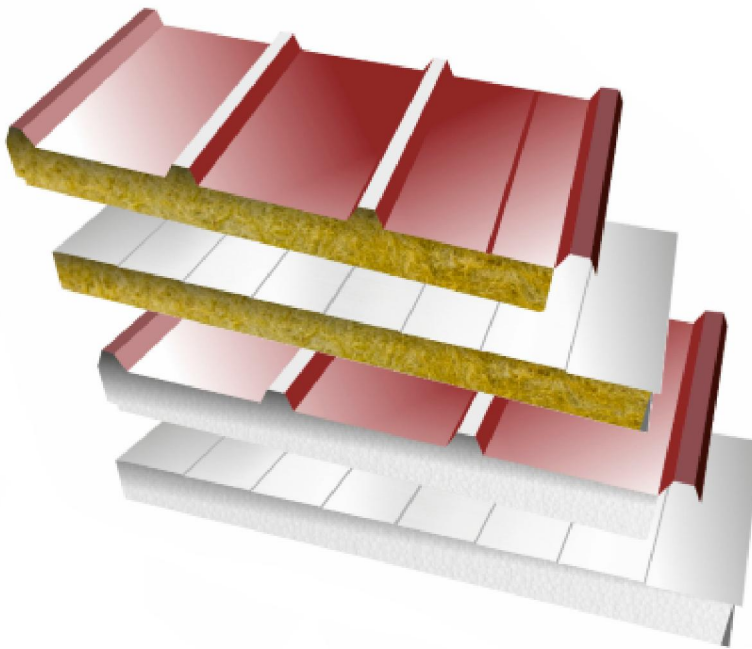




# INSTALLATION MANUAL

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METAL INSULATED PANELS

-ROXUL®

-Expanded Polystyrene

## Insulated Metal Panels – London Eco-Metal Manufacturing Inc.

**\*\*Also see Eco-Metal's Handling Manual\*\***

These instructions are provided as a general guide to Eco-Metal customers and their contractors. Specific factory training is available through our company in order to serve you better. Also, an onsite expert can be made available upon request to assist with your project, if required (additional charges will apply.)

### **Prior to using any of the following instruction procedures the installer should:**

- ⇒ Verify compliance with all applicable federal, provincial and local codes.
- ⇒ Be sure that safe working practices are strictly observed.
- ⇒ Carefully review all documents and installation drawings associated with the project.
- ⇒ Check with general contractor, design engineer, architect and owner to ensure the suggested procedures are suitable for each installation.
- ⇒ Follow all safety regulations.
- ⇒ Recognize if any components are to be used as a substitute of those supplied by Eco-Metal may require different procedures than those recommended.
- ⇒ Check state of framing materials, structures, and mid-wall girts.
- ⇒ Examine substrate to ensure that all supporting members are straight, level and true. Do not start work until unsatisfactory conditions have been fixed.

Eco-Metal Manufacturing Inc. will NOT be responsible for any claim resulting in inadequacies. The installer is responsible for determining the adequacy of anchoring panels to framing materials, structures and girts.

The installer is responsible for ensuring safe erection practices that may be defined and made mandatory by federal, provincial, municipal and/or local authorizations. If the installer cannot safely assemble the wall it is his/her responsibility to stop all work and contact Eco-Metal.

