POLYMER GROUP LTD
SOLUTIONS FOR EXTREME ENVIRONMENTS

RHINO TUFF STUFF

Spray Applied Waterproof Membrane Application Guide

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Background:
Plywood sheets and timber framing expand when wet and contract when drying out.

Every plywood joint, both floor joints and floor/wall joints must be treated as a moving joint. Allow for a maximum of 25% movement across these joints, ie if you are allowing for upto 1mm movement across a plywood joint, each joint must be 4mm wide. If the joints moves more than 1mm, ie greater than 25% (shrinkage or expansion), the joint may split and fail, and will not be covered under the warranty.

Substrate:
Plywood must be treated to H3.2 (CCA treated). The use of LOSP (Light Organic Solvent Preservative) treated plywood must NOT be used under Rhino Tuff Stuff membrane. 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 uplift and loadings. Please consult your design professional.

Minimum plywood thickness is 17mm complying with AS/NZS 2269, at least CD Structural Grade plywood with the sanded C face upwards. Substrates must be dry when membrane system is applied. The plywood and the timber substructure shall have a maximum moisture content of 15% when the membrane system is applied (outside of rain, humidity has a big effect on the moisture content of timber). Check especially the edges of the plywood.

High density fibre cement compressed sheet must be manufactured to comply with AS 2908.2 and be suitable for exterior applications. Minimum thickness for fibre cement compressed sheet is 18mm.

Miscellaneous:
All construction must be carried out in accordance with the relevant building regulations and standards. Prior to installation, ensure the new / existing flooring and supporting framing is suitable. Follow the fibre cement compressed sheet manufacturers installation recommendations for residential pedestrian waterproof deck installations.

Where specific design is required, the plywood thickness may increase and the centres for plywood and fibre cement compressed sheet may need to be reduced to meet specific wind uplift and loadings.

Closed-in construction spaces under membrane roofs and decks must have adequate ventilation to prevent the accumulation of moisture under the membrane. There must be a gap between the underside of the substrate and any insulation – please consult an architect or engineer.

Adequate falls must be incorporated into the structure eg:

- Decks and balconies 1:40;
- Internal gutters 1:100;
- Roofs 1:30;
  with falls sloping to an outlet(s).

Hand rails and glass panels to be fixed to the outside vertical face of the deck, sealing the anchoring penetration using a combination of neoprene washers and polyurethane sealant.

Surface Preparation

Install the plywood in a brick bond pattern, attaching as per the NZ Building Code. Run a 10mm bead of low modulus urethane sealant along the length of plywood joint to achieve a 3-4mm sealant gap as the deck is built. Scrape the sealant flush with the plywood sheet. If built by a builder, the Rhino applicator is to approve/accept the deck or request remedial action from builder.

External edges shall be chamfered with a minimum radius of 5mm. Plywood and fibre cement compressed sheet must be fixed with stainless steel countersunk head screws, with 3mm gaps between all sheets, at 150mm centres on edges, and 200mm in the body of the sheets.

There may be a delay between installing the plywood and sealant and then waterproofing the deck. Moisture checks must be carried out prior to application of the waterproofing membrane (as well as prior to application of the sealant above). Use blowers, heaters or fans to dry out the wet areas of the deck to obtain a maximum moisture content of less than 15%. Alternatively, when the plywood/sealant has been installed by the builder, the Rhino applicator can seal the plywood with two coats of Rhino SP150 primer, broadcasting dry J61W sand into the second coat of primer.

Prior to waterproofing all joints, the applicator must make a plan of the deck or gutter indicating all joints and record all joint widths using the Rhino Linings Waterproofing Checklist. Photos must be taken showing condition of deck and all joints. The deck may need sanding or minor repairs.

Application of waterproofing membrane to be carried out by approved applicators holding a current licensed building practioner qualification.

a) Install drains and overflows (if applicable).
b) Begin treating the floor/wall joints – prime the joints and apply into the joint a low modulus urethane sealant at a radius of 20mm using a 40mm pipe to create a flexible cove.
c) Begin bandaging the floor joints – brush/roll the Rhino Concrete Solutions Elastomeric Base Coat and lay into it the 100mm wide Joint Bridging Fabric and finish with a second coat of Elastomeric Base Coat. Alternatively install bond breaker tape over the joints.
d) Mask up prior to spraying.
e) Prime the entire deck with Rhino SP150 primer including sealant joints. Note that the primer must be over-coated within 4 hours otherwise intercoat adhesion will be compromised. Refer to the Rhino Linings Australasia Technical manual.
f) Prepare and prime any drains, overflows, vents, drip edges, flashings and any other penetrations as per the Rhino Linings Australasia Technical manual.
g) Spray apply Rhino tuff Stuff over the deck.
h) Roll out or spray the flexible UV resistant topcoat.
i) Remove masking.

Warranties exclude excessive substrate movement and may exclude ponding and unnecessary wear and tear.

For existing structures, warranties exclude any failure of the membrane due to the construction not complying with the NZ Building Code. Appropriate falls must be designed into the structure being waterproofed.

General

1. This application guide must be read in conjunction with the Rhino Linings Australasia specification, Rhino Linings Australasia Technical manual and product data sheets.

2. All waterproofing work only to be carried out by an approved Rhino Linings Australasia applicator.

3. Any coverage rates quoted are average figures to achieve the film thickness specified and all allowances must be made for wastage, application technique, wind and weather conditions when estimating material requirements.

4. All expansion joints must be treated.

5. Coving must be installed to all internal corners.

6. All sharp edges must be bevelled.

7. Drip edges must be installed where appropriate.

8. Applicator must confirm with the building consent authority the acceptability of the water proofing system and applicator.

9. To maximise the life of the deck waterproofing membrane and maintain the waterproofing warranty, regular maintenance must be carried out including re-application of the protective topcoat at the owner's expense.

10. Refer to the maintenance and inspection programme.