# J42 SINGLE LAYER POLYMERIC COVERINGS

To be read with Preliminaries/General conditions.

The details contained within this proposal are based upon information provided atthe time of writing. The specification covers the installation of the RubberBond FleeceBack EPDM Membrane and the preparation work necessary to provide a suitable substrate. Flex-R Ltd. cannot be held responsible for unknown site conditions or for the performance of materials used within the specification other than those produced or supplied by Flex-R Ltd.

All work should be carried out only by a RubberBond FleeceBack approved contractor in accordance with the current application guidelines.

A detailed method of work statement and programme should be agreed with the approved contractor prior to commencement of the project.

All relevant British Standards and Industry codes of practice should be observed at all times.

 **Blue areas are available for editing.**

## TYPE(S) OF COVERING

110 WARM DECK ROOF COVERING to Project Name and Location

* Substrate: Profiled metal sheet
* Preparation: Remove any debris and sweep clean/ Make good existing bitumous roof/ Timber board overlay/ Remove any existing waterproof covering
* Roof Covering System: RubberBond FleeceBack EPDM calendared/extruded and vulcanised EPDM membrane with polyester fleece backing.
* Manufacturer and reference: Flex-R Ltd. Sandswood House, Sands Industrial Estate, Hillbottom Rd, High Wycombe. HP12 4HJ. Tel. 01494 448792. Fax. 01494 858433. Email enq@flex-r.co.uk.
* Vapour Control Layer: Not required / Aluminium cored bitumous membrane / polyethylene sheet / Reinforced bitumen membrane / Determined by contractor / As drawing??
* Insulation: Rigid polyurethane glass tissue faced board / Rigid polyurethane ply faced board / Dense mineral wool board / As insulation manufacturers recommendations for loading-traffic / Determined by contractor / As drawing??
* Attachment: Strip bond / mechanical fix
* Separation layer: Not required
* Waterproof membrane: Ethylene Propylene Diene Monomer (EPDM) with polyester fleece backing.
* **Reference:** RubberBond FleeceBack
* Width: 3.05m / 1.52m / Determined by contractor
* Thickness: 2.6mm including fleece
* Colour: Grey/Black
* Attachment: Fully Adhered as clause 720
* **Seaming** as clause 730
* Upper protection layer: Not required / polyester fleece / paving support pads
* Surface protection: Not required / PS Walkway Pads / Paving Slabs / Green Roof covering / Stone ballast / Determined by contractor / As drawing??
* Accessories: Pressure Sensitive Elastoform 225mm / Overlayment Strip 150mm / SecurTape / Deck Adhesive / Pressure Sensitive Products / HP-250 Primer / Lap Sealant / Edge Trims / Pipe collars / Determined by contractor / As drawing??

GENERAL REQUIREMENTS

1. MANUFACTURERS GUARANTEE

In order to comply with the guarantee, the work must be undertaken by a RubberBond FleeceBack EPDM approved and registered contractor. Guarantees must be applied for before commencement of project.

**PERFORMANCE**

1. ROOF PERFORMANCE:
* Lay roof covering to provide a secure, free draining and completely weather tight roof, with membrane free from wrinkles and other blemishes.

Ancillary products and accessories, where not specified, to be types recommended for the purpose by the Flex-R Ltd. Use operatives trained in the application of RubberBond FleeceBack membranes and who have attended the Flex-R Ltd training scheme. Submit evidence of training on request. Maintain a minimum of 50 % fully trained operatives on site throughout the installation period.

220 AVOIDANCE OF INTERSTITIAL CONDENSATION: WARM AND INVERTED ROOFS

* + - Determine: Interstitial condensation risk of roof construction as recommended in BS 6229.
		- Basic design data:

- Outdoor notional psychometric conditions, winter;

 Temperature: -5˚C

 Relative humidity: 90%

 Vapour Pressure: 0.36 kPa

 Duration 60 Days

- Outdoor notional psychometric conditions, summer

 Temperature: 18˚C

 Relative humidity: 65%

 Vapour Pressure: 1.34 kPa

 Duration 60 Days

- Indoor notional psychometric conditions,

 Temperature: 15˚C / 20˚C / 30˚C

 Relative humidity: 35% / 40% / 50% / 55% / 60%

 Vapour Pressure: 0.6 kPa / 0.93 kPa / 1.17 kPa / 1.28 kPa / 2.54 kPa

* + Winter interstitial condensation (warm roof):

 - Calculated amount (max): 0.35kg/m²

 - Calculated annual net retention: Nil

* + Vapour control layer: if necessary provide a suitable membrane or sealed deck so that damage and nuisance from interstitial condensation do not occur.

