“RHINO TUFF STUFF”

Spray Applied Waterproof Membrane Specification

Rhino Linings Australasia Pty Ltd

Rhino TUFF STUFF Specifications for 28/08/2018

TABLE OF CONTENTS

Rhino Linings Australasia Pty Ltd
39 Activity Cres, Molendinar QLD 4214
Ph: +61 7 5585 7000 | Email: info@rhinolinings.com.au | Web: www.rhinolinings.com.au

PRODUCT DESCRIPTION AND FEATURES

1.1 The Rhino Linings Spray Applied Membrane System Specification Rhino Tuff Stuff®, is a plural component polyurethane (PU) spray applied, trafficable, "Class III Wet Area Membrane" waterproofing system for decks, patios and walkway surfaces (suitable for decks above living areas using NZ Plywood Decking as per the NZ Building Code). It is a seamless high build (2.4mm DFT minimum to 2.8mm DFT with Aggregate and Top Coat) all-inclusive finished waterproofing system for pedestrian traffic. Rhino Tuff Stuff® can be finished with a light or heavy stipple finish (embossed) slip-resistant surface or a more aggressive slip resistant particle finish that is still pleasant to walk on. Rhino Tuff Stuff® can also be Top coated with very durable coloured finishes that would enhance any deck system and modern accommodation facility. Rhino Tuff Stuff® will take much longer to heat up in sunny conditions because of its insulating qualities and its intimate connection to the deck substrate via adhesion enhancing primers thus allowing heat dissipation into the substrate.

1.2 The stipple and/or aggressive surface finish adds to the wear resistance of these PU membranes (high Taber abrasion resistance), while the cross linking chemistry inherent throughout these spray applied membranes provides excellent penetration resistance. Added durability comes from Rhino Tuff Stuff® being UV and atmospheric resistant, along with mechanical flexibility and stability. The membrane has the ability to move with the substrate. CSIRO Testing to a 70 day cyclic program (AS/NZ4858 ref a) demonstrates these characteristics. When combined with the Rhino Linings CS flexible membrane joint bridging system (to be applied over the plywood joints), and the Rhino Linings flexible coving system, the Rhino Tuff Stuff® waterproof membrane system offers exceptional waterproofing resistance to movement.

1.3 The system consists of a Rhino primer, Rhino joint bridging system (when required), Rhino coving system (when required), primary waterproofing and wear coating (Rhino Tuff Stuff® plus aggressive Aggregate if required) and an Aliphatic Top Coat (Rhino Top Coat) that can also include a less aggressive slip resistant particle in the Top Coat. Combined with the Rhino Linings NZ Distributor's (Polymer Group Ltd) "**Application Checklist"** for the application of waterproofing membranes, our company offers this product as a durable long term solution to pedestrian trafficable areas on building decks, patios, and walkways, flooring and tanking.

1.4 Rhino Tuff Stuff® is suitable for residential (roof decks, patios, pool decks, multi-unit balconies) and commercial areas (clubs and schools), and is also great for ramps and walkways.

1.5 Other Features available include nine standard pigment colours: Black, Concrete Grey, Graphite Grey, Dark Blue, Sky Blue, Ambulance Green, Safety Yellow, Flame Red, and White, this product (an aromatic PU) will require a UV Topcoat to maintain full colour stability under full external UV conditions. Rhino Tuff Stuff® requires minimal cleaning using the recommended RLA Floor Cleaning Procedure.

1.6 Nominal Thickness is 2.4mm DFT minimum; to 2.8mm DFT when included with Rhino P24 Aggregate/Top Coat system to produce a minimum R10 slip resistant standard.

NZ BUILDING REGULATIONS

2.1 The Rhino Linings Spray Applied Membrane System if designed, installed and maintained in accordance with the statements and conditions of this Specification, will meet the following provisions of the NZBC.

2.2 CLAUSE B2 DURABILITY

Performance B2.3.1(b) and B2.3.2(b), **15 years.** The Rhino Linings Spray Applied Membrane System meets this requirement. See following paragraphs 8.1 to 9.5.

2.3 CLAUSE E2 EXTERNAL MOISTURE

Performance E2.3.2, Decks/roofs, ramps and balconies featuring the Rhino Linings Spray Applied Membrane System meet this requirement. See paragraphs 10.1 to 10.8.

2.4 CLAUSE F2 HAZARDOUS BUILDING MATERIALS

Performance F2.3.1. The Rhino Linings Spray Applied Membrane System when applied and cured is inert, approved for4 potable water contact (Potable Water Membrane AS/NZS 4020) and therefore meets this requirement and will not present a health hazard to people.

2.5 The Rhino Linings Spray Applied Membrane System is an alternative waterproofing solution in terms of New Zealand Building Code compliance.

SCOPE AND LIMITATIONS

3.1 The Rhino Linings Spray Applied Membrane System has been appraised for use as a waterproofing membrane for buildings within the following scope.

- Scope limitations of NZBC Acceptable solution E2/AS1. Paragraph 1.1; and
- With building structures designed and constructed to comply with the requirements of the NZBC; and
- With decks/roofs, ramps and balconies constructed with timber framing with substrates of NZ plywood or fibre cement compressed sheet; and
- Situated in wind zones up to, and including 'Very High' as per NZS 3604
- With decks that have a maximum size of 40sqm
- With decks larger than 40sqm, these are the subject of specific design criteria and need to be discussed with a design professional.
- With substrates of suspended concrete slabs

3.2 The Rhino Linings Spray Applied Coating System has also been recommended for use as a waterproofing membrane for pedestrian decks and balconies on specifically designed buildings within the following scope

- With building structures designed and constructed to comply with the NZBC; and
- With decks and balconies constructed with timber framing with substrates of NZ plywood or fibre cement compressed sheet; and
- With substrates of suspended concrete slab; and
- With the design of all junctions (weather tight) being specifically designed by the designer; and
- With the reinforced concrete structure designed and constructed in accordance with the NZBC.

