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Exposed Fastener Panel Check Guide

Rail Series — Snow Retention Systems

Exposed fastener roofs vary far more than standing seam, and the same panel name is used by different manufacturers for different profiles. Rather than ask you to find your panel on a list that may not match what is actually on your roof, this guide shows you how to check it yourself.

Two dimensions govern compatibility. Take both measurements on the panel, compare them against the criteria overleaf, and you will have a determination in a few minutes.

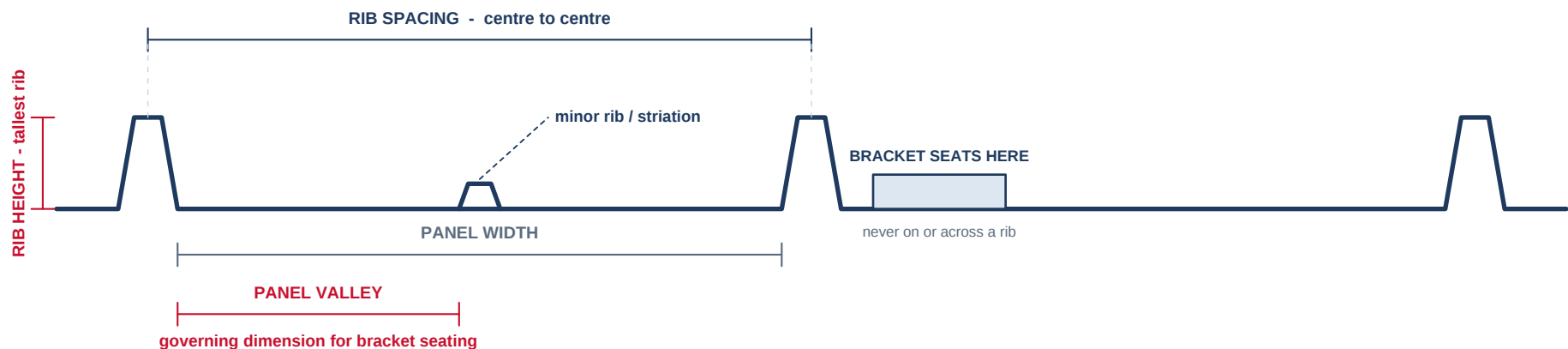
How the bracket works

The Rail Bracket seats flat in the valley between the ribs and fastens through the panel with #10 × 1.5" neoprene-washer screws. A factory-applied butyl base seals the bracket to the panel, and it must press out around the full perimeter to do that.

The rail then runs across the roof, perpendicular to the panel ribs, passing over the rib tops.

So the valley has to be wide enough to seat and seal the bracket, and the ribs have to be short enough for the rail to clear them.

Panel profile geometry — the two dimensions that govern compatibility



Cross-section shown looking up-slope. Representative profile, not to scale. Minor ribs, striations and stiffening beads within the pan are common and reduce the usable panel valley below the published panel width — the most frequent source of non-compatibility on otherwise suitable profiles.

What a panel must have to be compatible

A panel is compatible with the ArcticAnchor™ Exposed Fastener Rail Series when all four of the following are true. The first two are dimensional and you measure them yourself. The second two are conditions of the panel and its structure.

- 1 A flat panel valley of 1.4" or more**
Uninterrupted flat metal in the valley between major ribs, wide enough for the bracket base to sit entirely on flat material. Measured after deducting any minor rib, striation, bead or groove in the pan.
- 2 A tallest rib no greater than 2"**
Up to 1-1/2" runs on either rail. Over 1-1/2" and up to 2" requires the double rail. Above 2" no rail will clear the rib.
- 3 A valley that stays flat to the bracket edge**
The butyl base must press out around the full perimeter of the bracket. If the pan begins curving up into the rib within the bracket footprint, the bracket will seat but will not seal.
- 4 A roof-rated panel with known backing**
The panel must be warranted by its manufacturer for roof use, and you must know what is behind it at the bracket location — purlin, solid decking, or unsupported span. Snow retention transfers real load into the panel.

Taking the two measurements

1

THE VALLEY — measure your PANEL VALLEY

Lay a straightedge in the valley and find the longest uninterrupted stretch with nothing under it. That is your panel valley.

It is **not** the rib spacing and **not** the panel width. Subtract every minor rib, striation, stiffening bead, siphon groove and mesa sitting in the pan. If minor ribs split the pan into several flats, measure the widest single one.

Panels with grouped crimps, such as 5V, qualify on the flat between the crimp groups — measure that stretch rather than the crimped section.