230 INSULATION

* Requirement: Determine type and thickness of insulation and integral or separate overlay to satisfy the following criteria:
* Thermal transmittance of the roof (maximum): as specified / 0.20 W/m²K / 0.25 W/m²K
* Compressive strength of Insulation (minimum) at 10% compression: min 140kN/m2
* Finished surface: Suitable even, stable and robust to receive the covering.
* Insulation compliance: to a relevant British Standard or Agrément certified.

240 ATTACHMENT:

* Requirement: Determine method(s) of attachment of the RubberBond FleeceBack.

Ensure that method(s) of attachment make sufficient provision for relative movement of materials and effects of vapour pressure, and do not reduce performance of the vapour control layer.

* Wind loads calculated in accordance with BS 6399:Part 2, Standard Method:
* Basic wind speed (Vb): To be advised m/s
* Altitude factor (Sa): To be advised
* Direction factor (Sd): To be advised
* Seasonal factor (Ss): 1.
* Probability factor (Sp): 1.
* Terrain and building factor (Sb): To be advised
* Size effect factor (Ca): 1.
* External pressure coefficients (Cpe): To be advised
* Internal pressure coefficients (Cpi): To be advised

 **PRODUCTS**

310 ANCILLIARY PRODUCTS AND ACCESSORIES

* Types: Recommended by Flex-R Ltd.

320 PRIMER for all Pressure Sensitive accessories

* Type: As membrane manufacturers recommendation.
* Manufacturer and reference: Flex-R Ltd. Sandswood House, Sands Industrial Estate, Hillbottom Rd, High Wycombe. HP12 4HJ. Tel. 01494 448792. Fax. 01494 858433. Email enq@flex-r.co.uk.
* Product Reference: HP-250 Primer

325 ADHESIVE for waterproof membrane

* Type: Synthetic bonding adhesive / Water based deck adhesive / Polyurethane deck adhesive / As membrane manufacturers recommendations for conditions and surface
* Manufacturer and reference: Flex-R Ltd. Sandswood House, Sands Industrial Estate, Hillbottom Rd, High Wycombe. HP12 4HJ. Tel. 01494 448792. Fax. 01494 858433. Email enq@flex-r.co.uk.
* Product Reference: RubberBond Contact Adhesive / RubberBond WBA / RubberBond PU adhesive

330 TIMBER FOR TRIMS, ETC.

* Quality: Planed. Free from wane, pitch pockets, decay and insect attack except ambrosia beetle damage.
* Moisture content at time of covering: Not exceeding 22% at time of covering.
* Preservative treatment: CCA as section Z12 and British Wood Preserving and

Damp Proofing Association Commodity Specification C8.

345 PERIMETER TRIMS

* Type: SureEdge PVC edge trims.
* Manufacturer and reference: Flex-R Ltd.
* Product Reference: SureEdge
* Colour: Black / White
* Size: 75mm / 105mm
* Type: Hot dipped galvanised or aluminium zinc coated steel sheet coated with primer, reverse side painted and a plastisol based top coat.
* Manufacturer and reference: As membrane manufacturer / contractors choice
* Product Reference: RubberBond Edge Trims / RubberBond Wall Trims
* Colour: Determined by contractor / As drawing??
* Size: 50mm x 75mm-100mm-125mm-150mm / Determined by contractor / As drawing??

