

STANDARD SPECIFICATION FOR LOCKWOOD COMPONENTS

Issue No: 17

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This Specification relates to the manufacturing, supply, and construction of Lockwood buildings. The Lockwood building system is used for residential and commercial construction of walls, including door and window joinery, and ceilings. Selections and design parameters are taken from architectural and engineering information supplied as part of a Lockwood order.

This Specification is for:

OWNERS NAME(s)

BUILDING SITE

BUILDING CONTRACTOR

1. Production Plans

Production Plans include plans, detailing, measurements and quantities for the manufacturing and supply of Lockwood Components and must be used for on-site construction, including floor set out. In relation to Lockwood Components, and especially for crucial dimensions, the Production Plans take precedence over consent plans.

Production Plans are drawn with reference to consent and engineering plans, details, selections, and other information included in documentation required for a Lockwood component order.

2. Flashing Baseboards

Baseboards flash the bottom of walls over the edge of the foundation. Different options are available to suit foundation and cladding, supplied with aluminium spacer clips, jointers, and PVC base flashing.

(a) A-TYPE

19mm primed flashing baseboard finished to an overall cover of 172mm (excluding top tongue). Generally used for timber subfloors and behind decks.

(b) B-TYPE

19mm primed flashing baseboard finished to an overall cover of 77mm (excluding top tongue). Generally used on concrete subfloors or below the A-type baseboard to cover the remainder of the boundary joist (if required).

(c) C-TYPE

Weatherclad extruded aluminium flashing baseboard finished to an overall cover of 172mm (not including top tongue).

(d) D-TYPE

Extruded aluminium flashing baseboard finished to an overall cover of 108mm (not including top tongue).

- (e) 19MM TIMBER WEATHERBOARDS
Available as VG Pine or Cedar with an overall cover of 172mm (excluding top tongue). Generally used instead of the A-type baseboard for a continuous look with timber wall cladding.

3. Aluminium System Extrusions

- (a) LOCKWOOD SYSTEM CONNECTION EXTRUSIONS
Aluminium extrusions with Mill Finish used for internal wall-to-floor, wall-to-wall, wall-to-window, wall-to-post connections.
- (b) LOCKWOOD SYSTEM EXTRUSIONS
Aluminium extrusions with powder coat finish used to flash and bridge exterior wall elements to corners, joinery, and wall board joints.

4. Lockwood Exterior Wall Systems

Exterior wall boards are dress finished to a thickness of either 107mm (107 & 44 exterior wall board) or 62mm (62 wall board) x 192mm high and have an effective cover face of 172mm when stacked in a wall.

Exterior wall boards are moulded in the Lockwood tongue-and-groove interlock board profile and finished with project-specific system cuts and routings. 110mm/107 or 50mm/62 anti-stiction Noise Reduction Tape supplied for fixing to top board tongues under sarking. Associated flashings and PVC Wedges are supplied to seal scallops in wall boards where walls meet joinery, and corner profiles.

Interior timber faces should be finished with an appropriate durable coating system to meet the requirements of E3/AS1. Lockwood recommends at least two coats of a paint or polyurethane system, or three coats in areas that may be exposed to water splash.

- (a) 107 INSULATED WALL BOARD

The 107 Insulated Wall Board is used for the construction of exterior walls within a thermal envelope. In thermal performance a Lockwood wall built with 107 Insulated Wall Boards and a 107 Solid lintel / top board has a consistent As-built R-value of R2.1.

The 107mm wall board is comprised of the interior face board, a center core of 35mm phenolic foam (PIR) insulation, and an exterior laminate option separated by two structural ply spreaders.

The 107 wall board has an interior face laminate manufactured from ex 200mm x 50mm board and is available in traditional Lockwood Grade (with tight knots) or Clears no.2 grade (premium option).

- (b) 107 SOLID BOARD

The 107 Glulam GL8 Solid Lintel / Top Board is used as a stress-graded glulam GL8 lintel over large exterior openings, and as a top board on side walls.

The 107 Solid Board is comprised of the interior face board, an Inner / filler laminate manufactured from an ex 200mm x 50mm board, and an exterior laminate finish option.

The 107 Solid Board has an interior face manufactured from an ex 200 x 40mm board and is available in traditional Lockwood Grade (with tight knots) or Clears no.2 grade (premium option).