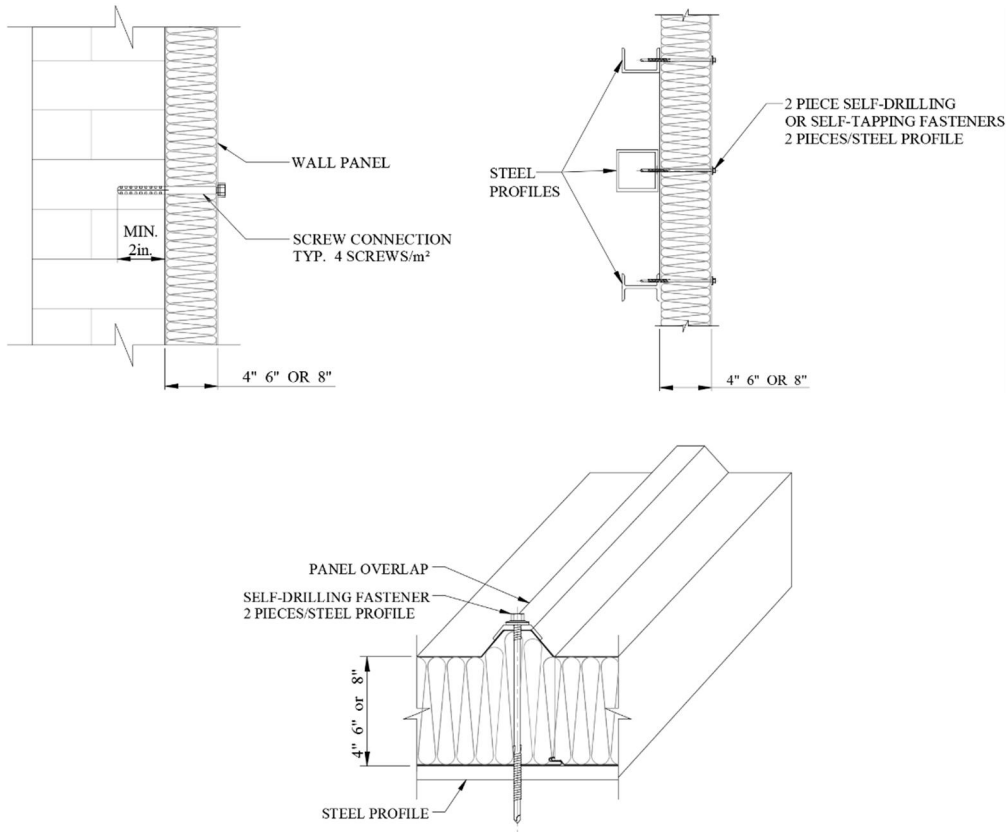
### **Panel Support**

- ⇒ It is recommended that wall panel attachments should be a minimum of 16 gauge steel designed for an L/180, 1½" MAX. deflection criteria.
- ⇒ Fastening to wood is NOT recommended.
- ⇒ The alignment of the support is crucial to the final alignment of the wall.
- ⇒ Improperly aligned supports can induce stress in the panels and cause face side distortions.
- ⇒ Minimum suggest bearing width at purlins is 2½"
- ⇒ Maximum deviation of a girt for industrial applications shall not be more than 3/8" in any 20ft. length in any direction.

- ⇒ Maximum deviation of the support alignment shall not be more than  $\frac{3}{4}$ " from the theoretical gift plane at any point on the wall.
- ⇒ Maximum deviation of support alignment in architectural wall applications shall not be more than  $\frac{1}{4}$ " in any 20ft. length in any direction.

**Panel Fasteners:**

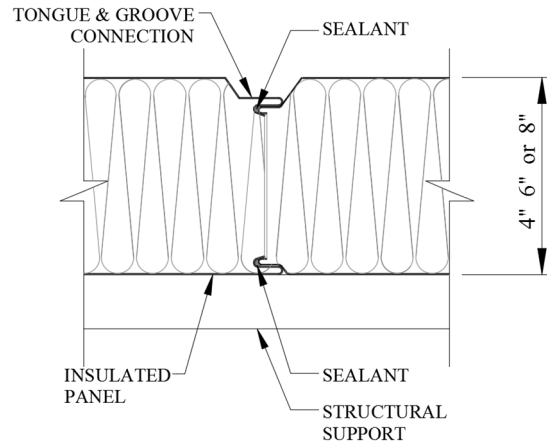
- ⇒ Self-drilling screws supplied by Eco-Metal must be used as recommended.
- ⇒ Leakage may occur if screws are either overdriven or under driven.
- ⇒ Screws will be exposed on exterior of building, drilling directly through panel attaching to structural support with a minimum of 2 pieces per steel profile. SEE DIAGRAM BELOW.
- ⇒ Panels may be fastened directly to masonry walls.