355 MECHANICAL FASTENINGS, WASHERS, PRESSURE PLATES ETC.

* + Type: As membrane manufacturer’s recommendation for use / Perimeter fasteners / Wall fasteners / Insulation Plates / Insulation Fasteners
* Manufacturer: Flex-R Ltd. Sandswood House, Sands Industrial Estate, Hillbottom Rd, High Wycombe. HP12 4HJ. Tel. 01494 448792. Fax. 01494 858433. Email enq@flex-r.co.uk.
* Product reference: RB Fasteners / HP Fasteners / Insulation Plates

360 PLYWOOD OVERLAY TO METAL DECK

* Standard: To BS EN 636, section 7 (plywood for use in humid conditions.
* Thickness: 18mm – 21mm (for all access types)

365 ORIENTED STRAND BOARD (OSB) OVERLAY TO METAL DECK

* Standard: To BS EN 300, type OSB/3
* Thickness: 18mm – 22mm (for all access types)

420 Rigid urethane foam warm deck roof insulation

* Standard: Rigid polyisocyanurate foam (PIR) roofboard to BS4841-3

 Rigid polyurethane foam (PUR) roofboard to BS EN 13165

* Manufacturer: Contractors choice / As specified
* Thickness: 100mm /125mm / As specified
* Facing: Glass Tissue / 6mm WBP plywood

467 Support system for precast Concrete paving slabs

* Manufacturer: Flex-R Ltd. Sandswood House, Sands Industrial Estate, Hillbottom Rd, High Wycombe. HP12 4HJ. Tel. 01494 448792. Fax. 01494 858433. Email enq@flex-r.co.uk.
* Product reference: RubberBond Paving Support pads
* Size: 15mm x 150mm

480 PIPE COLLARS.

* Manufacturer: Flex-R Ltd. Sandswood House, Sands Industrial Estate, Hillbottom Rd, High Wycombe. HP12 4HJ. Tel. 01494 448792. Fax. 01494 858433. Email enq@flex-r.co.uk.
* Product reference: RubberBond EPDM Pipe Boots
* Colour: Slate grey.
* Size: 25mm to 150mm.
* Attachment: Pressure Sensitive.

485 MEMBRANE WALKWAY

* Manufacturer: Flex-R Ltd. Sandswood House, Sands Industrial Estate, Hillbottom Rd, High Wycombe. HP12 4HJ. Tel. 01494 448792. Fax. 01494 858433. Email enq@flex-r.co.uk.
* Product reference: RubberBond EPDM Pressure Sensitive Walkway Pads
* Size: 760mm x 760mm
* Thickness: 9mm
* Colour: Black
* Finish: Raised dimples

## EXECUTION GENERALLY

510 ADVERSE WEATHER:

* The membrane must not be laid in wet or damp conditions or at temperatures below 5 °C unless suitable precautions/measures are taken.
* Provide temporary covers and drainage as required to keep unfinished areas of the roof dry. Suspend work in severe or continuously wet weather unless an effective temporary roof is provided over the working area.
* If unavoidable wetting of the construction does occur, take prompt action to minimise and make good any damage. Temporarily ballast incomplete areas of membrane as necessary to protect from wind action.

520 INCOMPLETE WORK: At the end of the working day:

* Temporarily seal the membrane to the deck to prevent any water infiltration.

Protect overlay board with temporary seal.

* Ensure that the sequence of laying enables temporary sealing of loose membrane edges to be down the slope and not against the flow of water.
* On resumption of work cut away the tail of the membrane from completed area and remove from roof.

521 PROTECTION AND STORAGE OF MATERIALS:

* Store rolls of membrane and associated products in clean, dry, well ventilated and cool conditions.
* Store materials designated by their manufacturers as temperature sensitive in facilities where the temperature can be maintained at the recommended level.
* Insulation products must be kept dry and protected from wet weather during storage and installation.
1. PROTECTION OF WORK:
* Ensure that from completion of the roof until Practical Completion:
* The roof is not used as a working platform unless fully protected.
* No paint, solvents or other volatile substances harmful to the membrane are allowed to come into contact with the roof surface.
* No building materials are stored on the roof.

**SUBSTRATES/VAPOUR CONTROL LAYERS/WARM DECK INSULATION**

610 SUITABILITY OF SUBSTRATE:

* Before installing roof covering ensure that: Surfaces to be covered are firmly fixed, clean, dry, smooth, and free from frost, contaminants, voids and protrusions.
* All preliminary work including formation of upstands, kerbs, box gutters, sumps, grooves, chases, expansion joints, etc. and fixing of battens, fillets, anchoring plugs/strips, etc. is complete and satisfactory.
* Moisture content and stability of substrate: must not impair the integrity of the roof.

