TC INSULATED METAL WALL PANEL INSTALLATION GUIDE

DISCLAIMER

This guide is intended to provide the installation contractor with recommended guidelines, methods and procedures for the installation of TC wall panels. It is intended to be used only in combination with the panel installation drawings and TrueCore recommended details.

TrueCore does not guarantee and is not liable for the project design or the quality of installation. TrueCore is not responsible for defects that may be attributed to improper installation or the negligence of other parties. All safety procedures for off-loading, material handling, field modifications, fall protection and all other aspects of the product's use and installation are the sole responsibility of the installing contractor.

Unless specified in writing, TrueCore makes no expressed or implied warranties pertaining to the fitness of the wall panels or its components for any particular purpose by the owner, and shall not be responsible for any indirect or consequential damages, such as to building contents, nor for any further loss of any kind to the owner or contractor.

Unless specified in writing, TrueCore does not warrant any product or material as meeting the ordinances, laws or regulations of any particular state or local municipality, and TrueCore is not responsible for the owner's or contractor's conformance to such ordinances, laws or regulations.

INTRODUCTION

TrueCore's TC wall panels are the construction industry's absolute best factory insulated panels for cold storage and industrial applications.

TrueCore produces Insulated Metal Panels for the Cold Storage and Industrial markets in North America. Based in Laurens, SC, TrueCore operates and manufactures in its newly developed 110,000sf facility. Designed specifically to house a state-of-the-art continuous line, the building is 100% temperature controlled with interior finished goods storage, a sheet metal/accessory shop, as well as corporate offices. The facility has been built to enable the most-efficient production, consistent quality, and industry-preferred insulated metal panels

TrueCore is entirely focused on making a product that architects prefer, contractors go to, and employees are proud of.

For additional information on the content of this installation guide, please contact TrueCore Technical Services—Tel: (864) 300-4131 | Web: truecorepanels.com

RECEIPT OF DELIVERY AND INSPECTION

Panels are shipped in large stretch-wrapped bundles on flat bed trailers in conjunction with accessories and trim, which are crated to minimize any potential for damage in transit. When the shipment is received all items should be checked for any damage and shortages and to see that they conform to the shipping documents. Any shortage or damage to the panels, accessories and trim must be noted on the bill of lading and signed by the driver.

It's the responsibility of the receiver to file any damage and shortage claims immediately. Although TrueCore takes great care to prevent shipping damage, the company is not responsible for damage that occurs in transport, delivery, storage or on- site handling.

HANDLING BUNDLES - Unloading with Forklifts

Identify and mark off the unloading and storage areas prior to material delivery. The areas must be secure, flat, well-drained and reasonably level. Verify that adequate material handling equipment with the proper reach and capacity is on site. Bundle weights are listed on the bill of lading, and have a maximum weight of 5,000 lbs.

Panels are shipped via flatbed trailer, and can be off-loaded from the side of the trailer using forklifts.

Guidelines for off-loading are as follows:

2" thick	<36' = 1 forklift ≥36' = 2 forklifts
3" thick	<40' = 1 forklift ≥40' = 2 forklifts
4-6" thick	<48' = 1 forklift ≥48' = 2 forklifts

CAUTION: Use padding or blocking on forklift masts to protect panel edges.

CAUTION: Lift one bundle at a time.

For bundles that require using only one forklift ensure that the forks are widely spaced, and that they are level and centered under the weight of the bundles.

Longer bundles requiring two forklifts have the lift points shown on the bundles.

Ensure the travel route is reasonably level and has a compacted surface that is free of ruts. Position bundles as needed for ease of installation.

Secure open bundles with straps before moving with forklifts. Spread forks as far as possible and center under the load. Use caution to prevent excessive bending, because damage to panels may result. Avoid bumpy terrain.

CAUTION: Use extreme care when moving open bundles, especially those with 2-3 inch thick panels longer than 20' .

HANDLING BUNDLES - Lifting by crane

The panel bundles may be unloaded by a crane with spreader beam and lifting slings. The suggested minimum width of the lifting straps is 6".

CAUTION: Do not use cables or chains for slings.