3.3 This Specification is limited to decks/roofs, ramps and balconies within the following scope:

- constructed with suitable falls (paragraph 10.2)
- With the membrane primary waterproofing and wear coating (Rhino Tuff Stuff® plus aggressive Aggregate if required) continually protected from exposure to UV (ultra violet) light by the application

of the Rhino Top Coat System or Aliphatic Topcoat Equivalent (with or without slip resistant particles).

- With no integral roof gardens
- The inclusion of steps within the deck level and no pipe/s directly discharging directly onto the deck, roof, ramp or balcony needs to be assessed and designed by a design professional
- For existing buildings, a design professional needs to assess the suitability of the Rhino Linings Spray Applied Membrane System.

3.4 The design and construction of the substrate and substrate control joints vary depending on the individual dwelling design, and is therefore the responsibility of the owner/building designer and building contractor and is therefore outside the scope of this Specification.

3.5 The membrane system must be installed by Rhino Linings approved and trained applicators.

RLA TECHNICAL LITERATURE

4.1 The Rhino Linings Spray Applied Membrane System, called Rhino Tuff Stuff® and Rhino Aggregate/Top Coat technical literature must be read in conjunction with this Specification. All aspects of design, use, installation and maintenance contained within the Technical Literature and scope of the Specification Certificate must be followed.

4.2 For a copy of this Technical Literature and any subsequent updates please refer to www.rhinolinings.com.au , www.rhinolinings.co.nz and www.polymer.co.nz

RLA TECHNICAL SPECIFICATION

5.1 Approved materials and accessories supplied by Rhino Linings Australasia Pty Ltd and our NZ Distributor are as follows:

- **RhinoPrime SP150**
  is a two-part Epoxy penetrating and sealing primer used for wood and concrete substrates. **Rhino Concrete Solutions Elastomeric Base Coat and 100mm Joint Bridging Fabric**
  Is a well developed single pack water-based joint bridging system that is applied after the primer has been laid down
- **Rhino Linings Bond Breaker Tape**
  Is a self-adhesive polyethylene tape used for isolating joints in place of **Rhino Concrete Solutions Elastomeric Base Coat and 100mm Joint Bridging Fabric and Rhino coving.** For aesthetic reasons bond breaker tape is not recommended for pedestrian decks. Refer to the Technical Reference manual.
- **Rhino Coving**
  Is a rubber urethane flexible 32mm coving for all wall to floor and upstand transitions and is adhered to the substrate with contact adhesive. 3M 75 Repositionable Spray Adhesive, 3M 76 High Tack or 3M 77 Multipurpose Adhesive. For very low height transitions, use a polyurethane (non-acid) Sealant/Adhesive formed bead at the transition. Ensure that the polyurethane bead is cured and not sticky before continuing application with the membrane. Use
- **Approved Polyurethane (non-acid) Sealant/Adhesive**
  Recommend Sikaflex 11FC from Sika NZ

- **Rhino Tuff Stuff®**
  Is a plural component polyurethane (PU) spray applied, trafficable, "Class III Wet Area Membrane" waterproofing system. Can be also be used for tanking and other large scale water storage systems.
- **Rhino P24 Alox Aggregate or equivalent**
  Is a 24 Grade Aluminum Oxide (for more aggressive slip resistance) applied to the finished Rhino Tuff Stuff with an integral Hopper Gun.
- **Rhino Aliphatic Top Coat or Aliphatic UV Topcoat Equivalent**
  Is a two pack Aliphatic (UV colourfast) Polyurethane Top Coat paint system, applied in two coats within 6 hours of Rhino Tuff Stuff completion, to assist with long term colour and gloss retention.
  Approved systems in NZ are Rhino Aliphatic Topcoat, Rhino Armafloor 500 with pigment, Jotun Hardtop Flexi Topcoat, Ultraure A-80 Topcoat and Altex boat & Yacht Elite High gloss Linear Polyurethane.
- **Rhino Non Skid Particles (Plastic)**
  Are particles that can be included into the Top Coat to achieve a minimum R10 equivalent slip resistant rating in place of the use of the more aggressive non-slip P24 Alox Aggregate.

ACCESSORIES

- **Trim Tape**
  Rhino supplied **Easy Trim Wire tape** (Part No#CON108) or **Easy Trim Fibre tape** (Part No#CON107) is a Trademarked thin transparent, double sided edge cutting tape with a high-tensile metal wire filament or Fibre filament embedded into the tape. The tape is used to achieve a clean cut round the edge of the sprayed area. The wire tape is used for thicker applied Rhino Tuff Stuff coatings. These products are generally supplied in ¼" wide x 100 foot long rolls x single box of 10.
- **Plastic Sheet masking**
  Rhino supplied Fold Out Easy Cover in 1m (Part No#CON124) and 2m (Part No#CON120) drop heights.

HANDLING AND STORAGE

5.4 All products must be stored inside, in a well ventilated area, up off concrete floors, kept dry, out of direct sunlight and away from freezing conditions. Ambient storage conditions should be 15-25°C. The membrane products (Rhino Tuff Stuff®), in the original unopened containers, have a shelf life of 12 months from date of manufacture for the RESIN (B-side) and 6 months for the ISOCYANATE (ISO or A-side).

