



Dimond **Advanced** Roofing Systems

Advanced Standard Retrofit System

Installation Guide

VERSION 1.0 / MARCH 2025

Engineered by
 **Dimond Roofing®**

Purpose

This installation guide is specifically designed for the installation of Advanced Standard Retrofit System. It is formulated to ensure compliance with the New Zealand Building Code (NZBC) requirements for the installation of metal roofing and cladding. Adherence to the NZBC, The New Zealand Metal Roofing Manufacturers Association Code of Practice (MRMCOP) is essential for the proper installation of metal roof and wall cladding.

Compliance Requirements

All aspects of the installation process must strictly adhere to the guidelines outlined in the NZBC and the MRMCOP. It is imperative that each component of the Advanced Standard RetroFit System is installed according to the manufacturer's specifications to fulfill the requirements of the manufacturers' warranties.

Site Safety

Ensuring site safety during roof installation is paramount due to the numerous hazards involved, including laceration, electrocution, puncture, and falling from heights. To mitigate these risks, it is imperative to adhere to prudent personal protective equipment (PPE) usage and safe installation practices. Following the guidelines outlined by WorkSafe: Working at Heights in New Zealand is essential. Additionally, precautions such as avoiding handling roof sheets in windy conditions, wearing protective clothing like gloves, and ensuring compliance with WorkSafe requirements regarding edge protection and fall restraint systems are crucial. Whenever uncertain, consulting with a supervisor or site foreman is encouraged to maintain a safe working environment.

Pre – Installation

Before installing the metal roof or wall cladding, the contractor must thoroughly review the approved drawings and specifications. Any deviations from these plans require written approval before commencing work. Compliance with the Health and Safety at Work Act 2015 is mandatory, and appropriate safety measures must be in place. The existing structure, including purlins and girts, must be inspected to ensure they are correctly positioned, securely fixed, and capable of supporting the new cladding. Additionally, coordination with other trades is essential to ensure proper weatherproofing at all intersections, with agreements made in advance to prevent issues during installation.

Transportation Guidelines

Drivers are primarily responsible for load safety. Short sheets are placed atop longer ones with proper end and edge protection to prevent damage. Dunnage should be evenly spaced vertically, and bundles securely placed to avoid damage. Sheets exposed on the underside need protection to prevent dunnage damage, usually by using a short slip sheet with paper overlay.

Accepting Delivery

Check the delivery for correctness and prime condition. Ensure all installation components are onsite before starting installation. Choose a safe landing point for the load in collaboration with the main contractor. Crane operators must refuse unsafe loading instructions. Bundles of roof cladding should remain banded during crane lifting.

Unloading

Prepare a flat area with supporting dunnage to prevent sheet damage. Store sheets under a waterproof cover if onsite for more than a day. Use a crane with a spreader bar and nylon slings with sleeves to prevent damage.

Site Storage

Close-stacked sheets are prone to rapid deterioration if moisture enters the pack, forming unstable compounds. Upon delivery or storage, wet sheets must be used immediately or dried. Long-term storage should be in dry, well-ventilated areas. Failure to do so can lead to surface damage, voiding warranties. Consider waterproof packaging for on-site storage exceeding one week to prevent damage.

Footwear

When walking on roofs, wear flat rubber-soled footwear to avoid marking and slipping. Place a mat at the ladder base for cleaning shoes before climbing or remove dirty shoes. Roofs can be slippery, so be cautious.

Strippable films

Strippable film is a clear plastic applied to roofing products for protection during handling, transportation, and installation. It shields against damage but not corrosion, humidity, or chemicals. Remove it promptly after exposure to sunlight and collect it for disposal.

Store products with strippable film below 50°C and away from direct sunlight to prevent UV damage. Keep them dry to avoid moisture causing issues to the painted surface or whitening and breakdown of the film adhesive.

Marking and cutting

Avoid using black lead pencils for marking aluminium or zinc, whether unpainted or pre-painted steel products, as they can cause corrosion. Instead, use pencils of any colour other than black, marker pens, or crayons. When cutting pre-painted steel, employ shear cutting methods such as nibblers or hand shears to preserve the finish. Avoid using friction blades or high-speed saw blades on metal cladding to prevent damage from excessive heat and hot swarf. Lastly, ensure debris is cleared from the job site daily to prevent swarf damage.

Fixings

Fixings must match or surpass the durability of the material they secure. Additionally, their metal or coating should be compatible with the cladding material if they come into contact. For pre-painted steel products, it's imperative that fasteners are factory colour-matched prior to installation.

