STANDING SEAM SS150

FREEMAN ROOFING STANDING SEAM SS150

Building Product Information

AUTHORISED SUPPLIER

COLORSTEEL®

New Zealand Steel

FREEMAN ROOFING

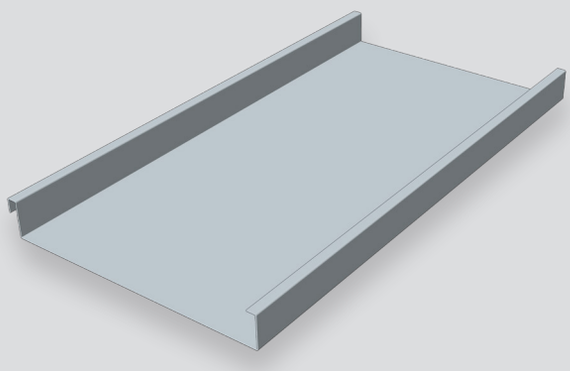
www.freemanroofing.co.nz

Family owned since 1956

FREEMAN ROOFING STANDING SEAM SS150

The Standing Seam SS150 is a roofing and wall cladding system. It is securely fastened onto roof purlins and wall girts through a concealed clip mechanism.

Standing Seam SS150 profile features a rib height of 38mm, providing increased water-carrying capacity and robustness to handle snow loads, particularly suitable for alpine regions but just as effective and visually appealing for coastal regions. This product is typically produced at a local manufacturing facility and then transported to the installation site. However, in some locations and depending on the project, it is possible to roll form on site.



All profile dimensions are nominal

MANUFACTURING BRANCHES

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Timaru
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Wānaka
Wanaka@freemanroofing.co.nz / 03 443 1250

Queenstown
Queenstown@freemanroofing.co.nz / 03 442 3883

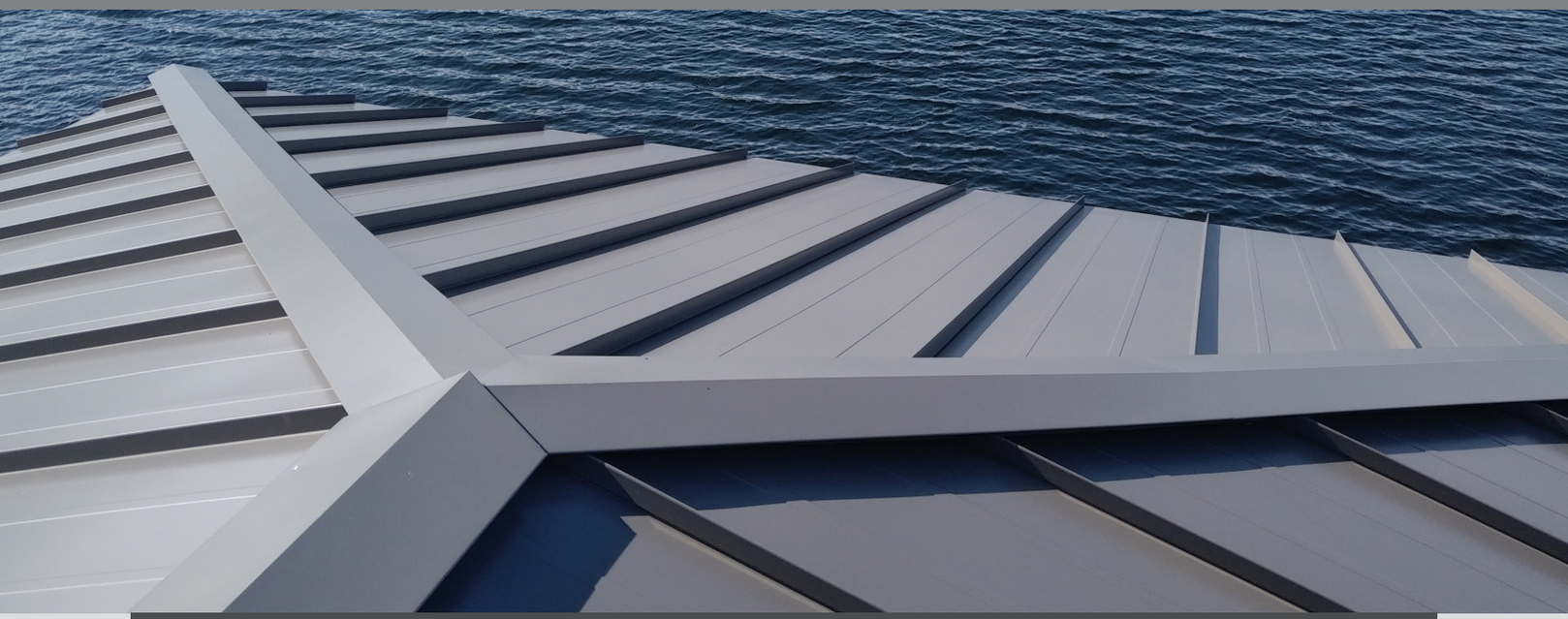
Manufactured custom cut to length subject to transport and site limitations.