Use 1.5" thick minimum wood spreaders in sufficient width as required for straps on top and bottom of bundles at all pick points, to prevent the straps from crushing the panel edges. Also, insert 2" foam blocks on the sides of the bundle between the straps and the panel bundle.

Bundles less than 30'-0" may be lifted *with slings attached to a spreader beam and wood spreaders across the width of the bundles to prevent crushing of panel edges.*

For bundles over 30"-0" three or more lifting points with slings attached to a speeder beam are needed.

NOTE: Installer is responsible for design, use and safety of rigging equipment

HANDLING PANELS - Manual Lifting

Lift panels individually off of the bundles. To minimize potential scratching of the panel surfaces, do not slide the panels off of the bundles. Panels must be rotated and lifted on edge to minimize excessive flexing of the panel.

CAUTION: Lifting panels in a flat position can distort the panel faces, induce oil canning and may cause the panel faces to separate from the panel core.

HANDLING PANELS - Vacuum Lifting

The use of vacuum lifting equipment can significantly increase the speed of panel installation.

TrueCore recommends equipment provided by AutoMak Assembly, Inc.
Tel: 219-310-8458, Email: info@automakassembly.com

CAUTION: Always follow the vacuum lifting manufacturer's recommendations for use of the appropriate lifting equipment that matches panel profile and project conditions.

PANEL STORAGE AT PROJECT SITE

Panel bundles must be stored in a safe location, on dry level ground that has no standing water. One end should be elevated with blocking to allow for drainage of water on the bundles and between the panels.

The stretch wrap needs to be slit continuously at the bottom of the bundles to allow for ventilation and evaporation of any moisture between the panels.

Opened bundles must be covered with tarps to help protect them from rain, over-spray and job site residue. Never stack bundles more than two high.

CAUTION: Failure to properly protect the panels from water and moisture accumulation can cause permanent staining of the panel faces.

NOTE: Water and black storage stains on the panels are not covered by TrueCore Warranties.

Thermal bow may occur when panels are stored in direct sunlight. The exposed panel(s) will bow to the warm side, which may make panel engagement difficult. Thermal bowing can be corrected by turning the panels over so the opposite face is allowed to warm or by placing the panels in a shaded area.

PROTECTIVE STRIPPABLE FILM

TrueCore panels and trim may have a plastic film applied at the factory, when requested by the customer, to help prevent damage during shipping and job site handling.

Generally, the protective film should not be removed from the panel faces and trim until they are ready for installation.

If the panels are going to be stored for more than 30 days then the plastic film should be removed and the panels carefully restacked and covered with tarps.

CAUTION: Do not expose the panels and trim to direct sunlight and high heat. This can cause the plastic film to bond to the metal, making removal of the film and adhesive extremely difficult.

NOTE: The removal of the plastic film and adhesive is the contractor's responsibility

STRUCTURAL ALIGNMENT

Before starting the installation of the panels, the wall framing must be checked for proper alignment. The alignment of the framing members must not cause the wall panel to bow inwards toward the interior of the building or to the cold side. This will cause the exterior panel face to be subjected to compression stresses that can lead to rippling and buckling.

CAUTION: All dimensional differences between the project shop drawings and field conditions must be corrected before panel installation begins.

Beginning with base alignment, check that the condition of the foundation does not cause the bottom of the panels to be offset from the steel line.

At the intermediate framing members, check to ensure that they are not misaligned inward of the nominal plane of the wall framing.

The support alignment tolerances for vertical panel installations are:
For framing members less than 10’ spacing, the alignment tolerance is +1/8”, -0”
For framing members at 10’ or greater, the alignment tolerance is +1/4”, -0”

FIELD CUTTING - Cutting Panels

The panels can be cut with circular saws using proper metal cutting blades. If the saw cannot cut through the entire panel thickness, cut each panel face with shears or nibblers and use a knife or handsaw to cut through the core. Be sure to properly support the panel during the cutting operation so the panel faces do not separate from the core or cause buckling of the panel. When necessary pad the saw’s shoe plate and guides so they do not scuff or scratch the exposed panel surfaces.

CAUTION: When cutting panels, always wear eye protection, gloves and long sleeve clothing.

CAUTION: Abrasive (circular saws with abrasive disks) are NOT recommended for cutting panels or flashing. They create fine metal particles that burn into the paint and then rust.