Screw fasteners need to have adequate length to ensure they penetrate the supporting structure properly. Generally, for screws into timber, a minimum embedment of 30mm is recommended, while screws into steel should engage at least three threads. In severe environments, a minimum Class 4 rating is necessary, whereas very severe environments call for a Class 5 rating.

Quality Assurance

Take relevant photos of completed stage and sign Dimond Quality Assurance document.

Installation Process

Preparing Existing Roof for Advanced Standard Retrofit

Cleaning the Existing Roof Surface

- Using a medium nylon bristle broom and fresh flowing water, or a water blaster (2000-5000 psi), thoroughly clean the roof profile to remove any dirt, lichen, or mold.
- Take care not to drive water under laps or flashings to avoid water ingress.

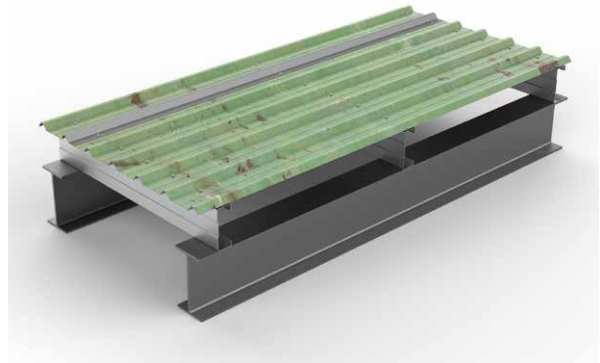
Inspecting for Corrosion

- Check that any white corrosion is easily removed and confirm that no red rusting has developed.

- Allow the roof to dry completely before proceeding.
- Neutralize areas where white corrosion is present using a commercially available metal cleaner specifically designed for this purpose.
- Ensure that the old or corroded roof can support the weight of people and equipment during installation.
- Take relevant photos of completed stage and sign Dimond Quality Assurance document.

Installation of Dimond Lap Seal Tape

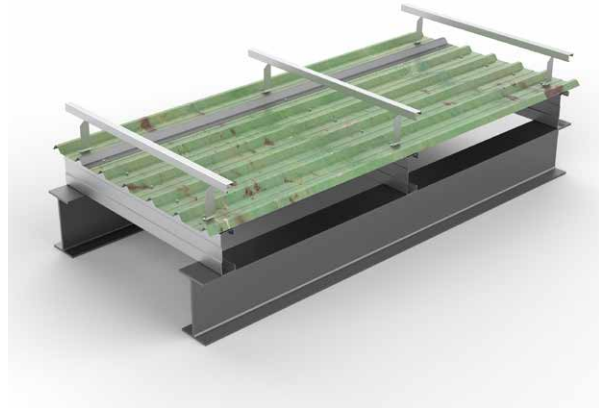
- Confirm that the Existing Sheet is smooth, dry, and free from any debris or contaminants.
- Peel off the release liner from the Dimond Lap Seal Tape.
- Position the Dimond Lap Seal Tape at the centre of the lap material.
- Firmly press Dimond Lap Seal Tape down and peel off more release liner from the tape as needed. Do not stretch or pull the tape at any point during the installation.
- Crease mark or folds on the tape can occur to Dimond Lap Seal Tape when large amount of correction is made or made during installation. When the tape is off-centred, terminate the tape by cutting it with a sharp craft knife and start again with new tape at the location where it shows off-centred.
- Lap join distance between Dimond Lap Seal Tape must be minimum 50mm.



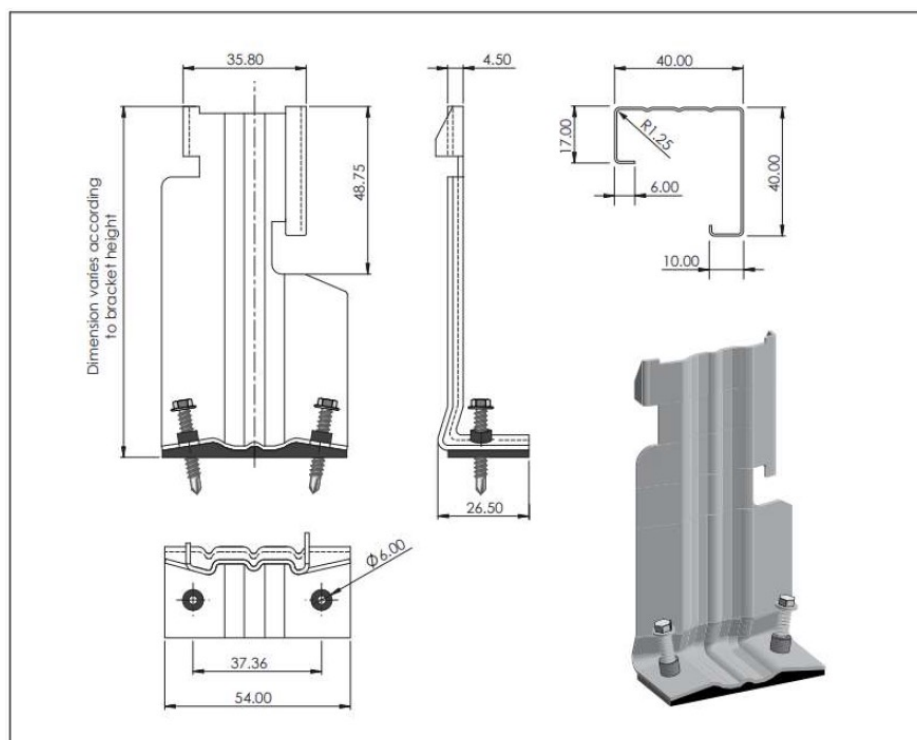
- Tape damages due to installation or site activities must be repaired by applying a second layer over the damaged area.
 - Take relevant photos of completed stage and sign Dimond Quality Assurance document.
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Installation of Dimond Post & Rail System

