Clip and Rail Cladding Installation Guide

Installing clip and rail cladding is an industry-wide process that involves attaching horizontal rails to a structure and then securing individual cladding panels to these rails using clips.

Keep in mind that specific product guidelines may vary, so it's essential to follow the panel manufacturer's guidelines for the specific cladding system you are using. Different cladding panels will have different fastening requirements, different anchors, and varying weights. These should all be reviewed and approved by structural engineers prior to construction. Below are general instructions for clip and rail cladding installation.

Materials and Common Tools:
1. Cladding Panels
   a. Ensure panel dimensions are within tolerance prior to installation
2. Assembly Table
3. Horizontal Rails
4. Panel Clips
5. Screws and Anchors
   a. Panel-Specific
   b. Rail-to-Substrate Fasteners
   c. (If needed) Rail-to-Substructure Furring
6. Laser-Level and Spirit Levels
   a. String Lines are also very useful
7. Drill/Rivet Guns
   a. Anchor Specific Bits
8. Measurement Tools
   a. Tape Measure
   b. Story-Poles
9. Marking Tools
   a. Pencils, Pens, Scribes
10. Safety equipment

Installation Steps
*See Note Below about Substructure Furring if Required***:**

Clip and Rail Installation:

1. **Prepare the Surface:**
   a. Ensure that the surface to which you will attach the cladding is clean, flat, and structurally sound.
   b. If necessary, install a weather resistive barrier or insulation material according to the project requirements.
2. **Measure and Mark:**
   a. Use a measuring tape, level, and pencil/pen to mark the positions where the horizontal rails will be installed. Ensure the measurements are accurate and level.
3. **Install Horizontal Rails:**
   a. Attach the horizontal rails to the marked positions using appropriate screws and a driver.
   b. Check the level periodically to ensure the rails are installed horizontally.
   c. Space the rails according to the manufacturer's specifications, taking into account any design considerations.
   d. Check that the rails are installed straight, with up to ¼"(6.35mm) of shims, to ensure that clips engage correctly.
4. **Install Clips to Panels:**
   a. Attach clips to the panels following the manufacturer's guidelines.
   b. Use Assembly Table to install anchors and clips onto Panels
      i. Some panel manufacturers will ship panels with anchors and/or clips already installed. Check fasteners prior to final installation.
5. **Begin Cladding Installation:**
   a. Start at one corner or bottom edge of the structure.
   b. Place the first cladding panel onto the rails, ensuring the clips fall into the rails.
   c. Plumb and level the panel
6. **Continue Cladding Installation:**
   a. Install subsequent cladding panels horizontally by repeating step 5.
   b. Continue attaching panels until the row is complete.
   c. Ensure proper alignment and spacing between panels according to design specifications.
      i. A laser-level or string line is very useful for fine-tuning reveals and alignment.
   d. Once the first row is complete, proceed to the second row, working up the building.

e. Some clips have adjustment screws for fine leveling, these should only be used for minor alignment adjustments. These should not be used to fix alignment issues of more than .125"(3.175mm)

7. **Trimming and Finishing:**
    a. Trim panels as needed to fit around corners, doors, windows, or other architectural features.
    b. Install any necessary finishing elements, such as corner pieces or trim, to complete the cladding system.

8. **Inspect and Clean:**
    a. Inspect the installed cladding to ensure all panels are securely attached and aligned correctly.
    b. Clean the cladding surface as needed, following manufacturer recommendations for maintenance.
    c. Any metallic chips or debris should be removed immediately as these can damage the panel finish, or increase the likelihood of corrosion of hardware, substructure, or fasteners.

Always refer to the specific product guidelines provided by the manufacturer for the clip and rail cladding system you are using. These instructions are general in nature and may not cover all details specific to your particular cladding product.

(Optional) Substructure Furring

In some installations, especially when dealing with continuous insulation, a substructure furring system may be employed. Furring is also useful in remodel or retrofit applications when the mounting surfaces are uneven.

Furring involves attaching vertical or horizontal support members to the existing structure, creating a level and uniform surface for the cladding. These members can be simple, non-adjustable components like hat channels or z-girts, or a more adjustable wall bracket system. The wall bracket systems have a lower thermal penalty than continuous hat or z-girts. Those systems also allow for in-field adjustments without shims.

If your project requires substructure furring:

1. **Measure and Mark Furring Positions:**
    a. From the plans, begin the layout for positions for the furring members, keeping in mind the dimensions and specifications of the cladding system.

2. **Install Vertical or Horizontal Furring:**
    a. Attach the furring members to the structure using appropriate screws and anchors.

      b. Ensure that the furring is plumb, level and securely fixed, as it will serve as the foundation for the horizontal cladding support rails.

3. **Continue with Rail Installation**:
      a. Once the furring is in place, follow the aforementioned steps for installing horizontal rails on the furring members.
      b. Check the level periodically to ensure the rails are installed horizontally.

4. **Proceed with Cladding Installation:**
      a. Continue with the installation cladding panels as outlined in the main instructions.
      b. The furring system provides additional flexibility to address irregularities in the existing structure.

Note: The decision to use substructure furring depends on the specific requirements of your project and the condition of the substrate. Always consult the cladding system manufacturer's guidelines and recommendations for compatibility with furring systems. Additionally, local building codes and regulations may dictate specific requirements for substructure furring, so ensure compliance with these standards.