**Panel Caulking & Sealants:**

- ⇒ A proper seal is crucial in order to achieve air and water tightness.
- ⇒ Apply a bead of silicone to the female side of the steel rolled edge prior to lifting the panel. This will prevent smearing when installing (SEE DIAGRAM BELOW.)
- ⇒ Hidden seal locations increase the aesthetic appeal as it will not cause staining or dirt attraction, compared to face-sealed wall panel systems.

Apply sealant in female side prior to erecting.



### Lifting Panels:

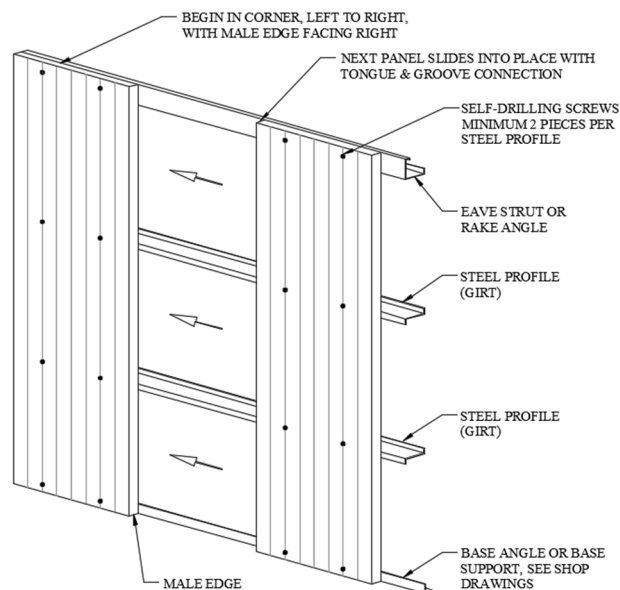
- ⇒ ROXUL® mineral fiber panels are much heavier than EPS (Styrofoam) panels. The recommended method of lifting is with a vacuum lifting and suction device.
- ⇒ The panels are lifted with the vacuum suction on the EXTERIOR face, therefore no equipment interference occurs on the interior surface of the panel when attaching to the structural framing during installation.
- ⇒ Vacuum lift allows for no drilled holes or clamp damage when erecting.
- ⇒ The vacuum lift cups should be uniformly spaced or centered to prevent bending.
- ⇒ Lifters can generally carry around 400kgs.
- ⇒ Vacuum lifters can be rented from a variety of local companies.



### Vertical Wall Panel Joint:

- ⇒ Install panels from left to right, leading with the male edge on the panel.
- ⇒ Start at a corner and erect first wall panel with male edge facing to the right when viewed from outside of the building.
- ⇒ Place in position and fasten to all applicable structural members.

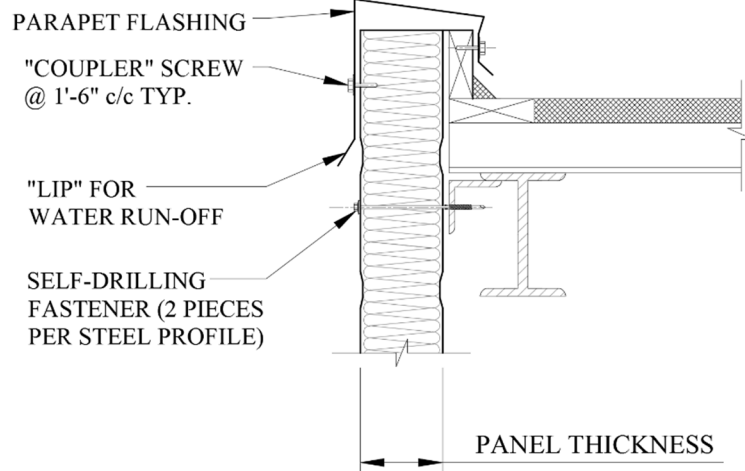
- ⇒ When placing panel into position ensure it remains vertical not angled on one corner as it may buckle or steel may separate from core.
- ⇒ Use edge protector to prevent tear back.
- ⇒ Check to make sure panel is level and square.
- ⇒ On most installations, sealants between panel and structure typically need to be placed prior to positioning panel.
- ⇒ DO NOT install panels during wet weather. The top ends of the panel will be exposed to moisture until the eave flashing is in place.
- ⇒ If stopping work for the days end or due to wet weather, make sure as much eave flashing is installed as possible, or cover with a suitable temporary covering.



