



1. PRODUCT NAME

Roof Hugger Sub-purlin System

2. MANUFACTURER

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3. PRODUCT DESCRIPTION

BASIC USE

ROOF HUGGER is the leading manufacturer of structural pre-notched sub-purlins for existing sloped metal roofs.

It engineers and manufactures retrofit sub-framing systems for reroofing of existing sloped buildings. Since 1992, ROOF HUGGER has designed, manufactured and sold product that meets or exceeds industry engineering and warranty standards. As an innovator in "Metal-over-Sloped" reroofing systems, ROOF HUGGER has made numerous product and technological contributions to the industry and continues to offers the latest technology for retrofitting over existing metal roofs as well as conventional membranes on sloped roofs.

Roof Hugger Sub-purlins allow architects and engineers to design and specify functional metal roofover systems. It is ideal for applications where an existing metal roof has deteriorated due to exposure and/or extreme thermal movement, which is common in many older metal roof system applications. The existing roof receives the structural Roof Hugger Sub-purlin members allowing a new metal roof system to be installed without removing the existing roof. Using computerized factory die stamping and punching as well as roll-forming equipment, the Roof Hugger sub-purlins can accommodate any existing roof panel profile (spacing and configuration of major ribs) for any job application.

This proven and patented product has been installed on several million square feet of existing facilities in the United States and internationally. The standard long life G-90 galvanized coating provides long-term protection from corrosion. Due to the cavity created between the old and new roof

systems, building owners will want to take advantage of increasing the facility's thermal efficiency by the addition of low-density fiberglass or rigid insulation. This also aids in the control of condensation, which is eminent in non-ventilated assemblies. For ventilated assemblies, the space between the existing and new roof provides a cavity of air that can assist in reducing heat gain in the summer months and heat loss in winter.

Any manufacturer's structural metal roof panel system can be installed over the Roof Hugger Sub-purlin System. Of course, this is subject to industry recognized wind uplift testing. To accommodate specified metal roof systems, Roof Hugger has tested their systems in accordance with ASTM E-1592 and for Florida Building Code Approval. Because of this stringent series of testing, Roof Hugger Sub-purlin Systems can satisfy any specified and required wind load criteria for all zones of a roof including corners and edges.

If the added weight of the new roof and Roof Hugger Sub-purlin System is a concern, ROOF HUGGER has tested their designed assemblies to determine what affect if any on the existing roof system. By installing a Roof Hugger Sub-purlin system on your existing metal building, the existing roof purlins are strengthened resulting in significant increases of load carrying capacity. This is true for both positive (gravity) load and negative (wind uplift pressure) load. To learn more on this, request test reports from ROOF HUGGER.

The sales, engineering and manufacturing team at ROOF HUGGER is ready to provide its expertise to architects, engineers and other design professionals, providing engineering services, installation drawings, product details and design assistance of all phases of a retrofit construction project.

COMPOSITION & MATERIALS

Roof Hugger Sub-purlin System base materials is 50 ksi minimum yield strength G-90 galvanized finished steel sheet per ASTM A-446 or A-570. Material thickness is available to meet design loads in 16 and 14 gauges.

TYPES

The standard Type "C" model is manufactured to accommodate existing ribbed metal roofing with maximum 1 1/2" high major ribs spaced at 12" on center. In addition, the "242" model is manufactured for existing 3" Trapezoidal Standing Seam roofs without thermal spacers and stand-off clips. A custom patent pending product is available for these and other standing seam roofs that utilize thermal spacers and stand-off clips. In addition, other standard types include profiles manufactured



Model "C" Roof Hugger Sub-purlin System over existing 12" on center ribbed panel.

to accommodate the following popular panel types:

- 6"-10" O.C. Ribbed Panel
- 2.5", 2.67", 2.75" and 4.2" Corrugated
- 7.2" Industrial Rib
- 12"-20" O.C. Vertical Rib Standing Seam

SIZES AND SHAPES

All Roof Hugger Sub-purlins are zee shaped steel members with 1.06" minimum bottom flange and 2.0" minimum top flange plus a .25" minimum lip. The web depth varies based on the existing panel profile dimension or desired insulation thickness. The die-stamped web window that allows nesting over the existing roof system ribs also may vary per job application and requirements. All are shipped in 10'-0" lengths plus or minus to fit existing panel rib or seam modules.

COLORS

All Roof Hugger Sub-purlins are provided in mill finish G-90 galvanized steel.

LIMITATIONS

Roof Hugger Sub-purlins are intended to attach directly above and to the existing building secondary support members. These members are most commonly zee shaped purlins, steel bar joist or other types of framing. When these members exceed the maximum spacing as dictated by the new roof panel system, the Roof Hugger Sub-purlins must employ "sub-rafter" and/or "struts that span over the existing purlins. By doing this, the Roof Hugger Sub-purlins can be installed at mid-span conditions (between existing purlins).

4. TECHNICAL DATA

APPLICABLE STANDARDS

American Iron and Steel Institute – *AISI Light Gauge Cold-Formed Steel Design Manual*

American Society for Testing and Materials (ASTM)

- ASTM A-446 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Structural (Physical) Quality

- ASTM E-1592 Standard Test Method for Structural Performance of Metal Roof and Siding Systems by Uniform Static Air Pressure Difference
Florida Product Approvals
FL 9352-1 and FL 9352.2
FL 9561 and FL 10141

5. INSTALLATION

PREPATORY WORK

Handle and store product according to ROOF HUGGER recommendations. Protect products from damage during transit and at project site. Store components in dry storage area to prevent exposure to moisture.