RLA DESIGN INFORMATION

GENERAL

6.1 The Rhino Linings Spray Applied Membrane System is for use on decks, balconies, ramps and walkways where an impervious waterproof membrane is required to prevent damage to building elements and adjoining areas.

6.2 The primary waterproofing and wear coating (Rhino Tuff Stuff® plus aggressive Aggregate if required) should be protected from exposure to UV light by the Topcoat System (with or without integral non-skid particles) in order to maintain colour stability.

6.3 Timber framing must comply with NZS 3604, or where specific design is used, the framing shall be of at least equivalent stiffness to the framing provision of NZS 3604, or comply with the serviceability criteria of NZS 1170. In all cases framing must be provided so that the maximum span specified by the substrate manufacturer is met and all sheet edges are fully supported. Timber framing supporting the substrates must be constructed such that the deflections do not exceed 1/600th of the span.

6.5 The Rhino Linings Spray Applied Coating system (when nonskid particles have been added) has been tested to AS 4586-2013 and has a slip resistance of >R10 which exceeds the minimum slip resistance equivalent requirement of 0.4μ, as specified in NZBC D1/AS1 paragraph 2.1.1.

SUBSTRATES

PLYWOOD

7.1 NZ Plywood must be treated to H3.2 (CCA treated). NZ Plywood must comply with NZBC Acceptable Solution E2/AS1 paragraphs 8.5.3 and 8.5.5.1. Where specific design is required, the plywood thickness may increase and centres may need to be reduced to meet specific wind loadings.

Note: **LOSP TREATED TIMBER MUST NOT BE USED.**

General: Lap plywood sheets with staggered joints (brick bond), and fix the plywood sheets with a 3-4mm gap between all sheets, with all edges fully supported. Ensure sheets are rigid, with joints flush, no lumps or hollows, smooth, clean, dry (20% maximum moisture content) and free of debris.
Plywood to be 17mm H# CCA treated and conform to NZS 2269. Sheets to be glued and screwed with stainless steel counter sunk screws, chamfered edges, coving fillets to all upstands (minimum of 20mm), and installed to RLA specifications.

Plywood may be pre-primed in the workshop with RhinoPrime SP150 and when dry installed on site. Note that at low temperatures (<15°C) the rate of cure of RhinoPrime SP150 is slower. If the installed primed plywood is left overnight check the following morning that the primer has not fully cured. If the primer is not thumb nail hard degrease the primed surface using acetone, sand with 80 grit, wipe down sanded plywood again with acetone to clean and immediately begin spraying the Rhino Tuff Stuff waterproofing membrane.

FIBRE CEMENT COMPRESSED SHEET

7.2 Fibre cement compressed sheet (FCCS) must be manufactured to comply with NZS 2908.2 and suitable for use as an external decking substrate as specified by the manufacturer. The FCCS must be of sufficient thickness to meet specific structural design requirements and secured to the structure to resist wind uplift and other forces acting upon the deck and balcony (deflection from gravity and live loads). The Installation must be in accordance with the instructions of the manufacturer.

CONCRETE

7.3 Concrete substrates must be to a specific Engineering design, (eg hardness, moisture content and cure, etc) meeting the requirements of the NZBC. Eg NZS 3101.

DURABILITY – CLAUSE B2

8.1 The Rhino Linings Spray Applied Waterproofing System, called Rhino Tuff Stuff®, when used in accordance with this Specification Certificate and subjected to normal conditions of environment and use, is expected to have a serviceable life of at least **15 years**.

MAINTENANCE

9.1 No maintenance of the "primary waterproofing and wear coating system (Rhino Tuff Stuff®)" is required provided that there is no significant substrate movement and the Aggregate/Top Coat system remains intact.

9.2 Regular six monthly checks by the owner must be made of the complete system to ensure it is sound. Any cracks or damage to the system must be repaired immediately in accordance with the RLA Technical Literature.

9.3 The membrane shall be washed at least annually with low pressure cleaning with warm soapy water and a bristle brush (see RLA Floor Cleaning recommendations).

9.4 In the event of damage to the membrane, the surface finish must be removed and the membrane repaired by removing the damaged portion and re-applying a patch as for new work. This must be carried out by RLA Approved Applicators.

9..5 Drainage outlets must be maintained to operate properly and surface finishes must be kept clean. Cleaning materials that affect polyurethane based membranes must not be used.

EXTERNAL MOISTURE – CLAUSE E2

10.1 Decks, roof, ramps and balconies must be designed and constructed to shed any precipitated moisture. They must also take into account the effects of snowfalls in snow prone areas. *Refer to E2/AS1 for design requirements*.

10.2 The minimum fall for roofs is 1 : 30, for decks and balconies is 1 : 40, and for gutters 1 in 100 and falls must slope to an outlet. Inadequate falls will allow moisture to collect and increase the risk of deterioration of the membrane system or allow moisture ingress into the building.

10.3 Since the Rhino Linings Spray Applied Waterproofing System is impermeable, therefore a means of dissipating construction moisture must be provided within the building design and construction in order to comply with E2 External moisture Provisions E2.3.6. Closed-in construction spaces under membrane roofs and decks require adequate ventilation to prevent the accumulation of moisture under the membrane. Maintain a minimum gap of 20 mm between the underside of the substrate and any insulation, and for membrane roofs greater than 40 m2, the roof cavity and/or substrate vent must be adequately vented. **Please contact a design professional.**

10.4 Deck and balcony (1 : 40), roof (1 : 30) and ramp falls must be built into the substrate.

10.5 Only drains with flanges approved by the Design Professional and fitted with a grate or cage may be used.

10.6 The design and construction of scupper and overflow outlet details and the application of the Rhino Linings Spray Applied Membrane System to them shall be subject to specific design and are outside the scope of this Specification.

