel #1 in the lower corner of roof. Next, install Panel #2 above and end lapping over Panel #1. Align both panels with chalk line. Install Panel #3 overlapping Panel #1 and corner of Panel #2. Install Panel #4 above Panel #3, side lapping over Panel #2 and end lapping over Panel #3. Check alignment at ridge and eave again. Permanently fasten when panels are in line. Refer to Figure 1. End laps should be 8" or more.

Figure "2" shows the proper sequence for the installation of one row of BARNMASTER roofing.

CAUTION: Do not leave unattended or unattached sheets on a roof.

Siding Installation Sequence

Siding panels should be installed with the lap joint facing away from the prevailing wind like the roof. Beginning at an opening, such as a door or window, minimizes cutting.

Do not run siding sheets all the way to the ground. It is important that all siding panels be prevented from permanently contacting the soil; siding panels should lap at least three inches over the foundation or splash board. It is necessary to provide a base of concrete block, mortar or other material 12 to 18 inches high and end the siding sheets at that point to minimize

sheet corrosion.

The first siding panel must be plumb to assure straight alignment of the entire row of panels. Temporarily, a wooden 2 x 4 can be nailed horizontally as a guideline about three inches below the top of the base-board or foundation. (After the siding is permanently fastened, the 2 x 4 guide can be removed.) Temporarily fasten the first BARNMASTER panel at the starting edge. Install the second panel overlapping the first. Temporarily fasten all panels; permanently fasten when all panels are in line.

Roof Pitch

To insure proper drainage, the pitch for roofing application should be no less than 4 inches per foot.

