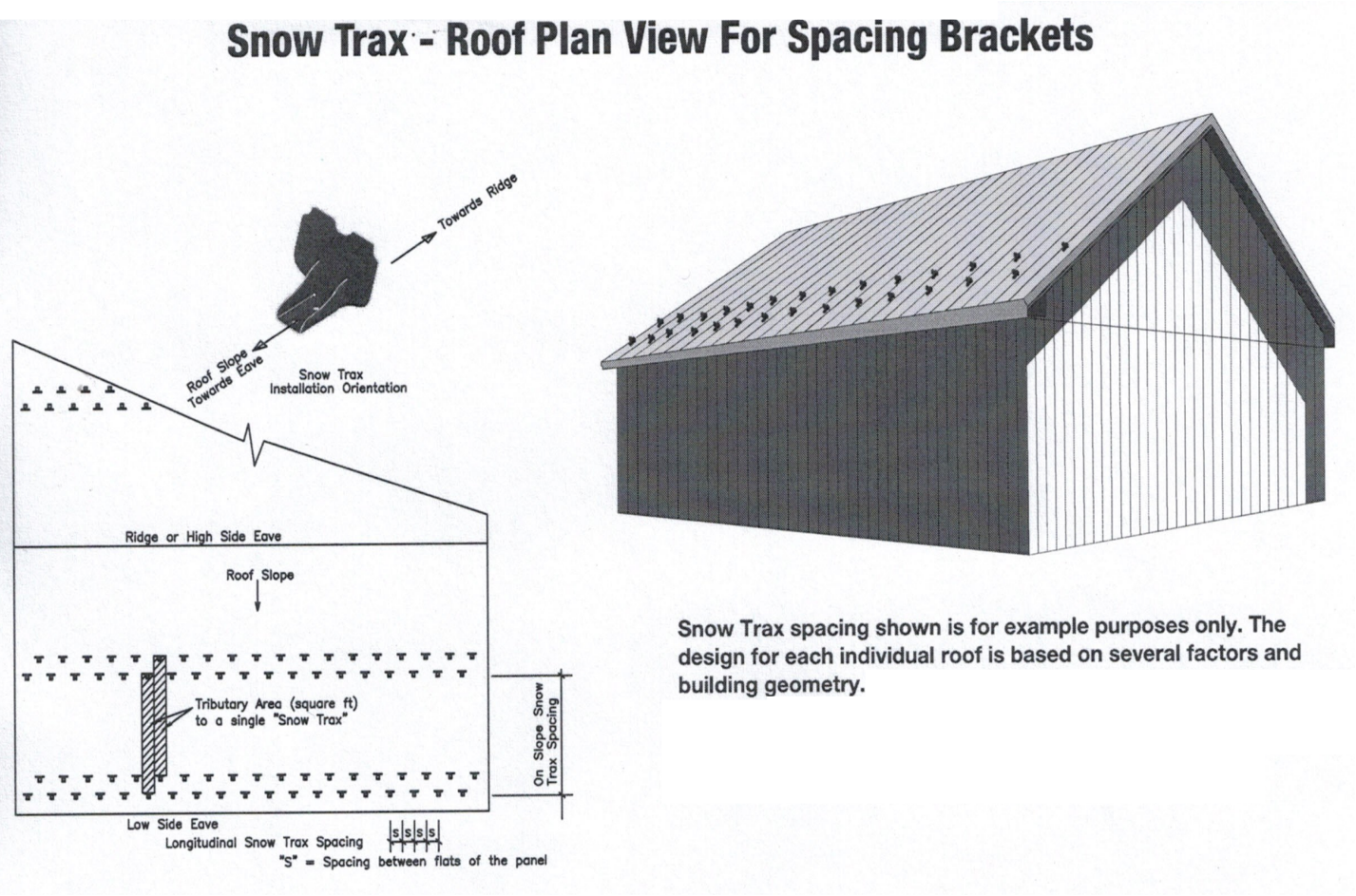
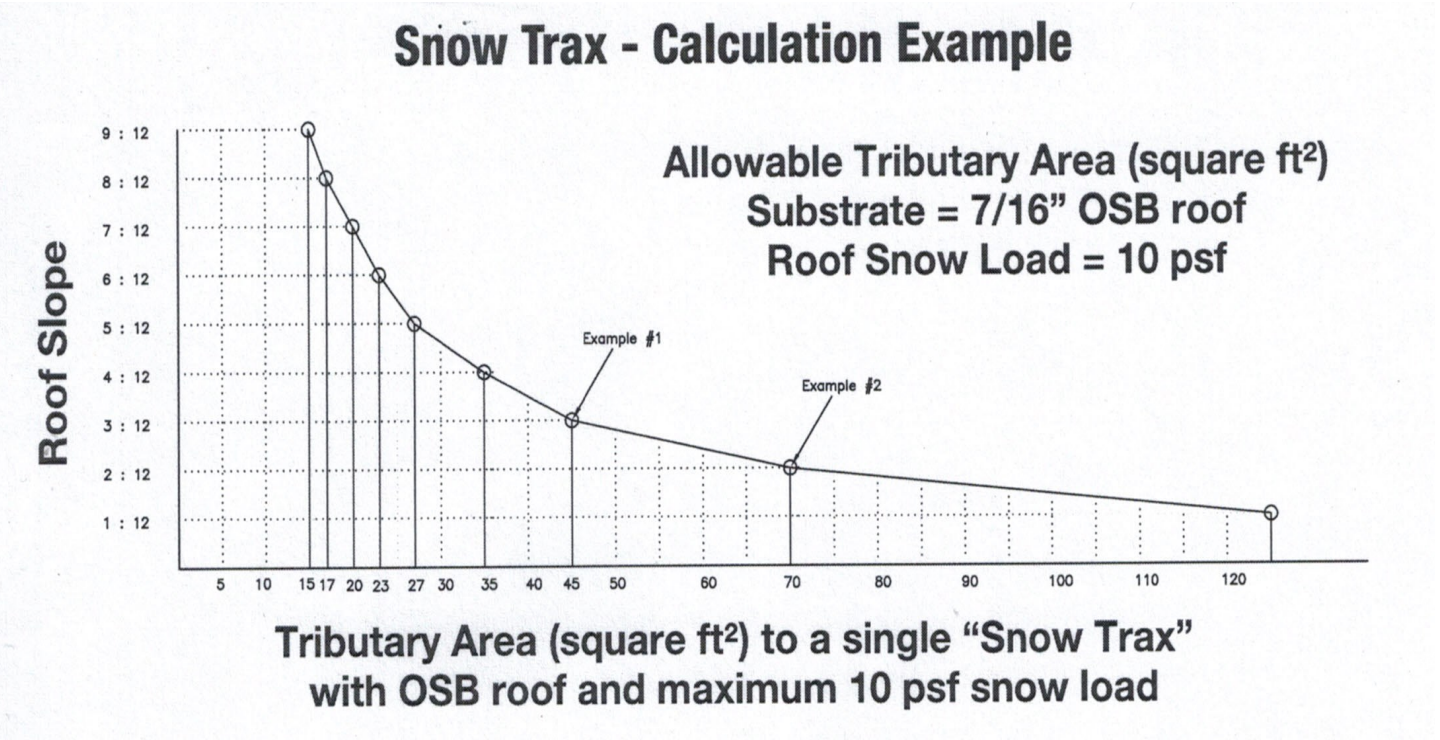
Snow-TRAX Snowguard Tech