10.7 The level of penetrations and up-stands through the membrane must be above the level of any possible flooding caused by the blockage of deck or balcony drainage.

10.8 The design of details not included within the Technical Literature is subject to specific design and are outside the scope of this Specification.

RLA INSTALLATION INFORMATION

INSTALLATION SKILL REQUIREMENT

11.1 Installation of the membranes must be completed by Rhino Linings Australasia Pty Ltd approved and trained applicators who have experience in the application of waterproofing membranes and knowledge of waterproofing principles and are current holders of a licensed building practioner qualification.

11.2 Installation of the substrates must be completed by a suitably skilled tradesperson with an understanding of deck and balcony, gutter and roof construction, in accordance with instructions given within the RLA Technical Literature and this Specification

PREPARATION OF SUBSTRATES

12.1 Substrates must be dry and clean and stable before installations commences. Surfaces must be smooth and free from nibs, sharp edges, dust, dirt or other materials such as oil, grease or concrete formwork release agents. All surface defects must be filled to achieve an even and uniform surface.

12.2 Concrete must have cured for a minimum of 28 days and must have a relative humidity reading of less than 75% before membrane application.

12.3 The moisture content of a timber or fibre cement compressed sheet substructure must be a maximum of 15% with fibre cement compressed sheet and NZ plywood sheet dry at the time of membrane application.

12.4 Substrates must be primed/sealed with RhinoPrime SP150 primer as per the RLA Technical Literature and allowed to cure (tack free) before the membrane is applied.

MEMBRANE INSTALLATION

13.1 Installation must not be undertaken when the substrate temperature is below 10°C or if it is likely to drop below 10°C during drying/curing time. For Pedestrian traffic allow 12 hours, and for Light vehicle allow 24hrs. Curing time may need to be extended for cool conditions. *(This is applicable to the application of the Rhino Linings Primer products as well*).

13.2 The membrane must be installed as a primary waterproofing and wear coating (Rhino Tuff Stuff® plus aggressive Aggregate if required) at a rate specified by the RLA Technical Literature, and an Aliphatic Top Coat (Rhino Top Coat or equivalent) that can also include a less aggressive slip resistant particle in the Top Coat.

13.3 The membrane must be terminated on a downward edge at a minimum of 25mm to 50mm over the horizontal edge or protect the termination with a flashing. The termination edge must be a minimum of 2.4mm thick – ie not a feathered finish.

13.3 The primary waterproofing and wear coating (Rhino Tuff Stuff® plus aggressive Aggregate if required) is mixed and spray applied using RLA designed and manufactured plural component machinery.

13.4 The Aliphatic Top Coat (Rhino Top Coat or equivalent) that can also include a less aggressive slip resistant particle in the Top Coat can be applied by roller.

13.5 Using a RLA designed Hopper Gun inclusive with the spray head will eliminate excess aggregate being present after the spray application.

REMEDIAL WORK

14.1 The installation of the Rhino Linings Spray Applied Membrane System over existing roof, gutter, ramp, deck and balconies is subject to specific design and is therefore outside the scope of Specification. Due to changes in the building code a Design professional should be consulted.

HEALTH AND SAFETY

15.1 The safe use and handling of the membrane system products are provided in the RLA Technical Literature. The products must be used in conjunction with the relevant Materials Safety Data Sheet (MSDS/SDS) for each membrane.

BASIS OF SPECIFICATION

Rhino Linings Australasia Pty Ltd (RLA) and their NZ Distributor (Polymer Group Ltd) use the following compliance verification procedure to demonstrate compliance with the relevant clauses of the NZBC based on a risk analysis procedure and certified testing. The following is a summary of the technical investigations carried out.

TESTS

16.1.1 The following testing of the Rhino Linings Spray Applied Coatings System has been undertaken by Rhino Linings USA and RLA testing. The durability of the membrane system was assessed by way of:

- Water absorption
- Cathodic Disbonding
- Tear Resistance and Ross Flex
- Compressive Strength
- Taber Abrasion Resistance
- Elongation and Hardness
- Tensile strength
- Bond strength to substrate materials

16.2 Testing by Gold Coast City Council (GCCC) laboratories and Slip Test Australia Pty Ltd has been undertaken to determine slip resistance in accordance with NZS 4586

16.3 Testing undertaken by an internationally accredited laboratory (CSIRO) to assess durability to NZS 4858 Wet Area Membranes:

- Tensile strength
- Elongation
- Tear resistance
- Water absorption
- Solvent resistance

The above test methods, results and respective labs have been assessed by Rhino Linings Australasia Pty Ltd and found to be satisfactory.

OTHER WORKS

17.1 The installation of the membrane system was also evaluated (site visits) in practical building situations across Australia and New Zealand assessing the following:

- Ease of installation
- Potential risks of non-performance when being installed
- Any external factors that could affect the quality of the installed product
- Ease of repair maintenance

17.2 The RLA Technical Literature is robust and well established over greater than 20 years of operation. Case histories are available upon request.

QUALITY

18.1 The manufacturer of the Rhino Linings Spray Applied Membrane System has been manufacturing on the Gold Coast in Queensland Australia since the mid 1990's and is an ISO 9001 Accredited manufacturer.