(c) 62 WALL BOARD

The 62 Wall Board is generally used outside of the thermal envelope (e.g., garages). And in thermal performance has a consistent As-built R-Value of R0.64.

The 62 wall board is comprised of the interior face board and has an outer laminate(s) depending on exterior cladding laminate finishes.

The 62 wall has an interior face laminate manufactured from ex 200mm x 40mm board and is available in traditional Lockwood Grade (with tight knots) or Clears no.2 grade (premium option).

LOCKWOOD EXTERIOR WALL BOARDS – EXTERIOR LAMINATE FINISH OPTIONS

The Lockwood exterior 107 and 62 wall options are available with three exterior laminate(s) and finish options:

(i) ALUMINIUM SHEATHED

Manufactured from ex 200mm x 40mm boards laminated to interior face board. The exterior face is sheathed with an extruded Aluminium cladding board with a powder coat paint film finish.

(ii) RADIATA PINE VG

Manufactured from ex 200mm x 25mm fill boards laminated to the face interior board and ex 200 x 25 mm exterior cladding boards comprising of finger jointed laminates oriented so that vertical grain appears on the exposed faces dressed in a striated exterior face suitable for a paint or stain finish.

(iii) CEDAR

Manufactured from ex 200mm x 25mm fill boards laminated to the interior face boards and ex 200mm x 25mm Cedar quarter-sawn exterior cladding board dressed in a striated exterior face suitable for a stain finish.

(d) 44 EXTERIOR WALL BOARD

44 Exterior walls can be used where the 44 Internal Wall system is extended through to the external envelope or form a selected part of the exterior envelope. For example, where the interior wall forms a kick-out in an adjoining exterior wall.

The Exterior Wall Board is comprised of the Lockwood Interior Wall Board system (see below), the exterior face packed out with 45mm x 45mm timber battens to make a cavity for 35mm phenolic foam insulation panels and clad with a Lockwood weatherboard.

Alternatively, 44 Exterior walls may be used in conjunction with conventional cladding systems. In this application, when a conventional cladding system is used, the Lockwood Wall Systems does not contribute to meeting the requirements of NZBC clause E2 External Moisture.

(e) WEATHERBOARDS

Weatherboards are typically used for exterior cladding to 44 exterior walls (see above), or for timber-framed walls for a continuous look with Lockwood wall systems.

Supplied with either base-spacer clips (Aluminium cladding) or Weatherboard spacer-clips (VG Pine or Cedar).

(i) 19MM ALUMINIUM CLADDING

Manufactured from ex 200mm x 25mm preprimed moulded timber backing board and mounted with an extruded aluminium Lockwood board with a powder coat paint film finish.

(ii) 19MM RADIATA PINE VG CLADDING

Manufactured from ex 200mm x 25mm board comprising of finger jointed laminates oriented so that vertical grain appears on the exposed faces dressed in a striated exterior face suitable for a paint or stain finish.

(iii) 19MM CEDAR CLADDING

Manufactured from ex 200mm x 25mm Cedar quarter-sawn board dressed in a striated exterior face suitable for a stain finish.

5. Lockwood Interior 44 Wall System

Interior wall boards are finished to a thickness of 43mm x 192mm high and have an effective cover face of 172mm when stacked in a wall.

Interior wall boards are moulded in the Lockwood tongue-and-groove interlock board profile and finished with project-specific system cuts and routings.

Manufactured from ex 200mm x 50mm board. The tongues of the wall boards are taped with the patented anti-stiction 'noise reduction' 50mm tape system where necessary.

Lockwood Interior 44 walls are available in traditional Lockwood Grade (with tight knots) or Clears no.2 grade (premium option).

Interior timber faces should be finished with an appropriate durable coating system to meet the requirements of E3/AS1. Lockwood recommends at least two coats of a paint or polyurethane system, or three coats in areas that may be exposed to water splash.

6. Exterior Window & Door Joinery

(a) TIMBER JOINERY SUBFRAMES

Lockwood exterior window and door joinery are supplied with integrated timber subframes incorporating moulded timber sill, jamb, and head, allowing for installation in Lockwood wall systems using the Lockwood X profile and other fixings for wall-to-joinery connections.

(b) HEAD PACKERS

Timber head packers are profiled with a flat bottom face and a top groove fitting the bottom tongue of Lockwood wall boards.