Minimum 1.4" of panel valley.

1.6" or more — ideal

1.4" to 1.6" — comfortable fit

Under 1.4" — will not work

Watch for

A panel can advertise 9" or 12" rib spacing and still give you flats of around 2" once the minor ribs are deducted. Measure, don't assume from the catalog.

Also check that the flat stays flat right to the bracket edge. If it curves up into the rib early, the butyl has nothing to seal against.

2

THE RIB — measure your TALLEST RIB

Measure from the valley floor to the **highest point on the panel**. If the ribs are not all the same height, measure the tallest one — that is what the rail has to clear.

A tall rib does not mean your panel is incompatible — it means you need the double rail so the rail clears the rib tops. Order the wrong one and you will find out on the roof.

This selects which rail you need.

Up to 1-1/2" — single or double rail

1-1/2" to 2" — double rail only

Over 2" — out of range

Watch for

Alternating rib heights. Some profiles run a tall major rib and a shorter one between. Measure the tall one. Minor ribs and striations inside the valley are not what you measure here — they only matter for the valley width.

If your measurement lands within about 1/16" of 1-1/2", order the double rail. Manufacturing tolerance and paint build can push a nominal 1-1/2" rib over the line.

The double rail also uses the centre screw position on the bracket, so the install differs slightly.

Both criteria must be satisfied independently

Satisfying one criterion does not carry the other. A generous valley on a panel with a 2-1/2" rib is non-compatible on rail clearance; a low rib on a corrugated profile is non-compatible on bracket seating. Both must be confirmed on the same panel.

Non-compatible profiles

The following profiles are non-compatible by geometry rather than by dimension — no measurement will alter the determination. If your roof uses one of these, contact us; an alternative retention approach may be available for your building.

Corrugated — any depth	Sinusoidal. The surface curves continuously, so there is no flat for the bracket to sit squarely on and the butyl cannot press out around the full perimeter. This applies to true corrugated profiles only — a panel with crimps or ribs separated by flat sections is a different case, so measure it.
V-beam profiles	Usually non-compatible because the pan is not flat across a wide enough stretch — but measure before ruling it out. If a flat of 1.4" or more exists between the beams, the bracket can seat.
Very close rib spacing (under roughly 3")	Even a trapezoidal rib gives a flat too narrow at that pitch. Ribs at 2.67" centres, for example, cannot produce a 1.4" clear flat.
Ribs over 2" tall	Out of range for both the single and double rail, regardless of how good the valley is.
Wall and equipment-screen panels	Several exposed fastener profiles are made for walls, wainscot, soffits or screens rather than roofs. Check that your panel is warranted by its manufacturer for roof use.

Also tell us what is behind the panel

On an exposed fastener roof the bracket fastens into the panel itself, so what sits behind the panel at the bracket location matters as much as the profile. Over open purlin framing the pan is unsupported sheet metal spanning between purlins, which is a different load path from a bracket landing on a purlin or over solid decking. Snow retention holds real load, so tell us whether your roof is over purlins, solid decking, or a retrofit over an existing roof — it changes the layout we specify.

Send us these and we will confirm your roof

Because exposed fastener profiles vary so widely between manufacturers — and because the same panel name is used for genuinely different profiles by different companies — we confirm compatibility from your measurements rather than from a panel name alone. It takes us a day.

Panel valley width	The widest uninterrupted flat in the valley, minor ribs subtracted. Required.
Tallest rib height	Valley floor to the highest point on the panel. Required — it selects your rail.
Rib spacing	Centre of one major rib to the centre of the next.
A photo of the seam end-on	Taken square to the panel end so the profile shape is visible. This alone answers most questions.
Panel gauge and material	26 ga steel, 24 ga steel, aluminum, and so on.
Manufacturer and panel name	Both, if you have them — the name alone is not enough to identify a profile.
What is behind the panel	Open purlins, solid decking, or a retrofit over an existing roof.
Roof slope and building location	So we can size the layout to your ground snow load.

The two thresholds in this guide are product specifications for the ArcticAnchor™ Exposed Fastener Rail Series. Meeting them means the bracket can seat and seal on your panel and the rail can clear your ribs. It does not by itself determine how many rows of retention your roof needs, or whether the panel and its substructure can carry the resulting load. Snow retention layout, bracket spacing and the number of rows must be determined for each roof from slope, panel type, rafter length, substructure and local ground snow load. This document is not a substitute for a project-specific engineering review.

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