- Run each post along the rail section and loosely locate in position at specified centres.
- Stand assemble upright centrally over the purlin support, twist lock the posts on the rail at 90 degrees to rail.
- Fasten posts through pre punched post holes. Screw fixings need to be adequate length to ensure they penetrate the supporting structure properly. Generally, for screws into timber, a minimum embedment of 30mm is recommended, while screws into steel should engage at least three threads.
- Butt and clip subsequent rails together to ensure no gaps.
- String lines are recommended to ensure the fixing lines remain straight along the purlin length.



- Ensure all swarf has been removed from the liner sheet to avoid unsightly rust marks.
- Take relevant photos of completed stage and sign Dimond Quality Assurance document.



**Dimond Post & Rail System assembly
Method 1.**



1. Lay bar on roof deck and offer the small flange of the bracket to the small flange of the bar.



2. Tilt and rotate bracket backwards at desired fixing position.



3. Twist bracket and snap into position at 90° to bar

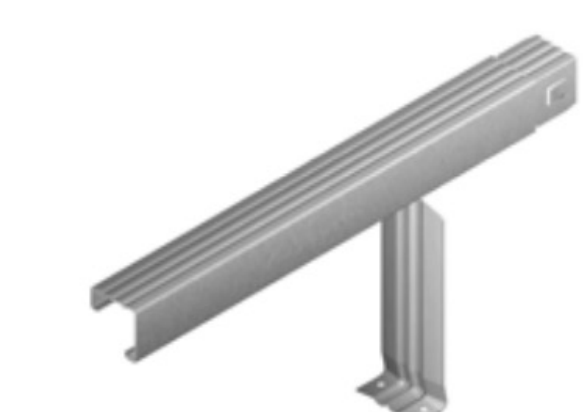
**Dimond Post & Rail System assembly
Method 2.**



1. Offer the post to the rail at an angle from the non-spigot end.



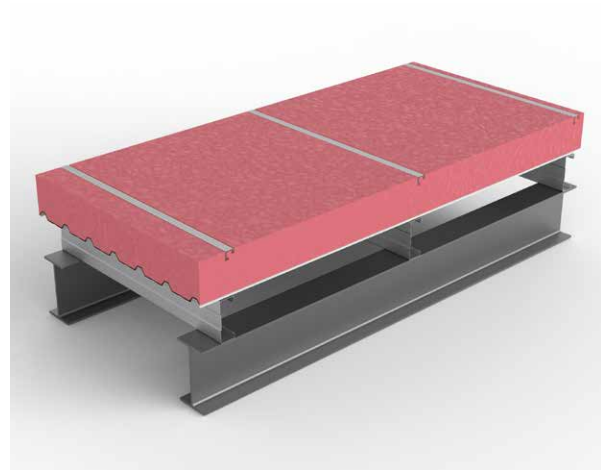
2. Slide posts along the rail to the desired fixing positions.