Prevailing Winds

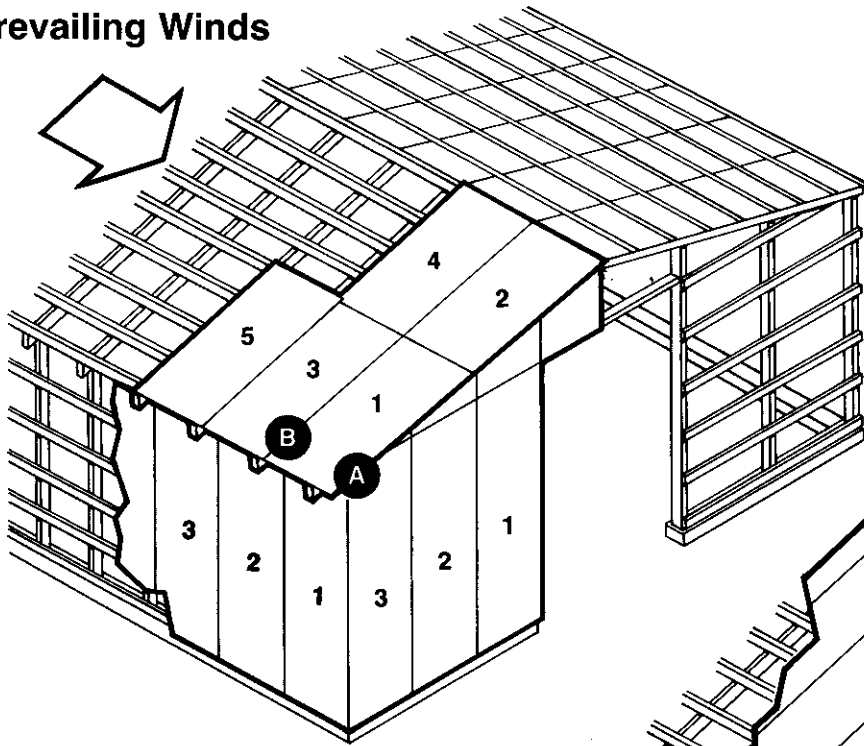


Figure 1

Prevailing Winds

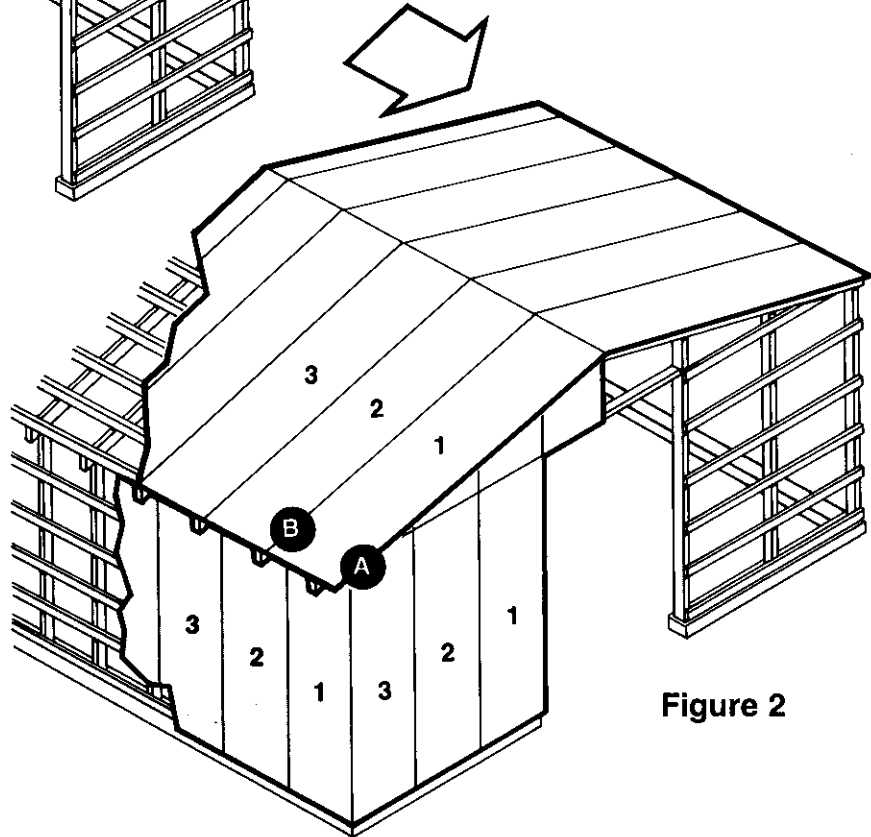


Figure 2

Side Laps

BARNMASTER 1-1/4" x 1/4" corrugated panels are produced 26" wide and finished at the sides with one corrugation turned up and the other turned down. Panels can be installed on **sidewalls** of buildings with a normal lap of 1-7/8" and obtain a 24" coverage. (See Detail "A"). On **roofs**, an extra corrugation lap is recommended, providing a 22-3/4" coverage. (See Detail "B").

BARNMASTER 2-1/2" x 1/2" corrugated panels are produced 26" wide with both side lap corrugations turned down.

The 26" wide panel can be installed in three different lap conditions. First, one corrugation lap, providing 24" cover width and used for **siding** only. (See Detail "C"). Second, two corrugation laps providing 21-1/2" cover width and used for **roofing** having sloped or curved surfaces. (See Detail "D"). Third, a 3-1/2" corrugation lap providing 22-1/2" cover width and used for **roofing** and **siding**. This method is achieved by turning over every other panel and placing the side lap of the panel to be laid, under the edge of the previously applied sheet. (See Detail "E").



Detail A 26" Width, Normal Lap, 24" Coverage



Detail B 26" Width, Extra Lap, 22-3/4" Coverage



Detail C 26" Width, Normal Lap, 24" Coverage



Detail D 26" Width, Extra Lap, 21-1/2" Coverage



Detail E 26" Width, Reverse Lap, 22-1/2" Coverage

Fastening

Selecting the proper type of fastener to secure the roofing and siding is of utmost importance. Acceptable fasteners include galvanized screw shank or ring shank nails with sealing washer heads or plated self-drilling sealing washer hex-head wood screws. Self-drilling sheet metal screws are also available.

For maximum holding power, nails should be driven into the top of the corrugations slightly off center

and at an angle. This draws the sheets tightly together at the side laps and increases the nail strength against uplift. Nails should not be driven into the valley of the corrugations on a roof, as leaks may develop at this point. Do not overdrive. This will dimple the steel and may damage the washer. Under-driving can allow leakage to occur around the nail shaft.

Fasteners



Screw shank nail with washer



Ring shank nail with washer



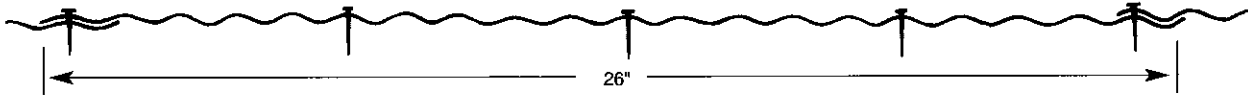
#8 Sealing washer hex-head wood screw

1-1/4" BARNMASTER

Recommended Nail Lengths: (without insulation) 1-3/4" long nail for 2 x 4 roof purlin.

1-1/2" long nail for 2 x 4 side wall girt.

Nail Fastener Locations: Every fifth corrugation peak (126 nails per square at 24" purlin spacing.)



Screw Fastener Locations: At the side lap, the self-drilling screw is positioned vertically on the crest of the corrugation. Every fifth corrugation valley (126 screws per square at 24" purlin spacing.)

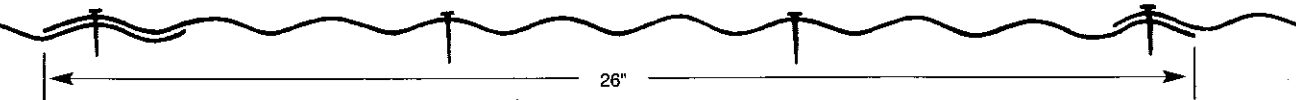


2-1/2" BARNMASTER

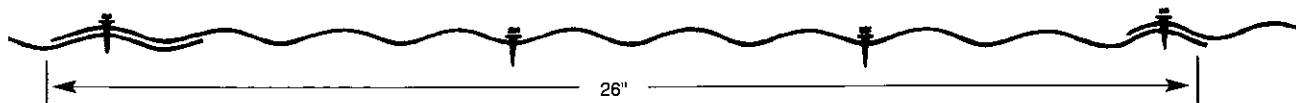
Recommended Nail Lengths: (without insulation) 2" long nail for 2 x 4 roof purlin.

1-3/4" long nail for 2 x 4 side wall girt.

Nail Fastener Locations: Every third corrugation peak (96 nails per square at 24" purlin spacing.)



Screw Fastener Locations: At the side lap, the self-drilling screw is positioned vertically on the crest of the corrugation. Every third corrugation valley (96 screws per square at 24" purlin spacing.)



Side Lap Fastener Locations:

Nail the side laps on 8" centers, if the substrate is solid, or at locations of slat type supports. At locations between supports, use self-drilling sheet metal screws if side lap fastening is desired.