(c) HEAD FLASHING

3-, 4- & 6-fold powder coated aluminium head flashings supplied to flash joinery frame heads into Lockwood exterior wall systems.

(d) ALUMINIUM WINDOW & DOOR JOINERY AND HARDWARE

Lockwood fabricates aluminium window and door joinery using Altus Window Systems. Lockwood Production Drawings provide crucial measurements for fabrication. Lockwood aluminium joinery is installed with Lockwood Wall System Components for flashing and sealing.

All other information required for fabrication, including hardware options is taken from consent design plans and supplied order information. Standard hardware options are supplied by Lockwood as per the Lockwood Joinery Systems brochure.

(e) STELLAR DOORS

Stellar by Altus powder coated aluminium panel entrance doors.

(f) GLAZING

Glazing by Metro Performance Glass supplied factory-installed in joinery frames or glazed on-site. On-site glazing required for selected joinery units weighing in excess of 80kg is arranged by Lockwood in consultation with the contractor.

(g) JOINERY EXPOSURE KIT

Materials supplied by Lockwood, applied by contractor:

- (i) WINDSEAL foam tape FS4612 12mm x 12mm with one adhesive side to seal between top of joinery frame and head flashing.
- (ii) SEALANT flexible construction sealant Fabricator MSHP to seal between Lockwood timber subframe and head packer.

7. Interior Door Joinery

(a) INTERIOR DOOR JAMBS & HARDWARE

Timber door jambs with overall dimension of 86mm x 43mm moulded with rebate to fit over wallboards (untreated). Hinges, striker plates and associated fixings supplied for fitting by contractor. Nail fixings by contractor.

(b) INTERIOR DOORS

Standard supply Flush hollow core paint quality doors by Superior Doors with RibCore polystyrene fill, 30mm timber rail and 4mm pre primed skin. Avon V-Groove panel available (premium option).

Standard dimensions of 38mm thick x 2030mm high for passage doors, or 1980mm high for sliding wardrobe doors. Variable widths as per plans and selections. Options for over-height doors available on request.

Core Options for interior doors:

- (i) RIBCORE Standard supply hollow core doors supplied with high contact RibCore polystyrene core.
- (ii) EXPANDED POLYSTYRENE (EPS) SOLID CORE Premium high density expanded polystyrene (EPS) core for enhanced thermal insulation and greater impact resistance.
- (iii) MOISTURE RESISTANT (MR) PARTICLE BOARD SOLID CORE Premium moisture resistant (MR) particle board core for enhanced strength and acoustic insulation.

(c) INTERIOR DOOR HANDLES

Standard supply door handles selected from either Schlage Form or Schlage Medio series:

- (i) SCHLAGE FORM Solid US304 grade stainless steel lever, zinc die cast rose supplied in passage, privacy, or dummy trim sets as per plans and selections. Swinging wardrobe doors supplied with dummy trim handles unless otherwise specified (flush pull options available).
- (ii) SCHLAGE MEDIO Zinc die cast lever supplied in passage, privacy, or dummy trim sets as per plans and selections. Swinging wardrobe doors supplied with dummy trim handles unless otherwise specified (flush pull options available).

8. Glulam Posts & Beams

Lockwood certified glue laminated structural GL8 products using a polyurethane adhesive and manufactured to AS/NZS 1328:1998 (Part 1). Generally supplied either 86mm or 135mm wide x select depths (86mm – 602mm) x lengths as required. Treated to H3.1 (LOSP) except Exterior posts and beams which are treated to H5 (CCA) and primed. Lockwood Exterior H5 posts are not suitable as a structural component in ground contact.