"Snow Trax" snow guards are only applicable for exposed fastened roofs, and are not applicable with standing seam roofs, as they will prevent thermal movement. The staggered pattern illustrated is dependent on the rib pattern of the roof panel and the sub-strate below the roof panel, and is recommended to distribute the down-slope snow and ice loads to more than a single member. Assure roof system has the capacity to resist increased vertical loads and down-slope sliding forces, created by "Snow Trax" snow guards preventing snow and ice from sliding off roof. The snow bank retained by snow guards takes on a wedge shape, rather than a rectangle, therefore care should be taken when providing snow guards in isolated locations near roof penetrations or over door ways, as this could result in localized forces greater than originally anticipated. "Snow Trax" spacing "S" is related to Roof Slope, Panel Rib Spacing, Substrate, Roof Configuration as well as Ground and Roof Snow Load for the locale. Insulation between roof panel and substrate will adversely affect the resistance capacity of the "Snow Trax". Please contact ST for spacing questions and recommendations. Note: "Snow Trax" Brackets subjected to repeated loads will fatigue and fail at loads below ultimate load. After snow or ice conditions have dissipated, brackets should be inspected for deformation and screws should be inspected for pullout failure. If either is noticed, brackets and screws should be replaced to maintain sliding snow resistance. Additional "Snow Trax" may be added to provide adequate safety factors if either failure of bracket or screws is discovered.