18.2 The quality of materials, components and accessories supplied by Rhino Linings Australasia Pty Ltd and Polymer Group Ltd is managed through the use of individual Product Quality Plans.

18.3 The Rhino Linings Australasia Pty Ltd and Polymer Group Ltd Product Quality Plans ensure continuous conformance with the quality requirements from purchase to supply of components.

18.4 Designers are responsible for the substrate design, and building contractors are responsible for the quality of construction of the substrate systems in accordance with the instructions of the substrate manufacturer, Rhino Linings Australasia Pty Ltd, Polymer Group Ltd and this Waterproofing Specification.

18.6 Building owners are responsible for the maintenance of the Rhino Linings Top Coat system in accordance with the instructions of Rhino Linings Australasia Pty Ltd, Polymer Group Ltd and this Specification Certificate.

18.7 The Rhino Linings Approved Applicator is required to supply a completed **Application Checklist**.

RLA SOURCES OF INFORMATION

- NZS 2908.2. Cellulose-cement products – flat sheet
- NZS 3661.1 Slip resistance of pedestrian surfaces, Part 1 requirements
- NZS 4586 Slip resistance classification of new pedestrian surface materials.
- NZS 3101 The design of concrete structures
- NZS 3604 Timber framed Buildings
- NZS 4858 Wet Area Membranes
- NZS 3740, Waterproofing of wet areas within residential buildings.
- Compliance Document for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third edition May 2008, incorporating amendments 1 to 4.
- New Zealand Building Code Handbook and Approved Documents, Building Industry Authority, 1992.
- The Building Regulations 1992.

CONCLUDING STATEMENT

19.1 In the opinion of RLA, the Rhino Linings Spray Applied Membrane System is fit for purpose and will comply with the NZ Building Code to the extent specified provided that it is used, designed, installed and maintained as set out in this Specification.
The Specification is issued only by Rhino Linings Australasia Pty Ltd, and is valid until further notification, subject to the conditions of this Specification.

CONDITIONS OF SPECIFICATION

1. This Specification:
   a. Relates only to Rhino Linings Spray Applied Membrane System as described herein:
   b. Must be read, considered and used in full together with the RLA Technical Literature
   c. Does not address any legislation, regulations, codes or standards, not specifically named herein.
   d. is the copyright of RLA.
2. The Specification holder (Polymer Group Ltd, NZ) continues to retain the Distribution rights for Rhino Linings, continues to meet the quality requirements of Rhino Linings Australasia Pty Ltd Quality Plan and has the Specification revalidated by RLA on an annual basis.
3. Rhino Linings Australasia Pty Ltd, shall notify the Specification holder of any changes on product specification or quality assurance prior to product being marketed including any trade literature, website information or the like.
4. RLA verification of the building waterproofing system complying with one or more of the above-mentioned criteria is given on the basis that the criteria used were those that were appropriate to demonstrate compliance with the NZ Building Code at the date of this Specification. In the event that the criteria is withdrawn or amended at a later date, this Specification may no longer remain valid.
5. Any reference in this Specification to any other publication shall be read as a reference to the version of publication specified in this Specification.

Authorised Signatory

MR PETER MORGAN, MANAGING DIRECTOR
RHINO LININGS AUSTRALASIA PTY LTD
MOLENDINAR, QLD, AUSTRALIA

MR PHIL BACK, PRODUCT MANAGER,
POLYMER GROUP LTD,
EAST TAMAKI, AUCKLAND NZ

Rhino Linings Australasia Pty Ltd – Waterproofing Specification		
Title: Rhino Tuff Stuff Spray Applied Waterproofing Membrane Specification		
Issue No: 1.5	Issue Date: 28 August 2018	Review Date: July 2019
Issue by: Denis Baker Special Projects Engineer		Authorised by: Peter Morgan Managing director

Rhino Linings Australasia Pty Ltd
39 Activity Cres, Molendinar QLD 4214
Ph: +61 7 5585 7000 | Email: info@rhinolinings.com.au | Web: www.rhinolinings.com.au

