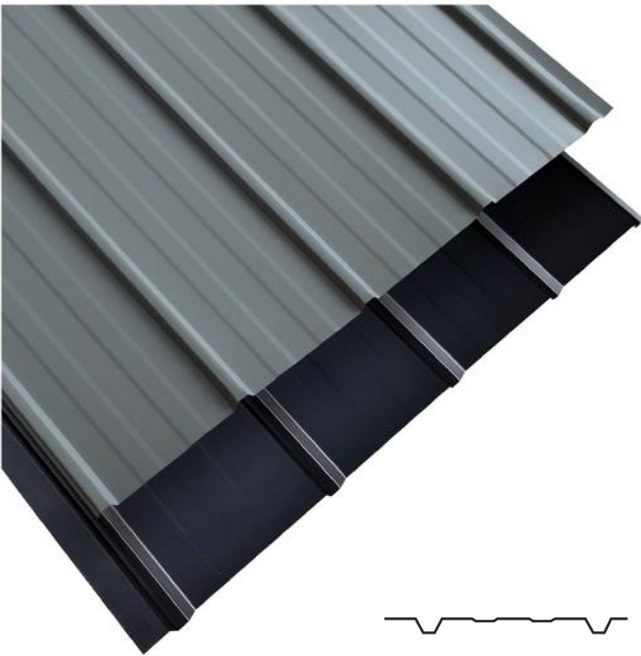


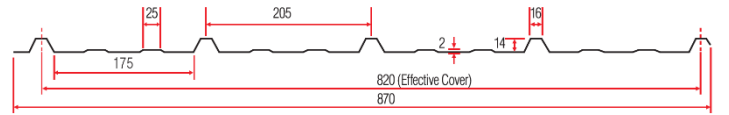
PRODUCT TECHNICAL STATEMENT



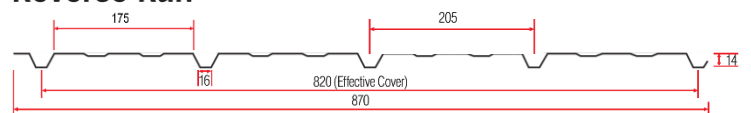
SLIMCLAD™



Traditional

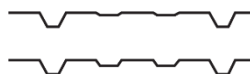


Reverse Run



Reverse Run Swaging Options

Reverse run Slimclad™ is available in two swage options to meet design criteria, note pan width may vary for each option.



- ▶ Twin half swage – Delicate and reasonably shallow (recommended)
- ▶ Twin full swage – Deeper than half swage, for aesthetics purposes

DESCRIPTION

Slimclad™ is a cost-efficient low rib wall cladding profile, particularly effective for use as walling on a wide range of rural, commercial and residential projects.

Slimclad™ can be manufactured and supplied for walling projects as ‘traditional’ cladding or alternatively as an aesthetically pleasing ‘reverse run’ cladding configuration. Wide sheet coverage allows for rapid installation with the overlap rib supported by a purpose designed underlap leg to give a seamless appearance.

FEATURES

- Slimclad™ is a versatile wall cladding system incorporating low profile ribs and wide cover, providing an economic and aesthetic solution for commercial and residential walling, fences and entranceways.
- Designed to be self-supporting on cavity battens, when used in the reverse run configuration Slimclad™ can be direct fixed for economy.
- Sheets are laid vertically or horizontally, attached using pan fixed fasteners into battens, ensuring swift and straight forward installation across large wall areas, minimising installation time.
- Custom-made cut to length sheets are subject to transport and site limitations. As sheet lengths increase higher transportation costs may be applicable.
- Innovative profile design, supported by load/span data and recommended fastener patterns derived from load testing using industry test-rig apparatus in accordance with the NZ Metal Roofing Manufacturers (MRM) test procedure.
- The purpose designed underlap leg provides support to the underlap and the low profile rib provides protection against birds and vermin.
- Slimclad™ is manufactured at several locations throughout New Zealand to minimise freight costs.
- Matching accessories are available including natural lighting, flashings, fasteners, underlays, EZI-FLO™ guttering and downpipe systems.



COATINGS

Selecting the right substrate is dependent on the environment in which the project is situated. Slimclad™ profiles are available in the following Pacific Coilcoaters and New Zealand Steel materials along with the full range of ColorCote® and COLORSTEEL® colours.

