

# Top 10 Pointers for Successful Metal Panel Installation

Practical guidance for post-frame and light commercial construction

**M**etal siding has become a go-to solution across post-frame, agricultural, and light commercial construction. Its durability, low maintenance, and efficient installation make it a practical choice for a wide range of building types. However, achieving a clean appearance and long-term performance depends on more than simply choosing the right panels. Proper planning, appropriate material selection, and well-executed installation practices all play a role in the outcome.

The following ten pointers highlight key considerations that can help crews deliver consistent, high-quality metal panel installations.

## 1 Start with a Square and True Structure

A successful installation begins with the structure itself. Metal panels will follow whatever surface they are attached to, which means any irregularities in the framing will be visible once the panels are installed. Walls that are out of plumb or corners that are not square can lead to alignment issues that become more noticeable as installation progresses. Taking the time to verify that framing is straight, square, and consistent before panel installation begins will help prevent rework and improve the finished appearance.

## 2 Select Materials with the End Use in Mind

Choosing the right panel system is

critical, particularly in post-frame and light commercial applications where buildings are often exposed to demanding conditions. Panel gauge, profile, and material should all be considered together. Heavier gauge

material to the application ensures long-term performance and durability.

## 3 Understand Oil Canning Before It Becomes an Issue

Oil canning is a term used to describe the visible waviness that can appear in the flat areas of metal panels. It is an aesthetic condition, not a structural failure, but it can affect how a finished wall looks, particularly in certain lighting conditions. Several factors contribute to oil canning, including uneven framing, internal stress in the metal, over-driven fasteners, and thermal movement. While it cannot always be eliminated, it can be minimized by starting with a flat substrate, handling panels carefully, and installing fasteners correctly. Panel material and profiles with ribs or striations can also help reduce the visual effect. Understanding this characteristic upfront helps set realistic expectations and avoids unnecessary concern after installation.



Oregon State Hospital. PHOTO COURTESY OF IMETCO.

panels offer increased rigidity and can help reduce visible waviness, while panel profiles with deeper ribs improve strength and spanning capability. Panel materials also vary in performance. In environments where moisture, livestock, or chemicals are present, selecting a corrosion resistant material and finish is crucial. Matching the

## 4 Handle Panels Carefully from Delivery to Installation

Damage to panels often occurs before they are ever installed. Improper handling can lead to bent panels or scratched finishes, both of which can affect performance and appearance.

Carrying panels in a vertical position helps prevent bending, while avoiding contact between panel surfaces reduces the risk of scratching. Storing panels off the ground and protected from moisture is also important, especially if they will be on

site for any length of time. Good handling practices help ensure the panels perform as intended once installed.

## 5 Plan the Layout Before Starting Installation

A well-planned layout helps maintain a consistent appearance and reduces the need for adjustments during installation. Determining a starting point, confirming panel coverage widths, and considering how panels will terminate at corners or openings are all part of this process.

Establishing reference lines such as chalk lines or string lines can help keep panels aligned throughout the installation. Taking a few extra minutes to plan can prevent uneven panel widths and cumulative alignment errors.

## 6 Incorporate Moisture Management Strategies

Even with metal siding, a weather resistant barrier provides an added layer of protection against moisture and air infiltration. While it may be omitted in some simpler structures, it contributes significantly to the overall wall system performance. Incorporating this layer can help manage moisture that gets behind the panels and improve building performance and longevity.




Oregon State Hospital. PHOTO COURTESY OF IMETCO.

## 7 Use Proper Fasteners and Installation Technique

Fasteners play a critical role in both the performance and appearance of metal siding. Using the correct fasteners, typically those recommended by the panel manufacturer, helps ensure compatibility

and durability. Fasteners should be driven straight and seated snugly without being over tightened. Over driving screws can damage sealing washers and create opportunities for leaks, while inconsistent fastening can lead to panel distortion. Use recommended fasteners and adhere



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to proper installation methods. Correct fastening ensures durability, weather resistance, and a clean appearance.

### 8 Monitor Alignment Throughout the Installation

Maintaining alignment is an ongoing process. Even small deviations at the start of a wall can become more pronounced as additional panels are installed. Checking alignment regularly using a level or string line allows for small corrections before issues become more noticeable. Staying attentive during installation helps ensure a straight, uniform finished surface.

### 9 Allow for Thermal Movement

Metal expands and contracts with temperature changes, and installations should account for this natural movement. If panels are restrained too tightly, movement can lead to buckling or added stress at fasteners. Avoiding over tightening

fasteners and following recommended installation details allow the system to accommodate these changes. Considering temperature conditions during installation can also help reduce potential issues.

### 10 Treat Details as Critical Components, Not Afterthoughts

While the field of the panel often performs well, transitions, trim and flashing details are where most failures occur. Properly installed trim and flashing help direct water away from the building and complete the system. Ensuring that trim pieces are properly aligned, overlapped, and installed according to best practices improves both performance and overall appearance.

### Final Thoughts

Metal panel installation may seem straightforward, but consistent execution

is what separates an average job from a high-quality one. From selecting the right materials to maintaining alignment and handling panels properly, each step contributes to the outcome. By focusing on these fundamentals, builders can deliver metal siding installations that not only look good when completed but continue to perform reliably over time.

**PB**

*This article was developed with input from professionals experienced in the design and manufacture of pre-engineered metal panel systems for a wide range of construction applications.*

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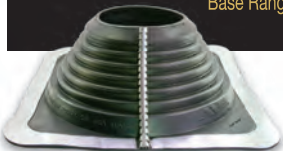
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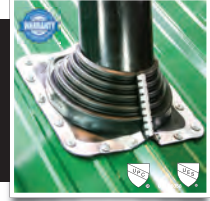
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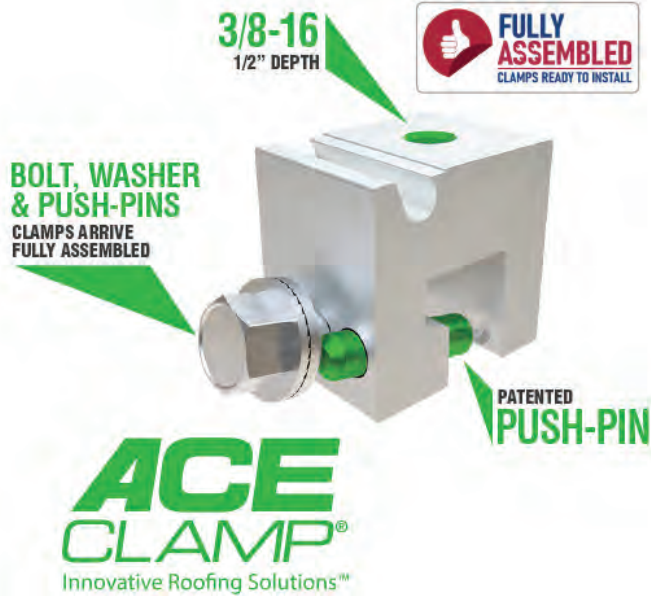


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