As sheet lengths increase higher transportation costs may be applicable.

Sheet lengths in excess of 28 metres require specialised transportation.

Maximum recommended sheet lengths for aluminium is 10-12 metres for dark coloured and 12-15 metres for plain and light coloured. Refer to Roof Expansions Provisions of this summary.

***Due to processing and/or geographical constraints. Maximum lengths of Standing Seam SS150 will vary between branches. Please contact your local Freeman Roofing team to find out more.*



FREEMAN ROOFING STANDING SEAM SS150 CONT.

SUMMARY OF DESIGN CONSIDERATIONS

- Minimum roof pitch of 3°.
- Effective coverage width of 510mm (Max
- Rib height of 38mm.
- Specify the appropriate material and coating to suit the building's location and environmental conditions.
- COLORSTEEL®, including Matte, standard range of colours are available; please check for availability and minimum order quantities.
- Ensure that purlin spacing does not exceed the maximum spans as specified in Standing Seam SS150 span tables.
- For roof pitches below 10°, it is advisable to reduce the internal purlin spacing. Refer to the span tables for more details. Additionally, self-supporting underlay will require extra support when the pitch is under 10°.
- In roofing applications, it is recommended to use purlin tape or a similar material to create a barrier between Standing Seam SS150 roofing sheets and timber supports to reduce noise.
- Account for thermal expansion and contraction of the product by following Freeman Roofing's Standing Seam SS150 design detail drawings to meet NZ Building Code, E2/AS1, and NZ Metal Roofing Manufacturers Code of Practice. Design details for ridge, valley, eave, change of pitch, head barge, and top apron should be consistent within a single option version, such as all Option 1 or all Option 2. For reference, visit the design details page: https://www.freemanroofing.co.nz/roofing-styles/alpine-tray/
- Oil canning (visible waves or ripples) in the pan of Standing Seam SS150 may occur due to thermal movement, which is common in wide, flat steel roofing and wall cladding products. This does not affect the product's performance.
- Choose between swaged or non-swaged pan options, with swaging helping to reduce the canning effect.
- Standing Seam SS150 wall cladding should be installed with a drainage cavity batten.
- Additional support may be necessary in Extra High and Specific Engineered Design Wind Zones. It's also required when using aluminium Standing Seam SS150. Contact Freeman Roofing for further guidance.
- When using Standing Seam SS150 roofing or wall cladding alongside other metal products, such as copper, ensure compatibility to prevent accelerated corrosion.
- Noise caused by high winds can pose challenges, especially in areas where wind speeds exceed 20m/s. To mitigate this issue, one can consider specifying a narrower pan width and reducing clip spacing. Additionally, further noise reduction can be achieved by introducing a concave shape into the pan, and this can be accomplished in two ways:

  1. Placing longitudinal stringers, such as a 10 mm batten, beneath the center of the tray.
  2. Installing strips of compressive material along the purlins.

