

AutoCeil Metal Building Requirements

AutoCeil™ is a safer, faster and ideal method of installing ceiling and wall liners in buildings to support insulation and finish interiors. The following three changes are required for AutoCeil installation: **1. Adding ceiling support struts.** **2. Engineer the rafter brace loads from the purlins to the ceiling support struts.** **3. Using a base channel option on exterior walls.** Thermal Design manufactures the AutoCeil sheet to fit each building bay, covering both sidewalls and the building width up to 5,000 sq feet with a single piece of AutoCeil sheet material. Wider buildings require splice on topside of a strut. The system utilizes a special dual winch system to pull the AutoCeil sheet across the entire building over the struts. From the floor, up one sidewall, across the building width and down the opposite sidewall to the floor can be pulled in minutes. The sheet is tensioned taut, fastened, sealed and insulated. The following building requirements are to facilitate the automated process. **See video, specifications and instructions at: autoceil.com**

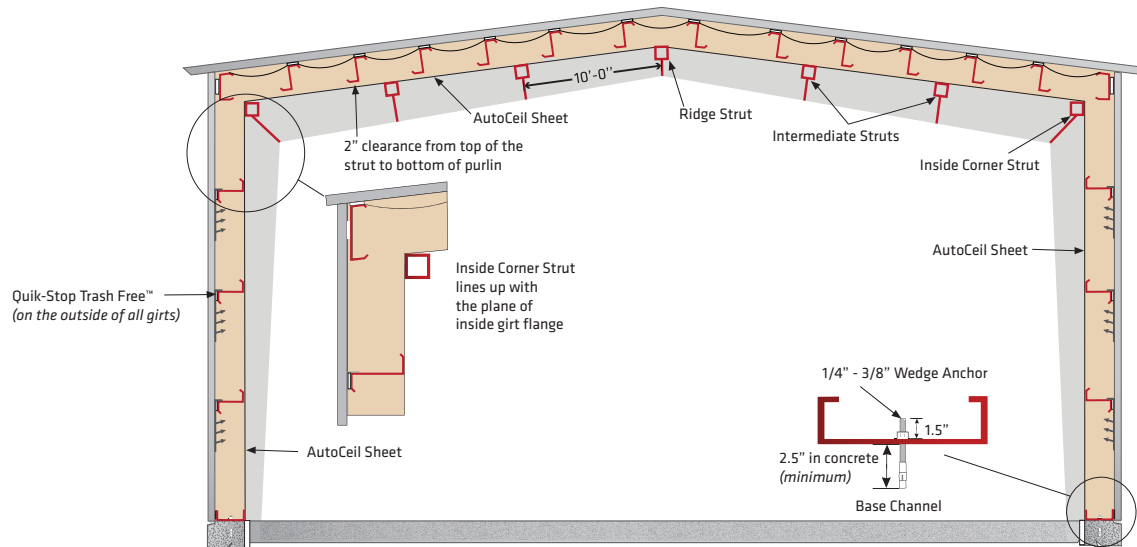


Figure 1

1. Adding Ceiling Support Struts

A series of steel support struts are required spanning between adjacent rafters that are engineered and provided as an integral component of the building. Support struts are required at uniform 10' spacings from the center of the ridge strut down to each sidewall with those nearest the walls being the variable space. The top, flat plane of the struts shall be smooth and free of projections, sharp edges, welding spew, etc.

(Figure 1, Figure 2)

- **Intermediate Strut** - placed 10' on center starting from the ridge line or high side.
- **Ridge Strut** - placed approximately in the center of the ridge purlin space.
- **Inside Corner Strut** - placed to align with the inside steel line of the wall girts.