Steel Substrate

Base Metal Thickness (BMT): 0.40mm & 0.55mm

- ColorCote® ZinaCore™
- ColorCote® MagnaFlow™
- COLORSTEEL® Maxam®

Refer to Pacific Coil Coaters and New Zealand Steel literature for environmental zones, coating systems and warranty information.

Material is subject to availability and other materials such as aluminium may be available subject to longer lead times. Contact Roofing Industries for specific advice.

INFORMATION TABLE

Substrate Material	Steel*	
Base Metal Thickness, BMT (mm)	0.40	0.55
Sheet Weights (kg/m)	3.20	4.27
Maximum Sheet Overhang ¹ (mm)	75	100

All weights are approximate

*Based on 150g/m² alloy coating

¹From last fixing line to sheet end

Slimclad™ Reverse Run is manufactured in 0.55mm BMT, half swage or full swage options only, supplied with strippable film.

USE OF SLIMCLAD™ ON GARDEN AND IMPLEMENT SHEDS

Slimclad™ is not recommended for use as trafficable roofing, however Slimclad™ may be used on small garden and implement type sheds as a non-trafficable roofing product subject to the following constraints –

- Minimum roof pitch is 5 degrees
- Rafter/sheet length is not greater than 3.0m
- Purlins are spaced at a maximum of 600mm centres
- Roof sheeting is fixed all ribs into every purlin line
 - Into timber: 12g-11 x 50mm Class 4/5 Timber screws with neos
 - Into steel (up to 4.5mm thickness): 12g-14 x 45mm Class 4/5 Steel screws with neos
- No foot traffic is allowed on the roof

FIRE TESTING

Refer to Pacific Coil Coaters and New Zealand Steel bulletins for fire testing of ColorCote® and COLORSTEEL® products, which can be supplied on request.

SUBSTRATE

Slimclad™ is a contemporary trapezoidal wall cladding system installed with a drained cavity/ventilated air gap and is suitable for external and internal applications.

SPECIFICATION

Refer to Roofing Industries full specification statements on Masterspec and/or Smartspec, www.roof.co.nz and our Selection Guide.

BUILDING DESIGN / PERFORMANCE CRITERIA / PRODUCT SELECTION

During the design phase, it is necessary for the designer to consider a number of factors when specifying Slimclad™:

- Material type and finish
- Sheet lengths
- Wind loadings and Wind Zones
- Load span performance (Refer to Uniform Load Span Graphs section)
- Reference to Roofing Industries detail drawings
- Half swage or full swage options for reverse-run product
- Nogg/Girt spacing

Underlay as per the project specifications should be used to meet the NZS 2295 and AS/NZS 4200 standards.

If a building is being designed in accordance with E2/AS1 and cladding products covered by that document are chosen, the design spans are required to comply with E2/AS1. However, where a building is outside of the scope of E2/AS1, the building and parts thereof require specific design by a suitably qualified structural engineer and the cladding design spans (noggin/girt spacing) are required to be suitable for that design.

Whilst aesthetics and product availability do play a part, the chosen profile must meet certain performance criteria. These are centred around the ability of the product to span between noggin/girt spacings and meet the design criteria.

Where Slimclad™ Reverse Run is considered, a visible waviness or undulations known as canning may be present. These are considered to be an architectural feature of the profile. Slimclad™ Reverse Run is manufactured with half swage or full swage variations to assist in reducing undulation. Half swage or full swage options must be specified at time of order.

Normally, structural integrity is not affected by canning. However, structural integrity must be reviewed if the distortion results from an extreme external influence.

Since many factors are involved outside of our control, Roofing Industries cannot realistically assure the total elimination of undulation in the ribs of Slimclad™ Reverse Run. Low gloss paint coatings are also available which assist in minimising the visual apparentness of any undulations and must be specified at time of coil ordering. Refer also to the Canning Section.

All fixings and fasteners are to be of an approved type, compatible with all materials, the environment and must meet the requirements of the NZ Building Code. Refer to E2/AS1, the NZ MRM Roof and Wall Cladding Code of Practice (MRM COP). Installation is to be in accordance with the MRM COP and manufacturers literature.

Penetration flashings for Slimclad™ must be installed by the installation contractor only and other trades must not cut any holes unless under the supervision of the roofing contractor.

Slimclad™ is an alternative solution to E2/AS1 and is to be designed and installed to manufacturer's recommendations.