  Notably, the use of geotextile mat layers has the most substantial impact on noise reduction. However, it's important to assess the additional cost of implementing these measures in relation to the expected benefits (refer MRM COP 15.4.8.1)

  When specifying Freeman Roofing Standing Seam SS150 into design plans, always cite this product as: 'Freeman Roofing Standing Seam SS150'. This will ensure that the product used on the project is compliant and accurately manufactured using genuine NZ Made Colorsteel®

MATERIAL COMPOSITION & COATINGS

Defining the boundaries of distinct corrosion zones can be a challenging task due to the numerous factors influencing the corrosiveness of a particular area. Selecting the appropriate materials for the specific location is crucial to ensure they meet the minimum durability standards of the NZ Building Code and align with customer expectations. Zinc/aluminium-coated steel substrates adhere to AS 1397:2011 standards. Additionally, there are pre-painted metal options available to address various environmental conditions, encompassing different metals, metallic coatings, paint systems, and varying paint thickness. The paint coatings are crafted in compliance with AS/NZS 2728:2013.

For tailored product selections based on the project's environmental requirements, please contact your local Freeman Roofing branch for further information.

ADHERENCE TO BUILDING CODE STANDARDS

When employed in alignment with Freeman Roofing's installation and maintenance advice, Standing Seam SS150 will aid in fulfilling the subsequent stipulations of the New Zealand building code.

B1 STRUCTURE:

B1.3.1, B1.3.2, B1.3.3 (b, c, f, g, h, j), B1.3.4

Data below has been taken from the New Zealand Metal Roofing Manufacturers Assocation, code or practise (15.4.8A). It is intended as a generic guide only. Please contact Freeman Roofing for project advice regarding clip spacing for specific wind zones.

Rib Height	Max Pan Width	NZS 3604 Wind Zone			
		Medium	High	Very High	Extra High
38mm	300 mm	600 mm	600 mm	600 mm	600 mm
	400 mm	600 mm	600 mm	600 mm	600 mm
	500 mm	600 mm	600 mm	600 mm	400 mm

FASTENER REQUIREMENTS

Clip Fixing Requirement - 2 Fixings per clip per purlin								
Purlin or frame material	Roof (Standard 12mm Substrate)				Wall (Over vented cavity batten, 18 - 25mm thick)			
	Base Material				Base Material			
	Steel	Aluminium	Copper	Zinc	Steel	Aluminium	Copper	Zinc
Timber	Stainless steel grade 304 - 8g x 50mm c/sunk	Stainless steel grade 304 - 8g x 50mm c/sunk	Stainless steel grade 304 - 8g x 50mm c/sunk	Stainless steel grade 304 - 8g x 50mm c/sunk	Stainless steel grade 304 - 8g x 65mm c/sunk	Stainless steel grade 304 - 8g x 65mm c/sunk	Stainless steel grade 304 - 8g x 65mm c/sunk	Stainless steel grade 304 - 8g x 65mm c/sunk
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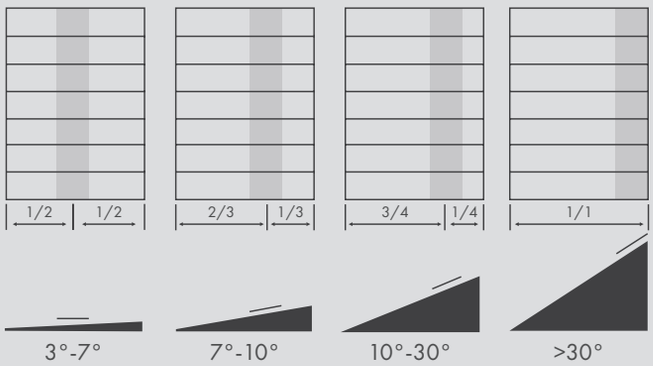
ROOF EXPANSION PROVISIONS

TRAY ROOFING:

Non-ferrous tray roofing expands at about twice the rate of ferrous metals. Supported angle seam and double seam profiles must be installed using a balance of sliding clips to allow for expansion, and fixed clips to withstand gravity loads. The position of the fixed clips depends on the roof pitch. The width of the fixed clip portion should be sufficient to install five clips at the required spacing.

CLIPS POSITIONING FOR NON-FERROUS PROFILES AS DETERMINED BY ROOF PITCH.



