RUBCO BUTYL RUBBER MEMBRANE

A. "The Rubber Roofing Co" Rubco Butyl Rubber Membrane Specification for concrete Substrate for Roofs, Gutters and Decks

a) General

i. Scope

This section deals with single-layer rubber membrane – material selection, concrete substrate requirements, membrane installation, membrane properties, accessories, applicator qualifications and technical compliance issues.

ii. Refer to specific specification section of specification when laying over plywood

b) Materials

i. 1.0mm "Rubco" butyl in either grey or black (as specified) to be installed over concrete substrate with a minimum 2.0 degree (1:30) slope or more to general roof areas.

ii. 1.5mm "Rubco" butyl in either grey or black (as specified) to be installed over concrete substrate with a minimum 2.0 degree (1:30) slope or more and a maximum area of 40m² for decks. Refer to Rubber Roofing Co. Group Limited for larger deck areas.

iii. 1.0mm "Rubco" butyl in either grey or black (as specified) to be installed over concrete substrate with a minimum 1.0 degree (1:60) slope, or more to internal gutters. Note all internal gutters require an overflow in accordance with New Zealand Building Code E1 "Surface Water" 5.5 "Overflow outlets". Refer to section A.f.i for purpose-made overflow outlets.

c) Substrate

Prior to installation of the "Rubco" butyl rubber membrane confirm that the concrete substrate complies with the New Zealand Building Code E2/AS3 "External Moisture, membrane roofs and decks" clausesand as follows.

5 with existing concrete ensure that the surface is free of any fogrein contamination.ensure it is free of any surface projections and fill any holes.in extreme situations the surface may require grinding to ensure a smooth surface .

** new concrete is to be finished with a light broom or or a u2??? Wood float to nzs 3114 or u3??steel trowel. Before the commencement of laying the concrete must be (a)either at least 28 days to old or (b)be soficiantly dry, so as to give a relative humidity reading of less than 75 percent.

Ensure the surface is free of any surface projections and fill any holes .the concrete shall be clean and any contamination from the release agent is to be removed.

5.

Junctions with all vertical surfaces to have a 20mm triangular fillet installed.

6.concrete is laid so as to avoid ponding where possible.

7.

8.

d) Installation

i. All installations are to be undertaken by an approved "Rubber Roofing Company Ltd" applicator in accordance with the best of trade practices.

ii. The applicator is to satisfy him or herself that the substrate complies with clause A.c above and any amendments and any technical bulletins produced by The Rubber Roofing Group Ltd.

Refer to check box schedule for pre-installation substrate review before commencing installation.

iii. Prior to the commencement of laying of the Rubco membrane, the roof substrate is to be swept clean and kept clean during the installation. The substrate is to be checked for protrusions which shall be removed or eliminated prior to membrane installation.

iv. If the applicator believes that the concrete surface is too porous, then the surface should be primed with a 50/50 solution of adhesive & solvent (refer to section A.h.ii.1.g for approved adhesives). Allow this solution to soak in for at least 4 hours before applying full strength adhesive.

v. Apply 25mm pvc bond-breaking tape to any cracks or expansion joints.

Concrete substrates must be vented . so form a 600 by 600 grid patten with 25mm p.v.c release tape and a rubco one way vent fixed at the appropriate intersections every 90 square meters.

vi. Apply Rubco moulding tape to all door openings, external corners, penetrations and outlets prior to laying the Rubco membrane.

vii Lay out Rubco butyl in a manner that prevents water running onto the laps. Allow membrane to settle for 20 minutes before bonding.

viii Laps shall be a minimum of 50mm wide.

ix. Apply approved adhesive to the substrate, prior to applying the joint pvc tape; allow to become touch dry.

x. Apply the Rubco butyl membrane onto the glued substrate, ensuring that no air is trapped or any wrinkles are formed.

xi Apply pressure to membrane with a broom or roller to increase the glue adhesion and remove any trapped air bubbles.

xii. All sheet laps to be bonded with Rubco self adhesive lap-tape and be a minimum of 50mm back from the bottom of the sheet to allow for a tidy joint with the lap-tape on the other edge joint. First clean the area with Rubco solvent, and then apply the tape-primer with a coarse nylon scrubber pad.

xiii. When the primer is touch-dry apply the lap-tape on top and roll out any air bubbles with a rubber roller, while the backing tape is still on.