THERMAL EXPANSION/CONTRACTION

All metal cladding and flashings are subject to expansion and contraction caused by changes in temperature, and their design should allow for this movement. The energy produced should be absorbed without damage to the cladding, fixings or structure.

NOGGIN/GIRT SPACING LIMITATIONS AND RECOMMENDATIONS

E2/AS1 states that a specific design may produce a more optimum spacing for fixing than as presented in this document. For profiles such as Slimclad™ that is particularly applicable and as such the manufacturer's information should be used. Manufacturers' recommendations for maximum spacings are as per the MRM COP.

Slimclad™ must be fixed into **all** noggin/girt lines and top/bottom plates.

WIND LOADINGS

Firstly, it is necessary for the designer to calculate the design wind load for the cladding following acceptable practice, by reference to AS/NZS 1170, and/or NZS 3604 as appropriate. For further explanation of this refer to the MRM COP.

The wind suction forces on Slimclad™ cladding are transferred through to the building via the fasteners into the structure. The performance criteria are the number of fasteners per square metre, which can be varied by the spacing of battens/noggin/girts.

WIND ZONES

Slimclad™ is screw-fixed through all pans into supporting structure. Refer also to the following sections: Walling Application – Primary Fixing Methods and Walling Application – Primary Fixing Chart.

The following table outlines guidance for Slimclad™ fixing requirements for buildings within the scope of NZS 3604 and NASH standards, for up to Extra High Wind Zones. SED Wind Zone requires specific design by a suitably qualified structural engineer, contact Roofing Industries for guidance.

Guide to Maximum Wind Zone for Nogg/Girt Spacings

Nogg/Girt Spacing (mm)	Steel	
	0.40mm BMT	0.55mm BMT
600	Extra High	Extra High
800	Extra High	Extra High
1200*	Extra High	Extra High

*Maximum recommended spacing. To balance aesthetics and practicality 800mm is a common spacing used by framing manufacturers and builders alike.

INSTALLATION IN HIGH, VERY HIGH AND EXTRA HIGH WIND ZONES

Where using Slimclad™ Reverse Run in High Wind Zones and above, Roofing Industries recommends placement of a continuous batten of thickness to suit the panel depth under the middle of the rib to minimise potential for deflection or undulation of the front face. Use approved drained battens, such as castellated timber batten or approved proprietary drained steel or plastic battens, isolated from the Slimclad™ cladding as required.

UNIFORM LOAD SPAN GRAPHS

Loadings referred to in Roofing Industries Slimclad™ graphs are the result of testing to serviceability (SLS) and ultimate (ULS) limit states in accordance NZ MRM test procedures and using NZ MRM test apparatus, utilising variations in spans to cover wall cladding applications. Fixing classification type is from the MRM COP.

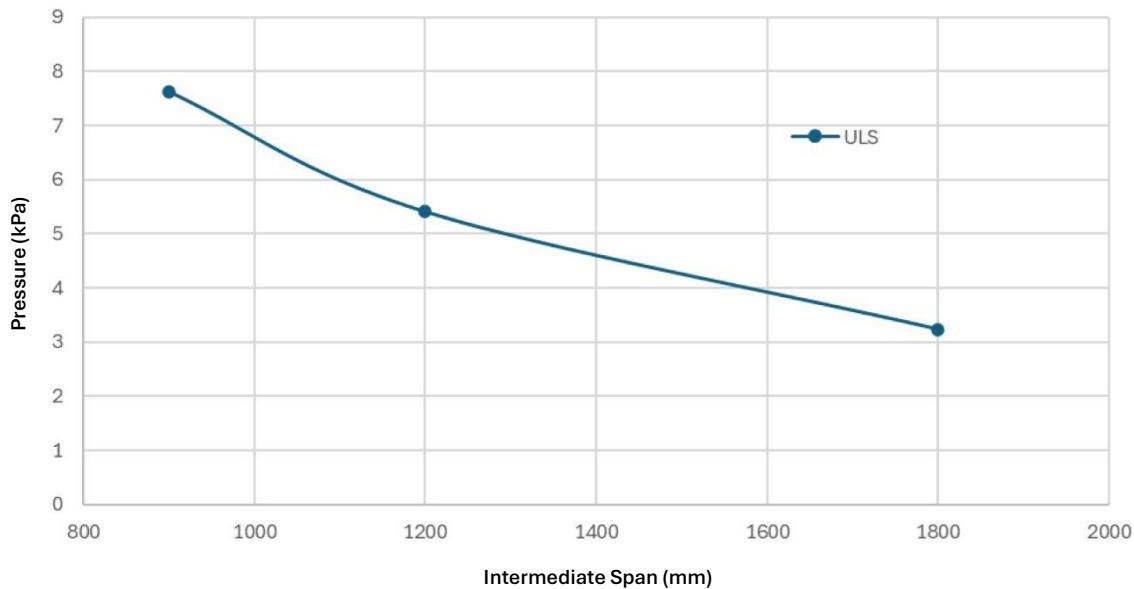
The Design Graphs are presented in a form to allow the designer/engineer to select suitable products and maximum nogg/girt spacings, outlining guidance for Slimclad™ fixing requirements for buildings within the scope of NZS 3604 and the NASH Light Steel Framed Buildings standard, for up to Extra High Wind Zones. Refer also to the notes in the graphs.