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ADHERENCE TO BUILDING CODE STANDARDS CONT.

B2 DURABILITY:

B2.3.1 (b)

Durability in accordance with Table E2/AS1		
Product	**Rain Washed Roofs**	**Walls and Unwashed Areas**
Colorsteel Endura	B, C, D	B, C
Colorsteel Maxx	B, C, D, E	B, C, D
Colorsteel Altimate	B, C, D, E	B, C, D, E

Key	E2/AS1 references atmospheric zones B,C,D,E. Determined, by wind-driven sea-spray. B: Low / C: Medium / D: High / E: Severe marine, such as breaking surf beaches.

C FIRE:

C3.5, C3.6, C3.7

Freeman Roofing products made from Colorsteel® are rated as group 1-S materials when tested in accordance with ISO 5660:2002 part 2. For more information please refer to: Colorsteel product technical statements v2022.1
https://www.colorsteel.co.nz/resources/downloads-and-brochures/

E1 – SURFACE WATER:

E1.3.2

Freeman Roofing Standing Seam SS150 has exceptional water carrying capacity compared to other profiles such as Corrugate or Trapezoidal.

Minimum Pitch 3°, rainfall intensity 150 mm/hr		
Maximum Run	122m	
Catchment area of spreader	115 m^2	10m run, 2 holes in spreader
Catchment behind penetration	115 m^2	10m run, discharging each side of penetration

** Source: MRM COP Area Above Spreader Calculator 5.8.1*

E2 EXTERNAL MOISTURE:

E2.3.1, E2.3.2, E2.3.7

Freeman Roofing Standing Seam SS150 will match a wide range of details for most applications. Standard design details for Freeman Roofing Standing Seam SS150 can be found on our website.

https://www.freemanroofing.co.nz/roofing-styles/alpine-tray/

Other options can conform to the trough section roofing solutions outlined in E2/AS1.

E3 INTERNAL MOISTURE:

E3.3.1

When utilised alongside a porous and permeable underlay that meets the standards of NZS 2295:2006, the utilisation of Freeman Roofing Five Rib aids in satisfying the requirements of NZBC E3.3.1. Adequate ventilation provisions are necessary for ceiling spaces in sarked roofs, skillion roofs, barrel curved roofs, flat roofs, and roofs in moisture-prone environments.

F2 HAZARDOUS BUILDING MATERIALS:

F2.3.1

Freeman Roofing Standing Seam SS150 manufactured from Zincalume® Colorsteel® or pre-painted Aluminium such as Altimate® will meet the performance requirement of F 2.3.1.

G12 WATER SUPPLIES:

G12.3.2

Rainwater collected from roofs clad with steel and pre-painted steel products [including Colorsteel®], will comply with the provisions of NZBC G 1 2.3.1, provided the water is not contaminated from other sources (MRM Code of Practise 12.7).

TESTING & SUPPORTIVE EVIDENCE

Supporting evidence provided where requested will apply to the product supplied for the specific project.

Technical documentation and testing evidence pertaining to Colorsteel® and Altimate® can be found here: https://www.colorsteel.co.nz/resources/downloads-and-brochures/

Freeman Roofing Standing Seam SS150 wind capacity and span tables reflect testing undertaken by the New Zealand Metal Roofing Manufacturers Association.

INSTALLATION ADVICE

Standing Seam SS150 should always be stored in a dry place and kept above ground level on the construction site. If the sheets become wet, they should be separated, wiped down, and left in an open area to dry.

Avoid using black lead pencils for marking aluminium/zinc, unpainted, or pre-painted steel products. The carbon in the pencil can trigger corrosion that etches the material's surface, leaving a permanent mark. Instead, use pencils of any colour other than black, marker pens, or crayons. When cutting pre-painted steel material, use shears exclusively, such as nibblers or hand shears. Avoid using friction blades and high-speed saw blades on metal cladding, as they generate excessive heat and produce hot swarf that can embed into the coating surface, damaging both the metallic coating and the pre-painted steel surface.

Ensure that the job site is kept clean, with all debris swept away at the end of each working day. It's much easier to prevent swarf damage than to remedy it.

