Thermal Design

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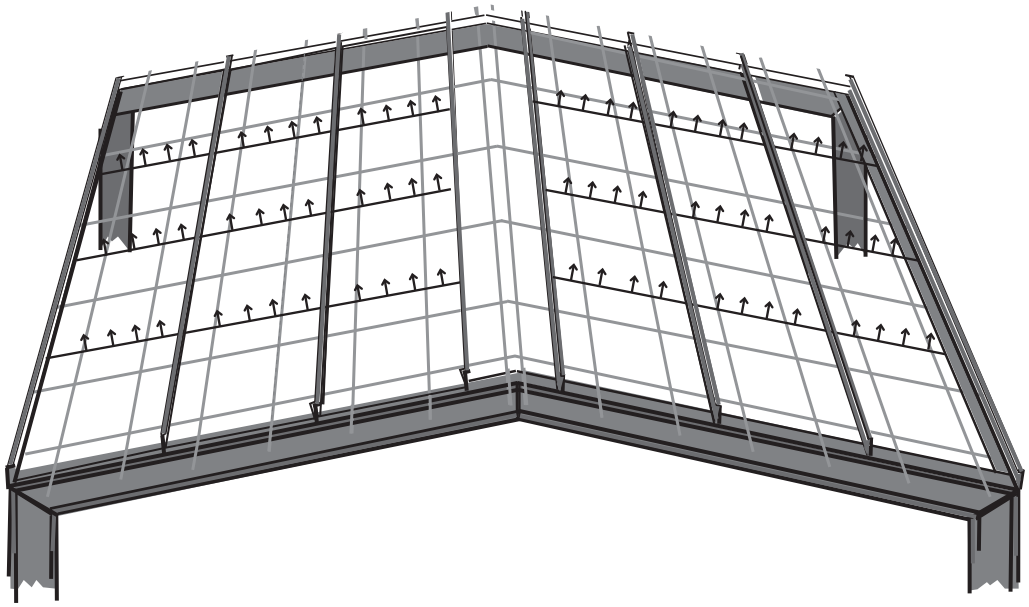
RETAIN-R™ STRAPS FOR HIGH PITCH ROOFS

For metal buildings with a roof pitch greater than 4:12, Retain-R™ straps may be used to support and hold fiber glass blanket insulation in place within the purlin space. Thermal Design recommends to specify the building purlin spacings to be 2-3" narrower than the standard insulation widths so the insulation fits snug to the purlin web on both sides. Alternatively, cutting the fiber glass insulation rolls may be required on site in order to accommodate this recommendation. Purlins spaced 30” or less may not need insulation hangers to support and hold fiber glass blankets due to the narrow spacing if the insulation is two or three inches wider than the purlin space.

Before the Simple Saver System® longitudinal and traverse roof straps are installed, and before the Syseal® fabric liner is pulled onto the bay, installers should install the Retain-R™ straps for the roof by following these recommendations. Refer to Thermal Design's roof installation instructions and specific project drawings for complete details on the Simple Saver System strap and fabric installation and then proceed to the following steps.

Step One: Measuring

Retain-R™ strap spacing is the length of the bay divided by four. The insulation Retain-R straps will run parallel to the Simple Saver System's traverse roof straps (perpendicular to the purlins). This will allow for three continuous length Retain-R straps, evenly spaced across each bay nominally every 5' on center. For example, a 20' bay would have a Retain-R™ strap spaced at 5', 10' and 15' from the rafter. Retain-R straps may be used adjacent to the rafters as well and in closer proximity if the insulation sags downhill in steep slope roofs.



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Step Two: Fastening

Begin fastening the continuous length Retain-R™ straps to the bottom of eave strut with self drilling fasteners. Proceed to fasten strap into the next purlin up from the eave strut, maintaining proper spacing and some tension to prevent sag. Bend barbed arrows 90° to the strap within the purlin spaces as the Retain-R straps are installed. Insulation will be later centered in the purlin space and impaled on the barbed Retain-R arrows to prevent it from sliding down the slope over time.

Continue to install Retain-R straps with self drilling fasteners where they intersect with each purlin by fastening and bending the arrows at each purlin space up to the ridge for each row. Be sure the proper spacing is maintained throughout the bay. Retain-R is not recommended in the ridge space. Make sure the end of the Retain-R strap is bent upward at the ridge purlin so the Syseal® fabric does not catch or snag during fabric installation.

Step Three: Install the Simple Saver System® below the plane of the Retain-R straps

Refer to the Simple Saver System project specific installation instructions on how to install the support strapping and pull the fabric liner into each bay and fastening procedures.

IMPORTANT: The fabric liner needs to be pulled in below the Retain-R straps, but above the grid of the Simple Saver System strap platform.

Step Four: Impale Fiber Glass Insulation Blankets

Once the Retain-R straps, Simple Saver System support straps and fabric are completely installed, the fiber glass insulation blankets are ready to be impaled onto the barbed arrows from the top side as the roof is installed. Be sure to fluff the insulation to full recovery before setting the insulation centered in the purlin space. Ensure it is snug against both purlin webs. Insulation may be cut into manageable 5' to 10' foot length batts to aid in the installation as large rolls can be difficult to handle on steep slopes. Impale the insulation on the barbed arrows, starting from the bottom of the purlin space and working to the upper purlin. Check to be sure there is no un-insulated gaps along the purlins, reposition the insulation blanket if necessary. Proceed to install the insulation far enough ahead to install several runs of the roof sheathing over the insulation. Repeat the process until the roof is completed.

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