### Field Cutting:

- ⇒ Ensure panel is properly supported during cutting operation
- ⇒ Cut panels using a circular or reciprocating saw with proper metal cutting blades.
- ⇒ If saw didn't cut through entire panel thickness, cut each panel face and use a knife or handsaw to cut through remaining core.
- ⇒ ALWAYS wear protective eye shields, gloves and long sleeve clothing when cutting.
- ⇒ When necessary, pad the saw's shoe plate and guides so they don't scratch the panel's surface.
- ⇒ Abrasive saws (circular saws with friction disks) are NOT recommended as they produce high heat which may burn away protective cladding causing panels to rust.
- ⇒ When **cutting flashing**, good quality sheet metal sheers are recommended to provide a clean, undamaged cut.
- ⇒ Use chalk or washable felt tip markers when marking for cutting, nothing permanent.
- ⇒ Leave the factory cut edge exposed and field cut edges covered.

### Parapet Flashing Detail:



### Cleaning:

- ⇒ To clean panels, use a hose at normal water pressure (NOT high pressure or steam.)
- ⇒ In areas with heavy dirt, you may use water and detergent (approx. 1/3 cup detergent per gallon of water.) A soft bristle brush with a long handle may be helpful. Follow with a clean water rinse.
- ⇒ Mildew is not normally an issue but it may appear in very high humidity areas. To remove any mildew use the following: 1/3 cup detergent, 2/3 cup tri-sodium phosphate, 1 quart sodium hypochlorite 5%, 3 quarts of water.
- ⇒ Avoid strong solvents and abrasive cleaners.
- ⇒ Mineral spirits may be used to remove oil, grease, wax, tar, etc.

### Touch-up & Repair:

- ⇒ Lightly sand or feather edges of deep scratches with #400 grit sand paper.
- ⇒ Wipe area and surrounding areas with a lint-free cloth dampened in mineral spirits.
- ⇒ Ensure area is thoroughly dry before applying touch-up paint supplied by Eco-Metal.
- ⇒ Shake and stir paint before applying.
- ⇒ Use proper precaution and avoid body contact with paint.
- ⇒ These coatings are flammable so strictly enforce No Smoking.

Eco-Metal Help & Support

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METAL INSULATED PANELS

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From product information to on-site installation support, our team of experts will provide you with personal assistance with your building project.

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**Building Code Reference:**

Division 07 – Thermal and Moisture Protection

07 42 – Wall Panels

07 42 63 – Fabricated Wall Panel Assemblies

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ROXUL® Mineral Fiber Insulated Panels

Non-load bearing wall assembly

Fire resistance ratings in accordance with CAN/ULC S101 and ASTM E119

(Hose test included ASTM E 2226)

ROXUL® Mineral Fiber Insulated Panel	
Width	46 +/-
Thickness	4" 6" 8"
Length	Any Transportable Length (up to 40ft.)
Thermal Resistance @ 75°F (ASTM C518)	R Value = 3.6 per inch of thickness
Core (ASTM E84)	Mineral wool core
Core Flame Spread (ASTM 84)	Zero
Core Smoke Developed (ULC-102)	5
Behavior of Materials at 750°C (ASTM E136)	Non-Combustible
Test for Non-Combustibility (CAN4 S114)	Non-Combustible
Moisture Resistance	0.05%
Dimensional Stability (ASTM C356)	Linear Shrinkage: 0.19%
Corrosion Resistance (ASTM C165)	Passed
Density	8.5 lbs/ft. cubed
Compressive Strength	@ 10% 4" Board: 6.64psi

Expanded Polystyrene (EPS)	
Width	46 +/-
Thickness	Custom (2" to 10")
Length	Any Transportable Length (up to 40ft.)
Thermal Resistance at 75°F (ASTM C518)	R Value = 4.04 per inch of thickness
Core	Expanded Polystyrene
Moisture Resistance	Zero
Dimensional Stability (ASTM C356)	Linear Shrinkage: 1.5%
Compressive Strength	16psi