Standing Seam SS150 should be laid with overlaps to fit neatly on the preceding roof sheet. For roofing applications, it's advisable to use purlin tape or a similar material to create a noise-reduction barrier between Standing Seam SS150 and timber supports. Avoid stretching the sheet width during installation, as this can allow wind and rain to penetrate.

Edge fixing is essential for structural integrity and spanning capability. Use self-drilling screws as specified in the fastener table to secure the standing seam to edge clips. Clips should be positioned at every sheet overlap and sheet edges at each timber support.

When walking on Standing Seam SS150 roofing, walk over the purlins to prevent damage to the sheets. Wear flat rubber-soled shoes and walk flat-footed in the pans only. Direct access on end spans is not permitted due to potential sheet damage.

Account for thermal expansion and contraction using Standing Seam SS150 design detail drawings to minimise oil canning. Specific design details, such as Ridge, Valley, Eave, Head Barge, Change of Pitch, and Top Apron, should match the chosen option.

Eaves flashings should be installed when the roof pitch is ≤ 10°, soffit width is ≤ 100mm, or wind zones are Very High, Extra High, or Specific Engineer Design.

For roofing applications, the pans at the end of the sheets should be turned up at the roof's crest and down at the gutter end using a turn-up/down tool. On vertical wall cladding, wall cladding should be turned up on the top of the sheet.

Cavity battens are necessary for Standing Seam SS150 wall cladding. If cavity batten is used over the roof purlins, the screw length should be increased by at least the thickness of the cavity batten.

When using 0.90mm aluminium instead of 0.55mm steel roofing for Standing Seam SS150, a plywood substrate is required. This substrate must be a minimum CpD Grade plywood treated H3.2 with a thickness between 15mm and 18% moisture content. Additionally, a drainage mat underlay is necessary, and fixing clips should be stainless steel fixed at 400mm intervals. For further installation information, please contact us.

Flashings should be installed using multi-piece under and top flashings with minimal visible fixings, following Freeman Roofing's design details to comply with the NZ Building Code, E2/AS1, and/or NZMRM Code of Practice. All flashing turndowns into the pan of Standing Seam SS150 should be notched around the rib to ensure maximum weather tightness. Alternative flashing details may be used if they comply with the NZ Building Code, E2/AS1, where applicable, and/or NZMRM Code of Practice. For more information, please visit: https://www.freemanroofing.co.nz/roofing-styles/alpine-tray/.

MAINTENANCE

All roofing and cladding materials are affected by the combined influences of weather, dust, and various deposits. Therefore, the long-term performance and resilience of Freeman Roofing Five Rib roofing and wall cladding rely on proper upkeep. In the case of roofing, the natural action of rain will generally cleanse most gathered environmental particles from the upper surface.

On the other hand, wall cladding necessitates manual cleaning every 3 to 12 months (depending on the local surroundings and paint system) to prevent the accumulation of dirt, debris, or other substances that rain alone can't remove. Regions that lack sufficient rain cleaning (unwashed areas) demand more thorough manual cleaning. These areas encompass soffits, wall cladding beneath eaves, undersides of gutters, fascia's, protected sections of garage doors, unwashed roof segments, and other zones at greater risk, such as around flues, beneath television aerials and solar panels, or in locales prone to mould, lichen, bird droppings, or debris.

Maintenance of roofing and cladding materials should be cleaned manually using either water and a sponge or a gentle nylon-bristled brush. Water blasting can be employed, but the pressure must not exceed 20MPa. Avoid using harsh or solvent-based cleaners like turps, petrol, or kerosene.

Additional information pertaining to New Zealand Steel's maintenance advice for its products can be found here: https://www.colorsteel.co.nz/assets/Brochures/Maintenance_Recommendations_Brochure_v4.pdf.

STATEMENT IN REGARD TO SECTION 26 OF THE BUILDING ACT

Freeman Roofing Standing Seam SS150 roofing and wall cladding products are not subject to any warnings or bans under Section 26 of the Building Act.

FREEMAN ROOFING

Family owned since 1956

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