SED Wind Zones require specific design by a suitably qualified structural engineer. Fixing types, embedment, pullout, etc. need to be checked with the fastener manufacturer to ensure design loads can be met.

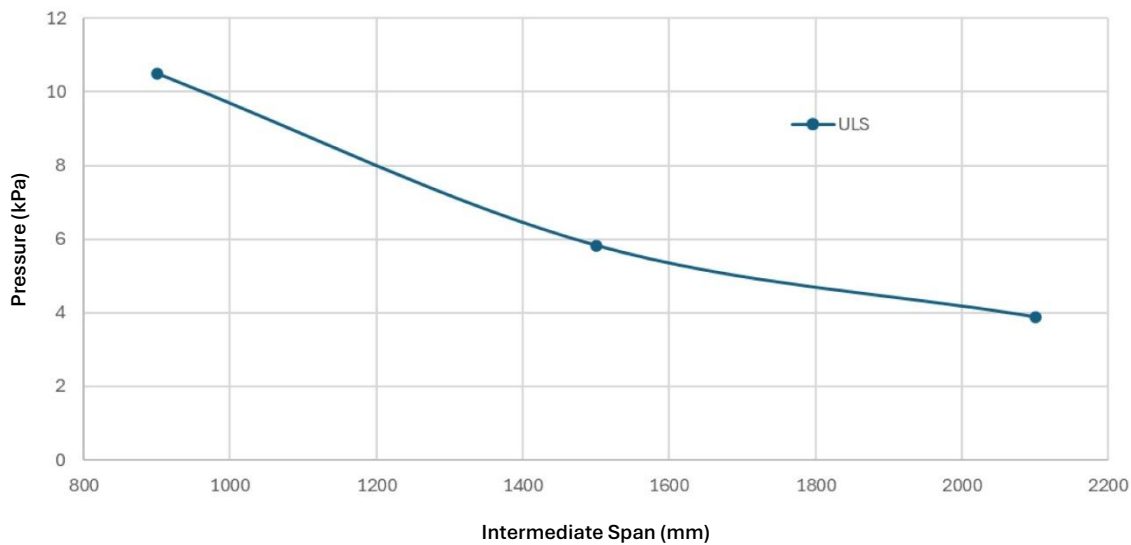
WALLING APPLICATION – UNIFORM LOAD SPAN GRAPHS

Steel based Material G550 High Strength

Slimclad™ x 0.40mm Ultimate Limit State (ULS) – fixed every pan



Slimclad™ x 0.55mm Ultimate Limit State (ULS) – fixed every pan



Notes:

- End spans to be a maximum of 2/3 of intermediate spans.
- Fixing patterns and types are detailed in the Walling Application – Primary Fixing Methods and Walling Application – Primary Fixing Chart sections, respectively.
- Serviceability graphs are not published as these limits were not observed prior to ULS. Where wall cladding deflections are to be considered in design, contact Roofing Industries for guidance.

WALLING APPLICATION – PRIMARY FIXING METHODS

Slimclad™ G550 High Strength Steel

Fixed every pan with approved 12 gauge screws and neos.

Traditional Slimclad™ Cladding



Slimclad™ Reverse Run Cladding



Notes:

- Other fixing patterns and spacings may be used, however these will alter the design capability and require specific design by a suitably qualified structural engineer.
- Slimclad™ Reverse Run is manufactured in 0.55mm BMT, half swage or full swage options only, supplied with strippable film.

