

APPLICATION NOTES

Solid Sheathing: Metal Panel Systems, Inc. recommends solid wood sheathing with a minimum of ½" thickness to provide sufficient holding power for fasteners. For UL-90 rated assemblies over plywood the minimum thickness is 5/8".

Felt Underlayment: A single layer of #30 felt underlayment must be applied to entire substrate as shown in Metal Panel Systems, Inc. typical underlayment instructions. Additional layers of felt or Grace's "Ice and Water Shield" is recommended on low sloped roofs, at all valley and sidewall conditions, roof penetrations and various other flashing conditions. Refer to typical installation details. **DO NOT use Red Rosin paper under panels or trim.**

Strippable Film: Strippable film is applied to some coated materials to provide protection to the finish during fabrication and transit. It must be removed prior to installation. If exposed to excess heat or moisture the film may become permanently adhered and/or discolor finish. If this should occur the finish warranty will be void. Metal Panel Systems, Inc. assumes no responsibility for the customers failure to remove this film.

Material Storage: Keep stored materials in a dry location with adequate ventilation and out of direct sunlight.

Minimum Slope: Refer to panel assembly sheet for minimum slope requirements. Areas with heavy snow fall or where numerous freeze-thaw cycles are prevalent throughout the winter will require a greater slope minimum due to potential for snow and ice build up on roof. Additional underlayment may be required.

Dissimilar Metals: Electrolysis may occur when dissimilar metals come into contact. Importantly, avoid allowing steel or aluminum from coming into contact with copper or lead. Also, avoid water runoff from copper or lead onto steel or aluminum.

Thermal Movement: Expansion and contraction of metal panels which exceed 30'-0" in length should be factored in to the design of the system. Panels typically should be fixed at the ridge/highwall and allowed to expand/contract at the eaves and valleys. Use flashings which allow for movement of panels without disengaging. Do not restrict panel movement at both ends.

Sealant: Metal Panel Systems, Inc. recommends the use of high grade silicone sealants. Typical characteristics should include: high expansion/contraction rate, neutral cure (non-acid cure), and superior adhesion to Kynar finishes. Approved sealants: Tremco Spectrum One or Dow 790. **Do not use clear silicones.**

Fasteners: Use 10x1" zinc plated pancake screws for securement of panel clips and flashings to wood substrate. Pop rivets to be 1/8" x 1/4" long stainless steel, painted to match color of panels. Refer to Metal Panel Systems, Inc. details for proper fastener placement and spacing.

Oil-Canning: Metal Panel Systems, Inc. uses prime commercial grade light gauge metal which is manufactured to all industry accepted tolerances. "Oil-canning" is an inherent part of light gauge cold formed panels and is not cause for rejection.

Common causes of Oil-Canning:

1. Uneven substrate. **Substrate should be level to 1/4" in 20'-0"**. Low and high spots in substrate can lead to a "roller coaster" effect which puts stress on panels at clip locations creating buckling. Misaligned substrate will visibly transfer through panels.
2. Improper clip installation. Clips should be square and level with panel legs to prevent panel deflection and allow for proper expansion and contraction of panels. Over driven or misplaced fasteners cause clips to buckle or become recessed below the elevation of the substrate.
3. Improper felt installation. Felt that is uneven, curled, and/or wrinkled (usually from long term exposure to weather) may show through panels.
4. Mishandled panels during installation. Panels may be damaged during unloading or positioning onto roof when using improper handling techniques. Panels with dents, creases, twists are permanently damaged and should be replaced or cut down into smaller lengths with damaged areas discarded. **Spreader bars should be used when offloading long panels.**

Ordering Information: Metal Panels Systems, Inc. provides square cuts only (to the nearest 1/2") on all panels. Break-formed flashings, trim, copings, downspout, etc. are fabricated in 10'-0" lengths. All miters and custom lengths are to be field fabricated or cut to length by installer.

Mill Finish Galvalume: Due to the inherent qualities as it relates to natural weathering, it is an acceptable industry standard for Mill Finish (bare) Galvalume to show variations in its shade of color from panel to panel after installation. Extreme care must be given to this product in storage, handling, and installation, even more than that of painted product. Staining of the finish will occur if materials are improperly stored or handled. None of the above affects the structural integrity of the finished product and is not acceptable reason for rejection. Metal Panel Systems, Inc. assumes no responsibility for any unsatisfactory look that can possibly result from this substrate.

[All product information, specifications, details, and instructions subject to change without notice. Contact Metal Panel Systems, Inc. for individual project requirements and details.]