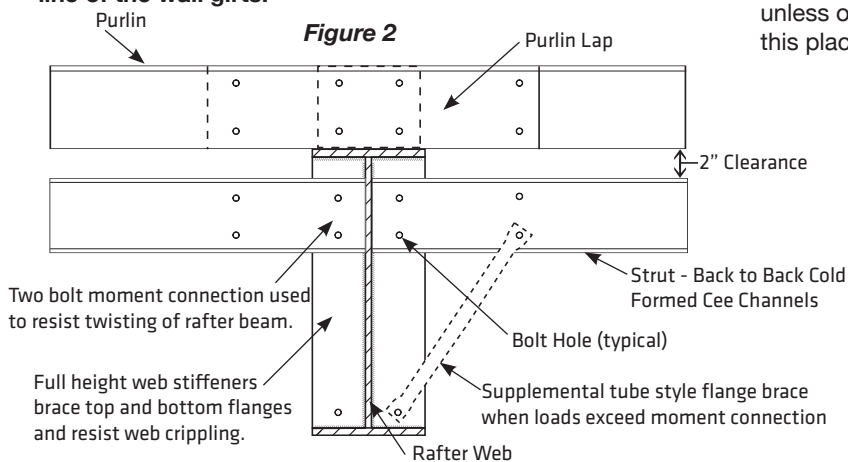
2. Rafter Brace Loads from Purlins to Struts

Rafter flange bracing loads are engineered to be removed from the purlins and applied directly to the ceiling support struts by design. Ceiling support struts use back-to-back "Cee Channels" to rafter web stiffeners for moment connection to brace rafter against twisting. Preferred if purlins are not placed directly, in line above support struts. (Figure 1, Figure 2)

The slightly modified design and engineering allows the AutoCeil system to be easily mechanically pulled throughout ceiling plane without bracing interference.

Offset Distance

Offset distance between the top plane of the struts shall be offset 2 inches below a line formed by the top plane of the rafter flange unless otherwise specified. Insulation cavity depth is created with this placement of the struts within the rafter web. (Figure 2)



3. Base Channel on Exterior Walls

By-pass mounted wall girts shall be ordered allowing space for full thickness metal building insulation to be installed between the wall panel and the building column. Base channel, secured by wedge anchors, is the preferred method for attachment for side walls and end walls. (Figure 1, Figure 3)

Savings & Benefits

The AutoCeil System offers many savings and offsets that will lower the building cost. These savings will result in:

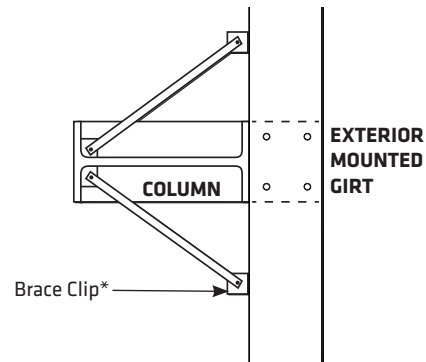
- **No bands or straps and no bottom side ceiling fasteners required.**
- Fewer parts and pieces compared to traditional methods
- Struts are designed to erect the building faster.
- Significant crane and lift rental savings.
- Unfaced blanket insulation is simply sliced around purlin stiffener braces in cavity.
- 80% fewer vapor retarder field seams compared to laminated fiberglass insulation.
- Engineered to offset the steel in purlins, rafter webs, and braces.
- HVAC and lighting savings.

For more about the benefits of AutoCeil visit: autoceil.com



Notice: Exterior wall and roof panel joints, seams and transitions shall be sealed and materials shall be installed as air barriers in accordance with manufacturer's instructions and also to comply with minimum applicable code requirements.

Figure 3



**Multiple self-drilling fasteners preferred through each clip into the girt flanges, or bend brace flange at appropriate angle to flush mount brace directly to girt with multiple self drilling fasteners. Manufacturer to specify and provide.*

Thermal Design, Inc. manufactures the AutoCeil™ System and provides all components required to complete the installation for buildings that are ordered to the specifications. Specification suggestions are welcomed.

Thermal Design and www.autoceil.com will assist manufacturers with questions and requirements. If a building manufacturer will not competitively fulfill these requirements, please contact Thermal Design and we will assist builders with alternative building manufacturer referrals that will meet AutoCeil specifications.

For technical engineering questions contact 800-255-0776