670 LAYING VAPOUR CONTROL LAYER

* Laying: Fully bonded, flat and smooth / Loose laid flat and smooth
* Side and head laps: Seal using materials and method as recommendations / Fully sealed / seal with non setting adhesive
* Upstands, kerbs and penetrations. Fully enclose edges of insulation and seal at abutments by bonding or taping

680 LAYING OF WARM DECK ROOF BOARDS

* Setting Out
* Long Edges: Fully supported.
* End Edges: Suitably supported.
* Joints: Lightly butted.
* End Joints: Staggered.
* Attachment: Bitumen bonded / Professional high foaming polyurethane roofing adhesive / Determined by contractor.
* Mechanical Fix: Quantity of screws, washers and pattern as membrane manufacturers recommendation / As drawing?? / Determined by contractor.
* On completion of laying ensure that boards are in good condition, well fitting and with no springing, flexing or rocking.

 **WATERPROOF COVERING / ACCESSORIES**

720 ADHESIVE BONDING:

* Lay sheets on a continuous even coating of adhesive.
* Avoid wrinkles and any stretching of the membrane.
* Ensure there is a full bond over the whole surface.
* With no air pockets.

720a FULLY ADHERED MEMBRANE

* Verify that the surfaces to receive the RubberBond FleeceBack adhered membrane are:
* Clean, dry, smooth and free from defects.
* During membrane installation, inspect and correct the substrate where necessary to avoid gaps between insulation boards, uneven or step off conditions.
* Position the membrane and allow for a minimum 75mm overlap.
* Apply deck adhesive to the substrate with a medium nap roller ensuring continuous and even distribution of the adhesive, avoiding puddles.
* **Do not apply adhesive to lap areas**.
* Roll the membrane into the adhesive coated substrate avoiding wrinkles in the sheet. Immediately smooth in with a squeegee to achieve maximum contact.

750 TAPE JOINTING OF WATERPROOFING MEMBRANE:

* Side joints using HP-250 Primer and SecurTape
* Laps (minimum): 75mm
* End joints using HP-250 Primer and 150mm Overlayment strip.
* Butted together maximum gap 10mm.
* Preparation: Clean and dry surfaces beyond full width of joint.
* Sealing: Prime surfaces, allow curing, installing Pressure Sensitive tape (PS) and rolling seam with steel hand roller. Do not wrinkle or stretch membrane.
* Condition at completion: Fully sealed, smooth weatherproof and free draining.

775 PERIMETER DETAILS

* Upstands, edge trims, drips, kerbs, etc. to be formed from RubberBond FleeceBack membrane in accordance with project details and approved installation technique.

781 TERMINATIONS

* Install metal cover flashings to abutment walls, dress membrane up the vertical, under the cover flashing and fasten at the top.
* Remove copings, install membrane and re-secure copings.

782 RAINWATER OUTLETS:

* Recess into the roof and firmly secure with no lip preventing the free flow of water.

Install suitably sized clamping ring outlet in accordance with the current fixing instructions.

785 ROOF PENETRATION THROUGH MEMBRANE

* Roof membrane: Cut around penetration
* Type: Pre formed Pressure Sensitive flange / 225mm Pressure Sensitive Uncured Flashing Tape
* Installation: Dress over and around the penetration
* Seating: Flush to membrane.
* Overlap to penetration: Minimum 75mm
* Sealing: Pressure Sensitive materials to be used with HP-250 Primer.

**SURFACING/COMPLETION**

840 LAYING OF CONCRETE PAVING SLABS

* Condition of substrate: Clean
* Setting Out: Minimise cutting
* Joints: Open
* Width: Determined by paving support system

850 LAYING MEMBRANE WALKWAYS:

* Material: Walkway Pads
* Method of securement: Pressure Sensitive & HP 250 primer

940 COMPLETION

* Upon completion Flex-R Ltd Technical Services should be notified to make a final inspection of the works.
* Roof areas should be clean with all roof outlets clear and running free.
* Storage of materials on finished surface: Not permitted
* All work to provide a weather tight finish: Complete.
* Completed membrane: Do not damage and protect from traffic and adjacent or high level working.
* Warranties will only be issued when the completed roofing system is deemed to be in compliance with the specification and working details. Defects are to be repaired without delay to minimise damage and nuisance.