WALLING APPLICATION – PRIMARY FIXING CHART

Wall Cladding - Pan fixed

	Timber Nogs/Girts	Steel girts up to 4.5mm
Steel Based Material Direct Fixed	12-11x40 Class 4/5 Timber screws with neos	12-14x20 Class 4/5 Steel screws with neos
Steel Based Material 20mm cavity	12-11x50 Class 4/5 Timber screws with neos	12-14x45 Class 4/5 Steel screws with neos

Notes:

- Primary fixing requirements are for buildings within the scope of NZS 3604 for up to Extra High Wind Zones.
- Primary fasteners are to have a minimum 30mm embedment into structural timber purlins, battens or timber framing; or minimum 3 threads showing from the underside of steel purlins, adjusting fastener length where using non-structural battens, load spreading profile washers etc. to account for the extra thickness of components.
- For sheet lengths longer than 10m contact Roofing Industries for specific advice on provision for thermal movement.
- To be read in conjunction Walling Application – Primary Fixing Methods. Secondary Fasteners are to be used in accordance with the MRM COP.

DIRECT FIX

Slimclad™ must be isolated when laid directly on timber battens, plywood or other incompatible materials using a suitable isolator in-between.

Green (or wet) timber contracts as it dries, resulting in shrinkage. Only install into timber when the moisture content is 18% or less (i.e. the maximum moisture content as specified in NZS 3604 and the MRM COP).

Be aware that the temperature build-up of dark colours is higher than those of lighter colours and as a result darker colours will thermally expand more which can also cause noise and canning. Refer to the MRM COP for further information on noise.

The MBIE Guide to Tolerances document for cladding advises that noise from thermal expansion is normal and should be expected. Refer to MBIE - Guide to Tolerances, Materials and Workmanship in New Residential Construction.

SHEET ENDS

For vertical sheeting, stop end the and close off the pans at the top of the sheet and trim with an over flashing; dress the bottom of the sheet with a closure flashing. For horizontal sheeting, trim the sheet ends with flashings. Use of closed cell foam is recommended for closure at sheet ends.

PROFILE SIDE LAPS

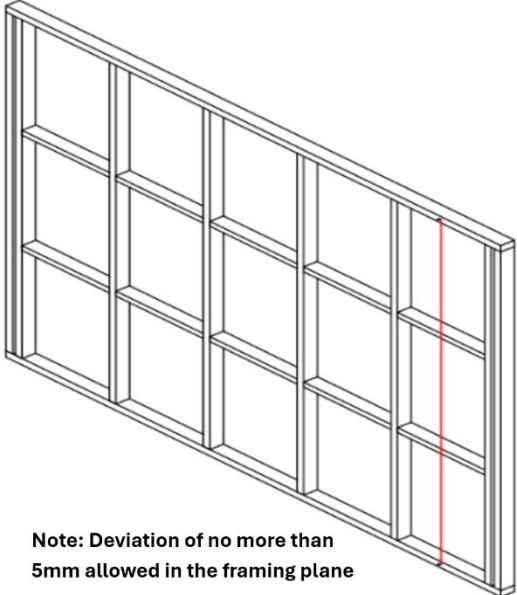
For traditional laid and reverse run cladding, fix in all pans as shown in the Walling Application – Primary Fixing Methods section.

MOUNTINGS ON SLIMCLAD™

Any structures or components mounted onto Slimclad™ wall cladding for example (but not limited to) awnings, louvres, light fixtures, signage and the like need to be designed accordingly by a suitably qualified structural engineer and installed in accordance with that design.

Consideration shall also be taken to any impact on the weathertightness and durability of the wall cladding.

FRAME TOLERANCE

 Note: Deviation of no more than 5mm allowed in the framing plane	It is important that the structure is suitable for the installation of wall cladding. Particular attention should be paid to the squareness of the structure and alignment of the studs, noggs and framing, which is required to be within acceptable tolerance. Prior to installation, the installer is to consider sheeting set out, for example to accommodate windows, doors, and penetrations. During installation, the installer must check alignment of the framing using a string line or straight edge, particularly around penetrations to ensure the wall cladding is plumb and true. Where sheets are cut, for example to accommodate corners and around penetrations etc. they require packers to support the flashings. Slimclad™ laid directly onto cavity battens requires alignment of the studs, noggs and framing to be within a 5mm tolerance to mitigate batten creasing.
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CANNING

Canning is the visible waviness or undulations in the flat areas of metal cladding or wide flat panel flashings. This phenomenon occurs due to differential stresses which build up in the material, and as these stresses are relieved, undulations form leading to the characteristic waviness associated with canning.