- (a) POSTS are generally used to support roof beams.
- (b) STIFFENER POSTS provide stiffness to walls where an intersecting wall is absent and using the Lockwood 'X' profile for post-to-wall connection. On exterior walls a stiffener post is required for every 4.5mtrs of uninterrupted wall. For interior walls, a stiffener post is required every 3.6mtrs of uninterrupted wall. Stiffener posts can also be used to support roof beams.
- (c) BEAMS selected by designers and engineers using the Lockwood Beam Chart (Revised) in Appendix C of the Lockwood Structural Handbook. Beams take roof loads down to the subfloor via walls and stiffener posts.
- (d) LOCKWOOD BRACKETS steel hot dip galvanised to AS/NZS 4680 supplied as specified by the designer or engineer. Any other specified structural brackets are not generally supplied by Lockwood.
 - (i) J9 interior concealed pole-and-pin type bracket to connect posts to concrete floor, supplied with pin.
 - (ii) J18/ J19/ J20 concealed plate-and-pin type brackets to connect beams to walls and posts, supplied with pin. Available in stainless steel.
- (e) DUMMY BEAM COVER BOARDS laminated supplied 21mm thick x select widths (172mm – 344mm), generally used to cover structural steel.
- (f) E-TYPE / NAILING BEAMS non-laminated solid timber beams supplied 65mm 94mm/140mm x 43mm to assist with supporting the roof structure bearing on to walls and can be used to increase solid board lintel spans.

9. Roof & Soffit Sarking

- (a) 35MM TONGUE & GROOVE manufactured from ex 200mm x 40mm finger jointed timber board dress finished to a thickness of 35 mm and with an effective cover face of 185 mm, moulded in the Lockwood tongue-and-groove interlock board profile, with the tongues of each board fitted with the Lockwood Noise Reduction tape system. Supplied with galvanised steel strip brace ('Sarking Strap') laid across sarking

plane to minimise sarking movement , generally fitted midspans over walls or beams more than 2.5mtrs.

- (b) 19MM TONGUE & GROOVE manufactured from ex 200mm x 25mm finger jointed timber board dressed finished to a thickness of 19mm and with an effective cover face of 185 mm, moulded in the Lockwood tongue-and-groove interlock board profile.

10. Tie Rods

- (a) CONCRETE FLOOR TIE ROD ANCHOR

Bracket for fixing tie rods to concrete subfloors and mid-floors supplied with washer and nut for tie rod fixing. Supplied with sleeve anchors unless specific engineering design requires alternative fixings (not supplied by Lockwood).

- (b) TIE RODS

10mm diameter galvanised rods, threaded both ends, supplied to required lengths. Used to tie the roof structure down to the floor, and as an element for Lockwood wall bracing.

- (c) TIE ROD TOP ASSEMBLY PACK

High tension spring, spring sleeve, washers and nuts. Provides continuous tension to tie roof structure down to floors and assists with keeping wall boards tightly stacked. Tension brackets and screws supplied for either skillion roofs over 7° or 15°.

- (d) SEA SPRAY ZONE KIT

Includes a galvanised coupling nut and stainless steel 10mm tie rod extension, washer, and nut. Used to mitigate corrosion in sea spray exposure zones..

11. Barge & Fascia Boards

Laminated and dressed 31mm x 280mm supplied in various lengths, treated H3.2 (CCA) and primed. Available either square or with an 8mm x 50mm internal rebate to assist with soffit edge construction.

12. Exterior Timber Finishing Materials

- (a) Frieze board 95x32, clear or pre primed.
- (b) VG Boxed Corner laminated vertical grain VG 153mm x 19mm (for Lockwood VG Pine exterior wall corners
- (c) VG B Cover board laminated vertical grain (For Lockwood VG Pine exterior wall trims.
- (d) Gable Scotia 60mm x 32 mm beveled, clear or pre-primed.
- (e) Garage door liners 180mm x 32mm, pre primed.

13. Interior Timber Finishing Materials

- (a) 44 Wall Cappings - 86mm x 43mm with internal channel for 44 walls (untreated).
- (b) 62 Wall Capping 86mm x 43mm with an internal channel for 62 walls (untreated).

- (c) 107 Wall Capping 131mm x 43mm with an internal channel for 107 walls (untreated).
- (d) P7 Jamb stiffener 86mm x 42mm with X-cut rebate
- (e) Jamb stiffener 58mm x 43 mm with X-cut.
- (f) X-cut studs 90mm / 140mm x 45mm.
- (g) Scotia 44mm x 19mm beveled (untreated).
- (h) Skirting 60x19 beveled (untreated).
- (i) Finishing Bead 12mm x 12mm
- (j) Cover board 86mm x 19mm (untreated).
- (k) Shelving / Pellets 180mm x 19mm (untreated).
- (l) Shelving battens 43mm x 19mm (untreated).