ANNEXURE A: MEMBRANE SKETCHES – INDICATIVE

A.1 WATERPROOFING ROOFS, DECKS, LANDINGS & BALCONIES

A.2 HAND RAIL ATTACHMENTS

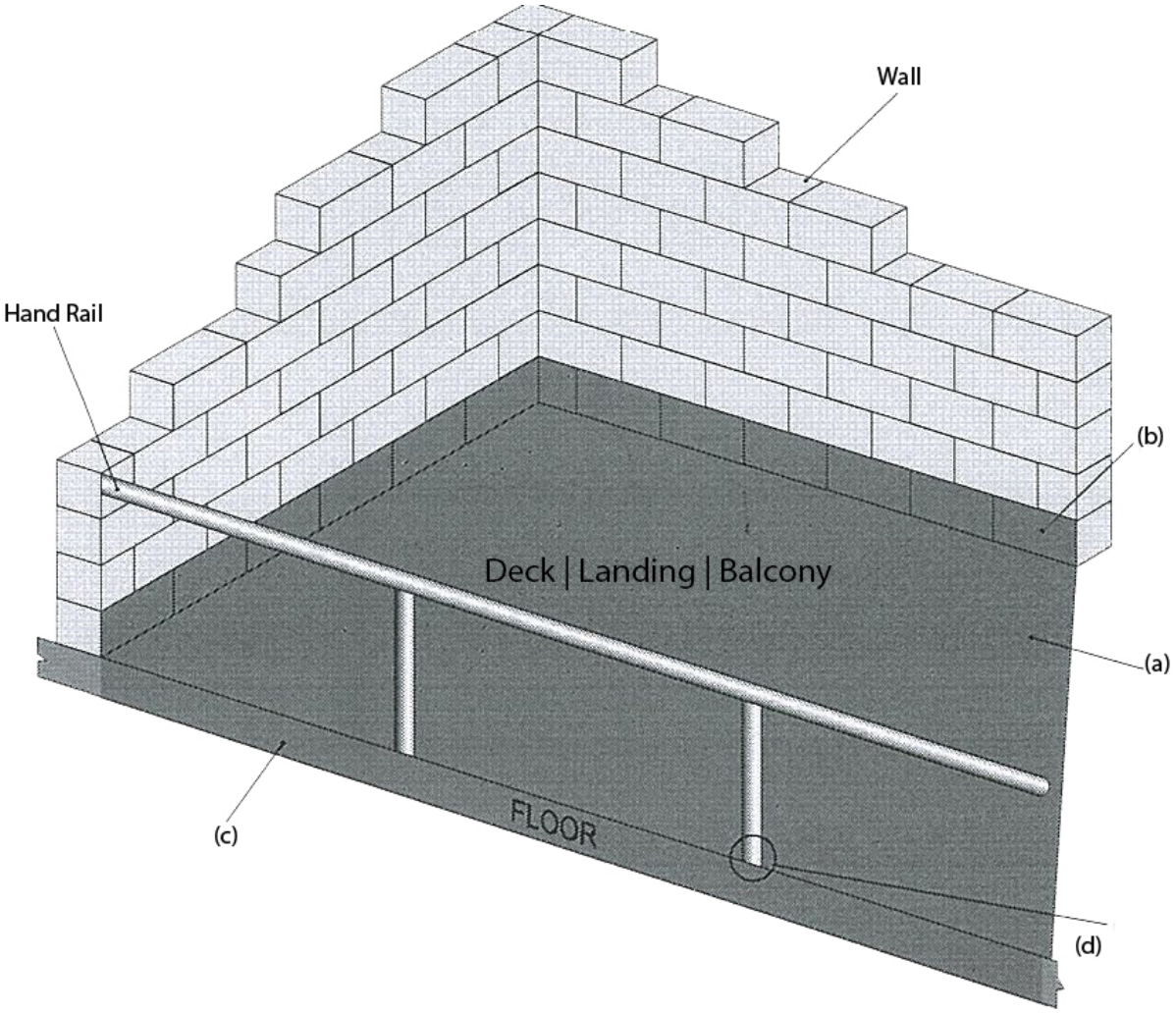
A.3 PENETRATIONS (WITH AND WITHOUT TILES)

A.4 STRUCTURAL AND NON STRUCTURAL CRACKS

A.5 EXPANSION JOINT DETAIL (WITH TILES)

A.6 SHEET/JOINT DETAIL (WITHOUT TILES)

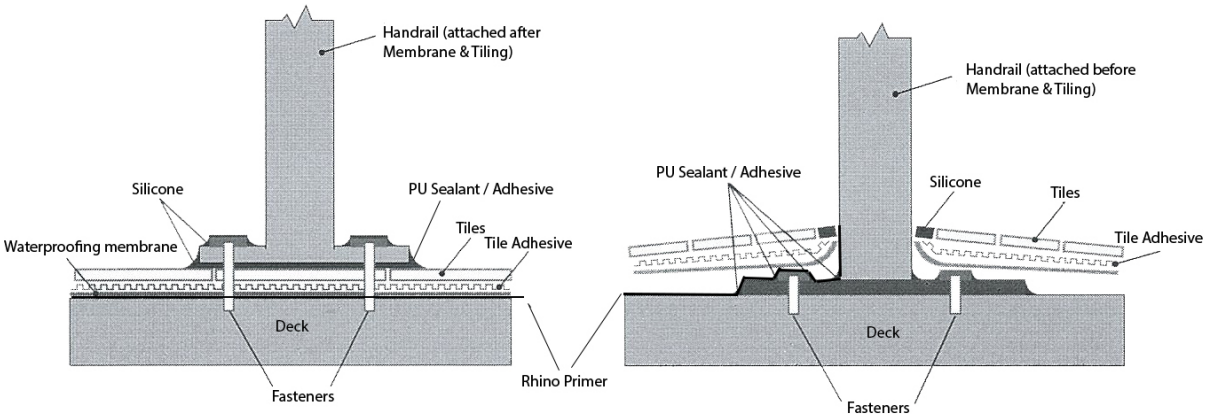
A.1 WATERPROOFING ROOFS, DECKS, LANDINGS & BALCONIES



(a) Rhino TUFF STUFF, Class III Wet Area Membrane (PU) – minimum 2.4mm DFT
(b) Membrane return up wall (minimum 100mm)
(c) Deck/Landing Facia
(d) Handrail attachment

Rhino Linings Australasia Pty Ltd
39 Activity Cres, Molendinar QLD 4214
Ph: +61 7 5585 7000 | Email: info@rhinolinings.com.au | Web: www.rhinolinings.com.au