The apparentness of these undulations can be affected by several factors such as the angle of viewing, direction and clarity of the light, sheet length, colour, temperature and the thickness of the material; some degree of distortion is inevitable in thinner gauge materials.

In addition, the high gloss levels of brand-new sheets can highlight these undulations but with time natural weathering reduces reflectivity which in turn reduces the visible effect of canning. Low gloss paint finishes are recommended.

The property/building owner, builder and specifier must be aware that these undulations can occur in the flat areas of profiles. Please note canning is aesthetic in nature only and in general does not pose any structural issue or affect the performance or material warranty of the cladding.

To following material factors can assist in reducing the apparentness of canning,

- Use of thicker gauge materials
- Inclusion of stiffening swages
- Limiting the width of flat elements

Attention to detail during installation is also key to reducing canning, and it is important to inspect the alignment of the structure, check sheeting for straightness prior to installing, and ensure sheeting is fastened to Roofing Industries recommendations and industry standards. Refer to Handling, Storage and Installation section.

TRANSLUCENT SHEETING

Where natural lighting is a feature, translucent Slimclad™ is available for wall lighting. For further information contact the following suppliers who manufacture a full range of fibreglass and polycarbonate products:

- Alsynite One alsynite.co.nz
- Ampelite New Zealand ampelite.co.nz

STRIPPABLE FILM

Slimclad™ Reverse Run is supplied with strippable film to give temporary protection from scratching. Strippable film should be removed from underlaps while laying and removed entirely before UV sets the adhesive, making it difficult to remove without leaving glue residue on the sheet. Traffic across sheets should be kept to a minimum, particularly with self-supporting products.

HANDLING, STORAGE AND INSTALLATION

The following points, although not exhaustive, provide practical guidance to product handling storage and installation -

- Read the pack label for important guidance and inspect packs for any damage.
- Store Slimclad™ packs and accessories on site using evenly spaced and supportive dunnage, clear of the ground and under cover, to keep dry.
- Product surface protected with strippable film is to be stored under cover, away from UV light.
- If packs become wet and the product is not used immediately, separate the sheets to allow air circulation and drying.
- Do not drag sheets across each other or across rough surfaces.
- Other trades should be made aware of this by the main contractor.
- Installation should be undertaken by experienced installers.
- Flashings should be dressed appropriately with a hem, kick, bird's beak or fold down over ribs; all sheeting is to be edge fixed.
- Refer to the Slimclad™ detail drawings at www.roof.co.nz

For further guidance refer to Roofing Industries Handling and Storage Guide, E2/AS1, the MRM COP and MRM Metal Long Run Roofing and Cladding Installation Guide. Failure to install all products to industry requirements may void the warranty.

MAINTENANCE

Regular maintenance should be performed as necessary to remove dirt, salt and pollutants extend the life of the cladding and accessories. Industry maintenance guide(s) are available from www.roof.co.nz and should be consulted in order that warranty conditions are fulfilled.

BRANCHES

Branch	Address	Phone	Email
Auckland	(Head Office) 5 John Glenn Avenue, North Harbour 0632	Ph: (09) 414 4585	E: auckland@roof.co.nz
Whangarei	4A Fraser Street, Whangarei 0112	Ph: (09) 437 2040	E: northland@roof.co.nz
Pukekohe	212 Manukau Road, Pukekohe, South Auckland 2120	Ph: (09) 238 0050	E: franklin@roof.co.nz
Hamilton	63 Tasman Road, Avalon, Te Rapa 3200	Ph: (07) 849 5115	E: waikato@roof.co.nz
Tauranga	80 Portside Drive, Mt Maunganui 3116	Ph: (07) 578 2650	E: tauranga@roof.co.nz
Taupo	1158 Rakaunui Road, Taupo 3351	Ph: (07) 376 7971	E: taupo@roof.co.nz
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Southern Lakes	3 Proctor Way, Cromwell 9310	Ph: (03) 928 6869	E: cromwell@roof.co.nz
Invercargill	133 Bill Richardson Drive, Avenal 9810	Ph: (03) 218 7663	E: invercargill@roof.co.nz



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