Snow-TRAX Snowguard Tech



The tributary area shown is the recommended area for a single "Snow Trax", using (2) 1 1/2"long #10 Direct*Seal WOODBINDER fasteners, a 10 psf roof snow load over 7 /16" OSB substrate using a factor of safety of 2. Adjust values shown to accommodate different factor of safety requirements for your specific project. Example 1: Actual roof conditions are 3:12 roof slope with 7/16" OSB and a 10 psf roof snow load. Each "Snow Trax" will resist 45 square ft of area, assuming a 1'-0" spacing, (panel flats @12" o.c.) the maximum recommended roof panel length would be 45'-0". If the eave to ridge dimension is greater than 45', an additional row of "Snow Trax" is recommended at about 45' up from the eave row (see layout). Similarly, if the panel flats are 0'-9" o.c., the allowable area would be 0.75' x 60' = 45 square ft Additional capacity can be obtained by providing "back-up" blocking under the OSB and longer screws to penetrate into and increase fastener pullout capacity. A 35% increase in area is allowed if the substrate is 1/2" Plywood. A 90% increase in area is allowed if the substrate is 3/4" or 2x material. A decrease in area is recommended if the snow load is greater than 10 psf at a rate equal to 10 psf divided by the actual snow load. Example 2: Actual roof conditions are 2:12 roof slope with a 1/2" plywood substrate and a 25 psf roof snow load. Each "Snow Trax" will resist 70 ft² (1.35 for 1/2"plywood) x (10 psf / 25 psf) = 37.8 square ft For roof slopes or snow loads outside the parameters of the charted data, call ST for recommendations. Attention: Snow loads and ice loads on roofs are difficult to predict and can fluctuate with the possibility of rain loads on ice, drift loads, sliding snow loads, snow accumulations in valleys, around mechanical units, roof projections and parapets, tree shading, thermal factors, and exposure factors all resulting in increased snow accumulations. ST has no way to determine the worse case scenario to each "Snow Trax", and advises the owner/builder to refer to ASCE 7-10 to derive actual snow load conditions in accordance with the climatological data for the county where the project is located. Furthermore, Sealtite has no way to analyze the structural adequacy or condition of the substrate below the metal panel supporting each "Snow Trax". Engineering judgement has been used to extrapolate the charts above using pullout testing of the "Snow Trax" brackets in varying substrates to calculate the capacity. Please call ST with questions or for clarifications or recommendations. ST or DMI in no way takes responsibility for misuse of the printed material.

Snow-TRAX Snowguard Tech

The latest version of the International Building Code references the ASCE 7 Building Code for snow calculations depending on numerous criteria that define the roof snow load for a particular project. The force that will be resisted by each "Snow Trax" can be calculated and a spacing can be determined with the following information defined. If you would like ST's Technical Service Department to determine the "Snow Trax" spacing, please provide the following information, or worst case scenario will be assumed.

See latest version of ASCE 7 or call ST for explanation of definitions)

List the county where the roof is located _____

Ignore the roof snow load per the county recorded data and use this roof snow load _____
What is the thermal factor: (0.85->1.3) _____
What is the exposure factor: (0.70->1.2) _____
Is the building sheltered by trees, or open surroundings
That would contribute to snow accumulations? _____
Are there any taller buildings in the vicinity that could
Cause additional sliding snow or drifts on this roof? _____
What is the importance factor? (0.8->1.2) _____
What is the on slope roof dimension from eave to ridge _____
What is the roof slope _____
What is the roof panel "flat to flat" spacing dimension? _____
What is the substrate below the metal roof panel the Snow Trax will be attaching to:
Steel Thickness including gauge 18ga, 16ga, 14ga, 12 ga, 3/16" etc? _____
Wood type Plywood, OSB or Dimensional Lumber and thickness? _____
Additional Information to consider to calculate sliding roof snow loads:
See latest version of ASCE 7 or call ST for explanation of definitions

Assure the roof framing is designed to resist the vertical and downslope force created by resisting the snow from sliding off the roof. Snow Loads and ice loads on roofs are difficult to predict and can fluctuate with the possibility of rain on ice, drift loads, sliding snow loads, snow accumulations in valleys, around mechanical units, roof projections and parapets, tree shading, thermal factors and exposure factors all resulting in increased snow accumulations. ST has only the information given to determine the worst case scenario to each "Snow Trax" and advises the owner/builder to refer to ASCE 7 to derive actual snow load conditions in accordance with the climatological data for the county where the project is located. ST has no way to analyze the structural adequacy or condition of the substrate below the metal panel supporting each "Snow Trax". Engineering judgement has been used to extrapolate the spacing using pullout testing of the "Snow Trax" brackets in the substrate specified and conditions described. "Snow Trax" Brackets subjected to repeated loads "fatigue" and will fail at loads below ultimate load. After snow or ice conditions have dissipated, brackets should be inspected for deformation and screws should be inspected for pullout failure. If either is noticed, brackets and screws should be replaced to maintain sliding snow resistance. Additional "Snow Trax" may be added to provide adequate safety factors if either failure of bracket or screws is discovered.

Snow Trax - Design Criteria for Spacing Analysis ST or DMI in no way takes responsibility for misuse of this material or installation of these brackets.