xiv. Remove the exposed backing-tape and repeat the process to the underside of the overlapping Rubco membrane.

xv. Appropriately dress membrane into drainage outlets and/or spoutings.

xvi. Overflash all exposed mouldings with Rubco Butyl or Superflash tape.

xvii. Remove all rubbish and sweep membrane clean.

e) Membrane properties

i. Tensile strength (ASTM D 412-80) - BS903:1971 Part A2, 8.3 MPa minimum.

ii. Modulus at 300% elongation (ASTM D 412-80) - BS 903:1971 Part A2, 4.2 MPa.

iii. Elongation at Break (ASTM D 412-80) – BS903:1981 Part A2, 450% minimum.

iv. Hardness Shore A – BS 903:1969 Part A26, 68 +/- 5.

v. Tear Strength (ASTM D624-81) – DIE B, 26.0 kN/m minimum.

vi. Specific Gravity 1.24 Black, 1.33 Colour.

vii. Water Absorption less than 2.3 mg per 100 square millimeters immersed at 100 degree C for 24 hours.

viii. Ozone Resistance – 7 days at 38 degrees C in 59 pphm ozone – no visible cracks at 25% elongation.

ix. Air Aging (ASTM D 537-81) – BS903:1975 Part A19, 7 days at 120 degree C – Tensile retention 75% minimum – Elongation at break 300% minimum.

Accessories

i. Rubco overflow – overflow are 200mm x 80mm (16,000m²), enough to drain 310m² of roof or 2 x 100mm diameter downpipes. (assuming 100mm/hr rainfall for 10 minutes). Outlet has a built-in 7 degree slope.

ii. Rubco scupper – drainage area 200mm x 80mm (16,000mm²), enough to drain
310m² of roof below 25 degrees,
255m² of roof between 25 – 35 degrees,
215m² of roof between 35 - 45 degrees
145m² of roof between 45 – 55 degrees.

iii. Rubco domestic sump – enough to drain
85m² of roof below 25 degrees,
70m² of roof between 25 – 35 degrees,
60m² of roof between 35 – 45 degrees
50m² of roof between 45 – 55 degrees.

iv. Moulded Sump with overflow – Model IMR 100, enough to drain & provide an overflow for
85m² of roof below 25 degrees,
70m² of roof between 25 – 35 degrees,
60m² of roof between 35 – 45 degrees
50m² of roof between 45 – 55 degrees.
Required internal gutter minimum width of 300mm.

v. Model IMR 120, enough to drain and provide an overflow for
155m² of roof below 25 degrees,
130m² of roof between 25 – 35 degrees,
110m² of roof between 345 – 45 degrees
90m² of roof between 45 – 55 degrees.
Required internal gutter minimum width of 300mm.

vi. Model IMR 130, enough to drain and provide an overflow for
350m² of roof below 25 degrees,
290m² of roof between 25 – 35 degrees,

250m² of roof between 35 – 45 m²

200m² of roof between 45 – 55mdegrees.

Required internal gutter width of 400mm.

f) Applicator Requirements

i. Approved by "The Rubber Roofing Company Ltd" after satisfactory completion of their in-house training seminar.

ii. Satisfactory completion of periodic update seminars at the "Rubber Roofing Company Ltd." in-house training seminar.

g) Technical Compliance Issues

i. The Rubco membranes for roofs, internal gutters and decks, if installed in accordance with this specification, will comply with The New Zealand Building Code:

1. Clause B2 "Durability" B2.3.1(b) minimum 15years.
2. Clause E1 "Surface Water" as regards to Downpipes, Roof Gutters and overflows.
3. Clause E2 "External Moisture" as regards to Roof Claddings, Membrane Roofs and Decks.

ii. Relevant web sites for further information:

1. www. butyl.co.nz provides information on the following:
   a. Products available
   b. Local Installers list
   c. Examples of work
   d. Training
   e. Plywood check list
   f. BRANZ Appraisal Certificates
   g. Approved adhesive technical data and safety data sheet
   h. Approved solvent and safety data sheet
   i. Technical Bulletin #5, a Summary of E2/AS1, requirements for membrane application
   j. Roofing Applicators Booklet.
2. www.nzwood.co.nz
3. www.ecoply.co.nz
4. www.scionresearch.com
5. www.dbh.govt.nz
6. www.branz.co.nz
7. www.consumerbuild.org.nz

8. www.aucklandcity.govt.nz/council/services/building products/membranes.asp