Notes

1. CodeMark

Lockwood wall systems if designed, used, installed, and maintained in accordance with the conditions of the CodeMark certificate GM-CM30044 will meet or contribute to provisions of the New Zealand Building Code. For a copy of the Lockwood CodeMark certificate, please visit www.lockwood.co.nz.

2. Scope of Use - Lockwood Building System

For the purposes of this Specification 'Lockwood' refers only to Lockwood Group Limited as the manufacturer and supplier of these Components.

Items not included in component supply should be crossed out of this Specification.

The specified Components are intended for the construction of houses and commercial buildings. The Purchaser of these Components must refer to this Specification, Lockwood Production plans and manuals for correct handling, storage, construction, and maintenance.

Lockwood is not responsible for the performance of materials excluded or omitted from this Specification. For the avoidance of doubt, this includes unintentional damage to Lockwood Components attributable to materials, systems or details that penetrate or affix Lockwood Components.

The performance and durability of Lockwood Components can be limited by on-site factors that are the responsibility of the Purchaser or beyond the control of Lockwood, including:

- a) Correct offloading, storage, and handling, especially to prevent Components from being unduly wet or exposed to moisture.
- b) Strict conformity with crucial measurements and dimensions on the Production Plans and with details and techniques in the Manuals.
- c) Correct adjustment of Components allowing for ease-of-use.
- d) Correct application of protective coatings that are within the colour range tolerances of this Specification and as per the Coating Manufacturer's Specifications.

For the purposes of this Specification, the Purchaser is the person(s) that ordered and paid for the Components from Lockwood and has responsibility for the Components on site.

3. Timber Grade & Treatment

All timber is Select Purpose Grade, kiln-dried rough-sawn NZ grown Radiata Pine, unless stated otherwise, finger jointed where necessary, and treated to hazard class H3.1 with light organic salt preservative (LOSP azole); or, for select exterior products pretreated prior to manufacturing to hazard class H3.2 or H5 with chromated copper arsenate (CCA).

4. Durability

The expected performance criteria of a Lockwood Component are determined by relevant provisions of the New Zealand Building Code Clause B2 (Durability), and provided that the Component:

- a) Receives normal use.
- b) Receives normal maintenance.
- c) Is used in an environment for which it was specified.
- d) Is not exposed to environmental conditions exceeding engineered design parameters.

5. Dimensional changes

Timber is hygroscopic; it absorbs and releases moisture. Once installed, timber will dimensionally expand and contract for up to two years, at which point timber reaches the point of equilibrium moisture content (EMC) with the surrounding environment. Further expansion and contraction can be expected with seasonal changes in temperature and relative humidity. Dimensional changes to Timber are allowed for in the Lockwood timber system.

Gaps between the 'v' line of stacked Lockwood boards may appear due to normal dimensional changes. This may be especially noticeable if the boards are stained (e.g., 'blonded'), or painted, and may be remedied by touch-ups.

6. Tannin Staining and Resin Bleed

Tannin staining may occur on timber finished with a waterborne paint or stain if applied over bare wood. Tannin staining is a brownish or tan discolouration that can occur over painted knots and, although the discolouration may bleach out in open and exposed areas, it can be especially persistent in damp areas that receive little sunlight.

To avoid tannin staining, refer to paint manufacturers advice for suitable primer products.

Resin is a natural compound produced by trees and in especially hot weather can manifest as a sticky liquid (resin bleed) in timber. While unsightly, resin bleed does not weaken or damage the timber.

Using a light coloured paint or stain finish greatly reduces the potential for resin bleed.

To remediate, allow the resin to finish bleeding and harden which can take up to 18 months. Scrape the resin off and refinish the affected area.

7. Exterior Colours

Dark colours absorb light and heat more readily than light colours. Heat absorption can affect the subsurface materials. For example, dark colours on Lockwood exterior walls can cause heat build-up which can cause expansion and movement in aluminium and timber.

Bright colours such as reds, oranges, greens, and blues behave differently again as they not only absorb light and emit this as brightness, but the pigments are also more readily damaged by ultraviolet light reducing the life of the colour.

For exterior surfaces with a powder coat paint film finish (such as Lockwood aluminium sheathing), the Lockwood Warranty is limited to colour options with an LRV of 24% or more.

For exterior surfaces with a paint or stain finish (such as Lockwood VG Pine) the Lockwood Warranty is limited to colour options with an LRV of 40% or more.