The installer must first locate existing purlins or joist. If the existing roof is an exposed fastener system, then this process will be completed easily due to the existing structural member fasteners being exposed. If the existing roof system is a standing seam roof, inspection from the underside of the roof will be necessary. This will permit the installer to locate the existing purlins or joist. In this case, the installer must transfer the location of these members to the topside of the roof. Refer to the requirements mentioned above concerning existing standing seam roofs with thermal spacers and stand-off clips.

METHODS

Install and anchor in accordance with the ROOF HUGGER erection documents. Locate and attach Roof Hugger Sub-purlin members to existing roof secondary support purlins or joist with the engineered quantity of anchors. The anchors are to attach through the pre-punched pilot holes. Fasteners must satisfy minimum wind uplift loads as determined by the project specifications.

PRECAUTIONS

Do not overload roof structure with stored materials. Do not proceed with installation until unsatisfactory conditions have been corrected. Isolate dissimilar metals to minimize possibility of galvanic actions. Roof Hugger sub-purlins and related systems are not watertight prior to new roof panel installation. Schedule construction to cover framing as installed or seal all fastener penetrations. Some standing seam panels may experience "panel rumble" under certain conditions if installed without insulation. Consult panel supplier for their specific installation recommendations.

BUILDING CODES

Current data on building code requirements and product compliance may be obtained from ROOF HUGGER technical support specialists. Installation must comply with the requirements of all applicable local, state and national code jurisdictions.

6. AVAILABILITY & COST

AVAILABILITY

ROOF HUGGER services the United States, Canada, Guam, Mexico and the Caribbean through direct sales and licensees. Contact the manufacturer for more information.

COST

Budget installed cost information may be obtained from a local ROOF HUGGER service office.

Roof Hugger Sub-purlins are offered as a component part or on a project-by-project lump-sum basis. ROOF HUGGER does not provide engineering analysis for anchors. For product performance data, refer to Section 9 on this page.

7. WARRANTY

ROOF HUGGER issues a standard industry workmanship warranty on this product upon request of the purchaser. In addition, test reports, technical bulletins and engineering data are available from the manufacturer upon request.

8. MAINTENANCE

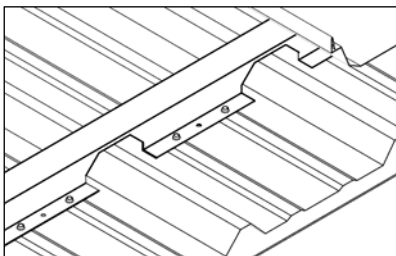
Once the new roof has been installed, the Roof Hugger Sub-purlins require no maintenance.

9. TECHNICAL SERVICES

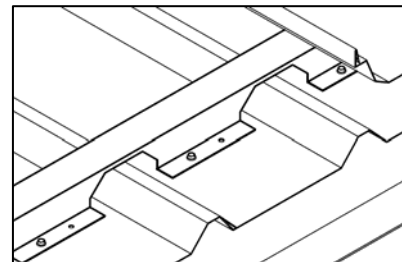
ROOF HUGGER's Design and Installation Guide is available for download at www.roofhugger.com. This manual contains specifications, applications and product information including complete installation details. CAD details are also available for download on the website.

10. FILING SYSTEMS

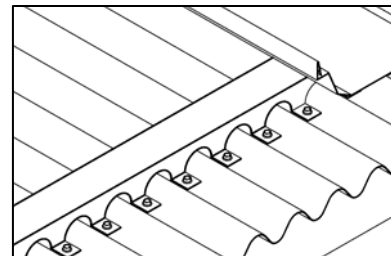
Additional product information is available from the manufacturer upon request.



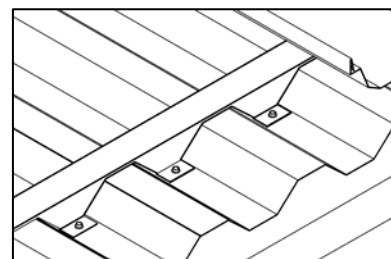
Model "C" Roof Hugger Sub-purlin System installed over existing exposed fastener ribbed panel and new ribbed panel system



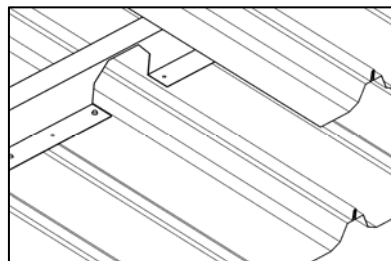
Roof Hugger Sub-purlin over existing 6"-10" exposed fastener ribbed panel



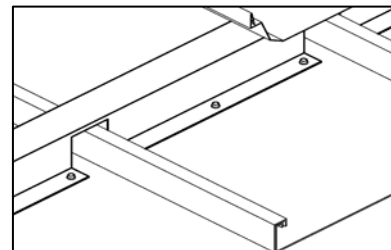
Roof Hugger Sub-purlin for existing exposed fastened corrugated panels



Roof Hugger Sub-purlin for existing exposed fastened 7.2" ribbed panels



Roof Hugger Sub-purlin for existing trapezoidal rib standing seam panels



Roof Hugger Sub-purlin for existing vertical rib standing seam panels