A.2 HAND RAIL ATTACHMENTS

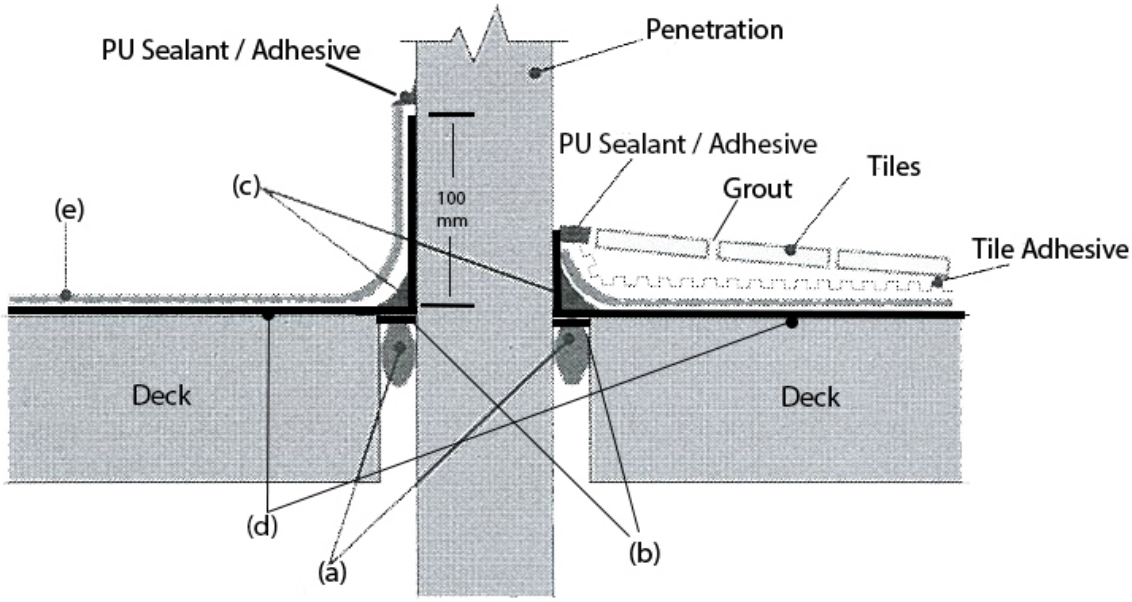


Council authorities may require stainless steel or painted steel cravats be installed/welded over the hand rail posts.

Tiles may need to be installed on feet or over a polyethylene sacrificial sheet to protect the membrane.

Rhino Linings Australasia Pty Ltd
39 Activity Cres, Molendinar QLD 4214
Ph: +61 7 5585 7000 | Email: info@rhinolinings.com.au | Web: www.rhinolinings.com.au

A.3 PENETRATIONS (WITH AND WITHOUT TILES)



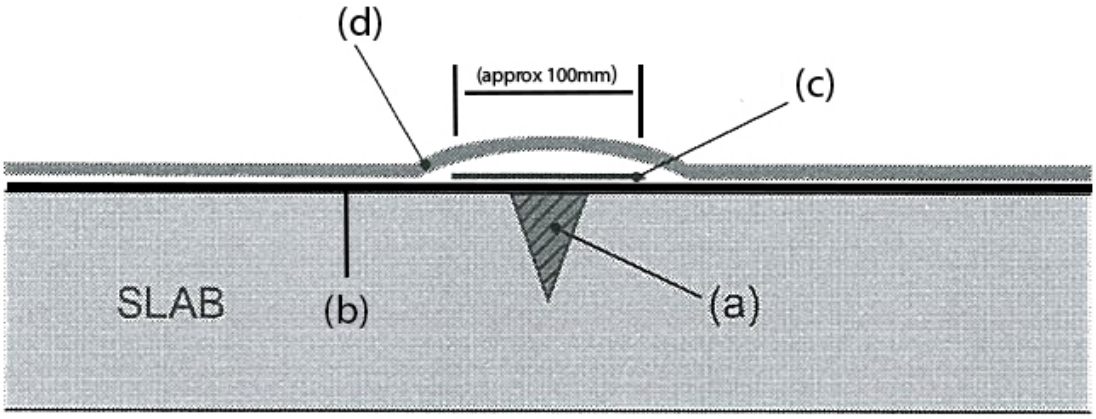
(a) Foam (Closed Cell) Backing Rod
(b) Joint Sealant – PU Sealant / Adhesive
(c) Bond Breaker – Rhino Coving
(d) Rhino Primer
(e) Rhino TUFF STUFF, Class III Wet Area Membrane (PU) – minimum 3mm DFT

Council authorities may require stainless steel or painted steel cravats be installed/welded over the hand rail posts.

Tiles may need to be installed on feet or over a polyethylene sacrificial sheet to protect the membrane.

Rhino Linings Australasia Pty Ltd
39 Activity Cres, Molendinar QLD 4214
Ph: +61 7 5585 7000 | Email: info@rhinolinings.com.au | Web: www.rhinolinings.com.au