8. Powder coated paint film finishes.

Aluminium extrusions have a Dulux Duralloy +Plus powder coated paint film on visible surfaces to a minimum film thickness of 50 microns applied by a Dulux Accredited Powder Coater.

The bond between paint film and aluminium surface is very strong. It is strong enough to prevent corrosion under normal exposure conditions. However, acid, or alkaline cleaners must be avoided, along with:

- Contact with wet building materials such as plaster, cement, and unprotected concrete (alkaline).
- Paint splashes – as attempts to remove them using paint strippers will destroy the film.
- Solvents – as these will tend to soften and perhaps dissolve the film.

Avoid using any type of scouring pad – whether metallic or synthetic.

Care & Maintenance

Please refer to [Lockwood.co.nz/maintenance](https://www.lockwood.co.nz/maintenance) for general maintenance advice. Without limiting the normal maintenance requirements specified elsewhere, important care and maintenance requirements are:

- a) Adequate ventilation of the building to prevent the build-up of internal moisture.
- b) Keep soil, debris, plants, trees, and landscaping features clear away from the building.
- c) Gradual seasonal start-up and shutdown of heating / cooling systems to prevent excessive movement of the structure or damage to linings and finishes.
- d) Maintaining the finished building in a weatherproof condition.
- e) Application of protective coatings as required.
- f) Clean exterior surfaces regularly.
- g) Replace components if they wear out or fail.

The recommended minimum cleaning for exterior surfaces is:

- Every twelve months for most environments,
- Six months in severe environments (medium sea spray zone), offshore islands and or geothermal environments greater than 500m of a bore, mud pool, steam vent or other source,

- Three months in severe environments (high sea spray zone e.g., Surf), offshore islands, and heavy industry.

Clean exterior surfaces in 3 simple steps

1. Carefully remove any loose surface deposits with a wet sponge and gently rubbing.
2. Clean by gentle brushing with a soft brush (non-abrasive) and a dilute solution of a mild pH-neutral detergent such as hand or dishwashing detergent in warm water to remove dust, salt, and other deposits. For stubborn stains use only recommended solvents on the affected area e.g., Isopropyl alcohol or methylated spirits and rinse off with clean water. Do not use other aggressive solvents.
3. Rinse the surfaces with clean fresh water after cleaning to remove all residues.

Avoid using water that has high concentrations of iron or copper (normally found in bore water).

Avoid using any type of metallic or synthetic scouring pad.

Avoid using solvents, acid, or alkaline cleaners, as they tend to soften and perhaps dissolve protective coatings.

Avoid using pressure water blasters.

Warranties

The Lockwood supply of Components includes products sourced and warranted by other manufacturers. Copies of this Specification, and warranty information for the following manufacturers is provided by Lockwood to the homeowner after the completion of the build:

LOCKWOOD

The Lockwood 10-year Manufacturer's warranty is registered to the homeowner on receipt of the completed Lockwood Builder's Declaration on completion of Lockwood construction works. Please visit Lockwood.co.nz for further information including care and maintenance.

ALTUS

The Altus Window Systems 5-year warranty is registered in the homeowner's name from the time the joinery is delivered to site. Please visit nulook.co.nz for further information including care and maintenance.

DULUX

The Dulux powder coatings 15-year Alumi Shield warranty for durability and colour is registered in the homeowner's name and applies from the powder coating date of application. Please visit duluxpowders.co.nz for further information, including warranty conditions, care, and maintenance.

METRO GLASS

The Metro Performance Glass 10-year warranty is registered in the homeowner's name from the date of manufacture. Please visit metroglass.co.nz for further information, including warranty conditions, care, and maintenance.

SUPERIOR DOORS

The Superior Doors 10-year warranty for interior doors is activated from the time the doors are delivered to site. Please visit superiordoors.co.nz for further information, including warranty conditions, care, and maintenance.

The Purchaser must sign below to confirm they have received and read this Specification.

PURCHASER NAME(s) _____

PURCHASER SIGNATURE _____

DATE _____

A copy of this Specification must be provided to the Homeowner for their reference.

Contact Details:

LOCKWOOD GROUP LIMITED

Physical Address:

7 RUSSELL ROAD

FAIRY SPRINGS

ROTORUA 3015

Postal Address:

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