3. Snap each post upright to lock into position at 90° to the rail.

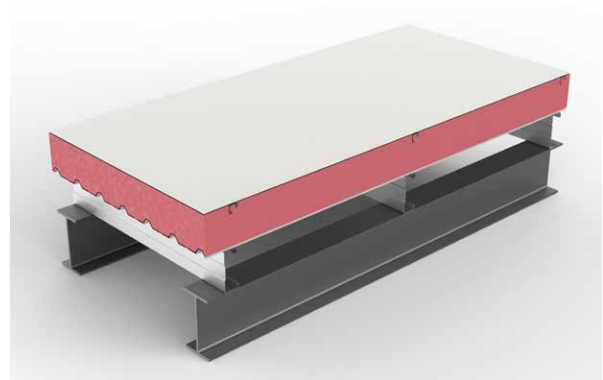
Installation of Dimond BIB Insulation

- Ensure the weather forecast clear of rain and strong wind on day of installation of Dimond BIB Insulation, Dimond Underlay and Dimond Top Sheet.
- Ensure the Existing Roof is dry and clean with no water ponding.
- If laying horizontally Dimond BIB Insulation rolls may need to be cut to suit rail spacing.
- Laying vertically requires Dimond BIB Insulation strips to be fed under each rail with cut outs made to fit around the post.
- Lay just enough Dimond BIB Insulation for the days work ahead, as the insulation must not be left exposed overnight or allowed to get wet during installation.
- The insulation in roll form with the outer plastic wrap can be cut with a sharp saw or knife.
- All gaps must be filled with Dimond BIB Insulation. Ensure the insulation is fitted underneath the rail and around the posts.
- The Dimond BIB Insulation must be fully lofted to the published thickness for its R value. Sometimes this may take a few hours to achieve so avoid squashing or tucking the corners down. This may require a gentle lift-up to ensure even thickness and allow the lofting to take place.
- Take relevant photos of completed stage and sign Dimond Quality Assurance document.



Installation of Dimond Underlay

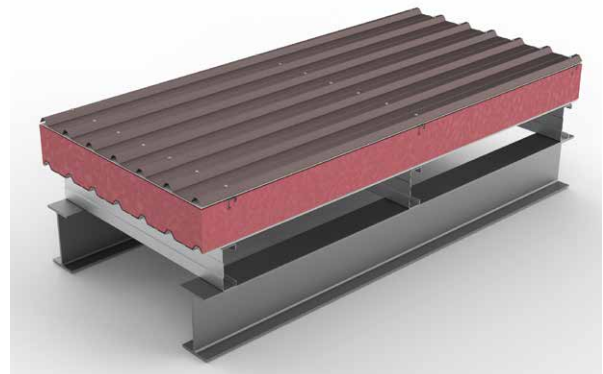
- Vertically lay Dimond Underlay on top of Dimond Post & Rail System in continuous ridge-to-gutter lengths and tension it so there is no creases.
- All laps either vertical or horizontal must be a minimum of 150mm lap.
- Dimond Underlay must not be left exposed to UV sunlight for more than 7 days.
- Ensure that Dimond Underlay does not extend beyond the gutter line by more than 20 mm.
- Dimond Underlay must be free of tears and punctures, fit tightly and be lap taped around all penetrations (except flue penetrations), to provide drainage for any condensation, or surface water from leaks.



- Any heat sources such as fireplaces, flues or chimneys must be separated or protected from contact with the underlay. Refer NZBC acceptable solutions C/AS1.
- Take relevant photos of completed stage and sign Dimond Quality Assurance document.

Installation of Dimond Top Sheet & Flashings

- Refer to Dimond roof installation details on www.dimond.co.nz and the MRM Code of Practice.
- Dimond Top Sheet to be fastened at every rib. Profiled washers are required for high wind zones and above or deal with excess sheet movement from thermal expansion when sheets are above 16m long.
- The length of roof fasteners should be sufficient to penetrate through the Dimond Top Sheet into the Dimond Post & Rail System, engaging at least three threads.
- For Fixings in severe environments, a minimum Class 4 rating is required, whereas very severe environments mandate a Class 5 rating.



- Stop-ends must be installed at the top edge of all sheets. Roof cladding with a pitch lower than 8° must have turn-downs added, following the guidelines outlined in the MRM Code of Practice.
- Take relevant photos of completed stage and sign Dimond Quality Assurance document.

Completion

- All gutters, valleys, roof channels, and the roof cladding must be thoroughly cleaned and cleared of debris upon completing the project. Any roofing-related debris left on-site should be safely disposed of.
- Upon finishing the scheduled work, the roofing contractor should inform the main contractor, architects, or owner. It is advisable for the contractor to document any sheet damage (if present) at this stage, especially if other trades will access the roof later. It's important to note that any damage caused by other trades is not the responsibility of the roofing contractor.
- Take relevant photos of completed stage and sign Dimond Quality Assurance document.

Warranty Statement:

All components in Dimond® Advanced Roofing Systems are warranted by their individual manufacturer for use in Dimond® Advanced Roofing Systems. Component warranties are subject to the terms and conditions set out by the individual manufacturer. Dimond® Advanced Roofing Components must be installed, used, and maintained in accordance with the individual manufacturer's guidelines.

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