CAUTION: Using reciprocating saws to cut the panels may cause the panel faces to delaminate from the panel core.

Note: When cutting for framed openings that are 50% or more of the panel width, cut each panel face about 1/4” deep and then lift the panel into place and secure it. After the panel is secure, the foam may be removed with a serrated knife.

FIELD CUTTING - Small Penetrations

When cutting small penetrations use a portable router to cut each panel face and then a serrated knife may be used to cut through the foam core.

FIELD CUTTING - Cutting Flashing

It is recommended that flashing be cut with good quality sheet metal shears to provide a clean, undamaged cut.

FIELD CUTTING - Layout and Marking

When marking the panels and flashing for cutting, avoid marking the panels in a manner which will leave visible marks or stains on the exposed surfaces. Fit flashing splices so the factory cut edge is exposed and the field cut edge is covered.

PREVENTING CORROSION - Surface Damage

Make sure that the panels and flashing are NOT subjected to abusive conditions or in contact with abrasive materials or residue.

NOTE: Damaged panel and flashing surfaces are subject to corrosion and may void the material warranties.

PREVENTING CORROSION - Wet Conditions

Do not subject the panels and flashing to long term wet conditions such as standing water, steam, spray or dripping water, wet debris, wet insulation or other moisture holding materials.

PREVENTING CORROSION - Corrosive Materials

Make sure that the panels and flashing are not subjected to direct contact or runoff from corrosive materials such as copper or iron pipes and flashing, uncured cement, treated lumber, anti-icing chemicals, strong solvents or other corrosive materials

PANEL JOINT SEALANT

It is the installer's responsibility to ensure that the specified sealants are used and that they are applied properly. Always reference the sealant manufacturer's instructions for specific storage and use requirements.

A non-skinning, non-curing butyl sealant is most commonly used for sealing panel joints. In cold storage applications an approximately 1/4" bead is applied to the warm side groove (exterior groove) of the panel.

In non-thermal applications the butyl sealant may be applied to the interior groove of the panel or in both grooves of the panel.

NOTE: The project designer is responsible for determining all sealant locations.

PANEL SIDE JOINT FIT-UP

The panels must be fully engaged with the adjoining panels to ensure the effectiveness of the panel joint sealant and the structural integrity of adjacent panels.

When the panels are engaged properly, the panel coverage width may vary from -1/16” to +1/8”, which is due to field tolerances and normal fabrication, and the width of the vertical joint gap will normally vary 1/16” to 1/8”.

PANEL SIDE JOINT FASTENER AND CLIP

The most important factor of the wall's load resistance is the attachment of the panels to the framing members. Typical attachment of the panels to the framing members is with clips and screws concealed within the panel joint. The panel clip screws must be driven until the panel face is secure against the framing member, but not overdriven.

Overdriving the clip fasteners can cause crushing of the foam core and distortion of the panel clip shelf. This can cause difficulty with panel engagement and may result in excessive gapping at the joint and possible rippling of the exterior panel face.

In some cases the project's design loads will require backside attachment of the panels to the framing members in addition to the clips. Backside attachment is generally accomplished using expansion fasteners going through the flange of the structural member into the interior face of the panel.

NOTE: The installer is responsible for using the specified fasteners and ensuring that they are installed properly and at the specified wall framing locations.

PANEL CLEANING AND TOUCH-UP

The premium painted finish of the panel faces must be protected from damage during handling and installation. To prevent oil and rust stains on t finished wall surfaces, thoroughly clean the panels of dirt, grease, saw chips, grinding dust etc., before setting the panels in-place.

Surface Contamination - be careful not to drip or smear sealant onto the exposed panel surfaces. Check that the panel joints do not have excessive sealant which spills onto the exposed panel surfaces after the joints are engaged.

The panels may be cleaned with water and a mild detergent, and wiped down with clean cotton rags, sponges or very soft bristle brushes.

It is recommended NOT to repair minor scratches with field touch-up paint, especially if the scratches do not penetrate the galvanized coating of the steel. Touch-up paints will age at a significantly different rate than the factory applied finish, leaving the touched-up surfaces looking blotchy.

Contact TrueCore Customer Service or Engineering for instructions to repair deep scratches and large abraded areas on panel faces.