A.4 STRUCTURAL AND NON STRUCTURAL CRACKS

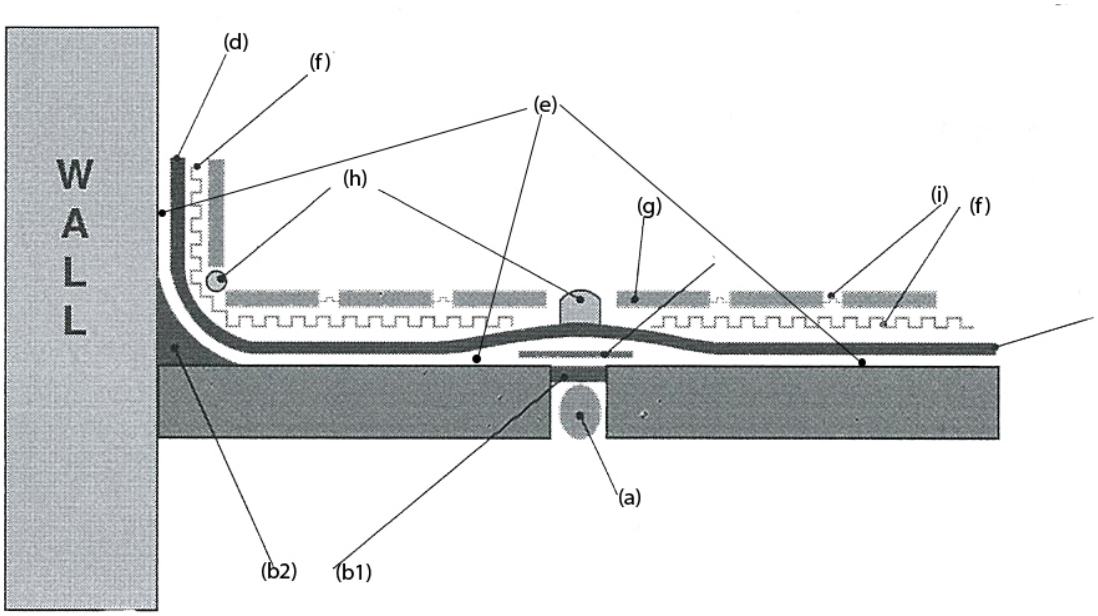


(a) Chase out crack and fill with PU Sealant / Adhesive
(b) Rhino Primer (suit substrate)
(c) Rhino Joint Bridge – Rhino Elastomeric Basecoat & Fabric
(d) Rhino TUFF STUFF, Class III Wet Area Membrane (PU) – minimum 3mm DFT

Bond breaker tape may be substituted for the Rhino elastomeric Basecoat and Fabric where appropriate.

Rhino Linings Australasia Pty Ltd
39 Activity Cres, Molendinar QLD 4214
Ph: +61 7 5585 7000 | Email: info@rhinolinings.com.au | Web: www.rhinolinings.com.au

A.5 EXPANSION JOINT DETAIL (WITH TILES)

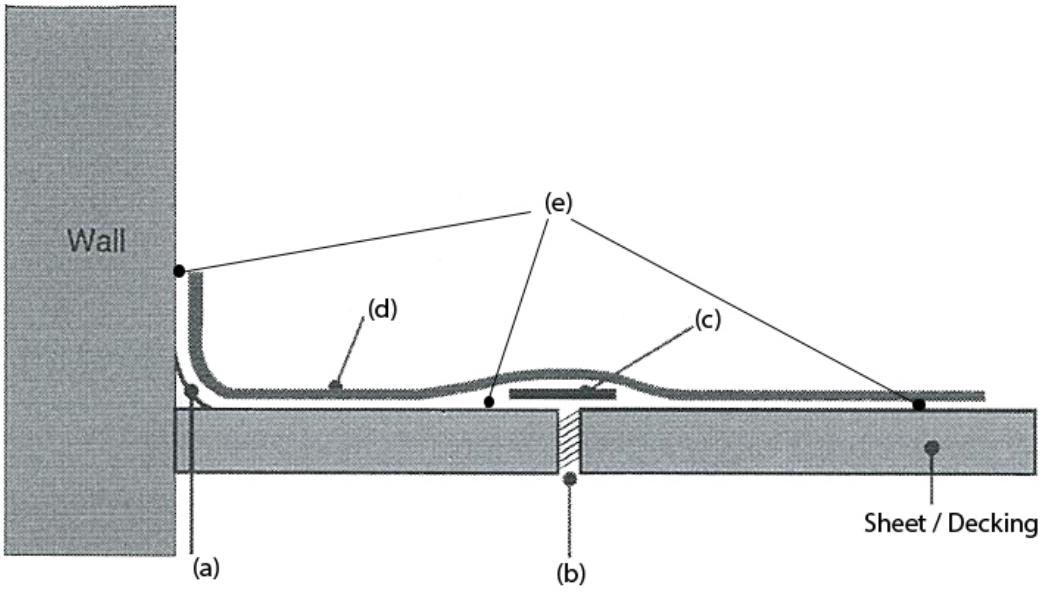


(a) Foam (Closed Cell) Backing Rod
(b1) Joint Sealant – PU Sealant / Adhesive
(b2) Bond Breaker – Rhino Coving
(c) Joint Bridge – Rhino Elastomeric Basecoat and Fabric
(d) Rhino TUFF STUFF, Class III West Area Membrane (PU) – minimum 3mm DFT
(e) Rhino Primer
(f) Tile Adhesive
(g) Tiles
(h) Joint Sealant – PU Sealant / Adhesive
(i) Tile Grout

The membrane lining termination on the wall must be protected with either cladding or an aluminium extruded rebated cove strip or protective capping strip.

Tiles may need to be installed on feet or over a polyethylene sacrificial sheet to protect the membrane.

A.6 SHEET/JOINT DETAIL (WITHOUT TILES)



(a) Bond Breaker – Rhino Coving
(b) Joint Sealant – PU Sealant / Adhesive
(c) Joint Bridge – Rhino Elastomeric Basecoat & Fabric
(d) Rhino TUFF STUFF, Class III Wet Area Membrane (PU), minimum 3mm DFT
(e) Rhino Primer

The membrane lining termination on the wall must be protected with either cladding or an aluminium extruded rebated cove strip or protective capping strip.

Tiles may need to be installed on feet or over a polyethylene sacrificial sheet to protect the membrane.

Rhino Linings Australasia Pty Ltd
39 Activity Cres, Molendinar QLD 4214
Ph: +61 7 5585 7000 | Email: info@rhinolinings.com.au | Web: www.rhinolinings.com.au