

Project

Sample specification: Fully adhered membrane

Client

Tecron

J42 Specification

FF807V Fully adhered membrane

Fatra Project Reference

n/a

Issue Date

dd/mm/yyyy

Fatra UK Ltd
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Specification Summary

This table below provides an outline summary of the proposed specification. It is not intended to be fully comprehensive and must be read in conjunction with the full specification, drawings, calculations and relevant supporting information.

Fatra Specification Overview	
Project Name	Example fully adhered specification
Project Type	New build
Roof Area Name	Flat roofs
Substrate	18mm Plywood deck
Preparation	Ensure substrate is secure, clean, dry & smooth
Primer	Fatra FF817 Bitumen primer
AVCL	Fatra FF816 Self-adhesive VCL
Insulation	Uniform thickness tissue-faced PIR
Insulation fixing method	Adhered with Fatra FF867 insulation adhesive
U-value	0.15 W/m ² K TBC
Waterproofing membrane	Fatra FF807V membrane
Membrane fixing method	Adhered with Fatra FF859 membrane adhesive
Accessories	Fatra membrane coated perimeter metal Fatra FO Range rainwater outlets Fatra FF812 Slip-resistant walkway membrane <i>Refer to J42 Specification for full details</i>

Project Contacts

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J42 SINGLE LAYER POLYMERIC SHEET ROOF COVERINGS

To be read with Preliminaries / General Conditions

TYPES OF ROOF COVERING**110 WARM DECK ROOF COVERING TO FLAT ROOF AREAS****FF807V fully adhered membrane system**Substrate: **18mm Plywood deck**- Preparation: **as clause 610. Prime with FF817 Primer as clause 330**• **Roof Coverings System**- Lower Protective Layer: **n/a**- Vapour Control Layer: **Fatra FF816 Self-adhesive VCL as clause 395**- Insulation: **Uniform Thickness Rigid PIR Insulation Board as clause 425**- Separating Layer: **n/a**- Waterproof Membrane: **Fatra FF807V Roof Membrane System**

- *High Performance, PVC-P Fleece-backed Membrane*
- *Adhered using FF859 Adhered Membrane Adhesive*
- *180g/m² geotextile fleece backing*
- *Accredited with Quality Management Standard ISO 9001*
- *Accredited with Environmental Standard ISO 14001*
- *British Board of Agrément Certificate No. 04/4079*
- *BBA Durability Accreditation in excess of 30 years*
- *Fire tested to BS 476 & BS EN 13501-5, BROOF(t4) classification*
- *Low Vulnerability Fire Rating*
- *Green Guide rating of A+*
- *BRE Ecopoints Rating*
- *FLL Root Resistance Certification*

• **Manufacturer:****Fatra UK Limited****Unit 12, The Timber Yard, East Moors Road, Ocean Park, Cardiff CF24 5EE****t: 029 2048 7954****w: fatra.co.uk****e: technical@fatra.co.uk**Width: **1.65m**Length: **16m**Thickness: **2.0mm (1.5mm PVC plus 180g/m² geotextile fleece)**Colour: **Dark Grey, RAL 7012**- Attachment: **Adhered as clause 720**• **Surface Protection: Fatra FF812 Slip-Resistant Walkway Membrane (If required)**Width: **650mm**Thickness: **1.2mm**Colour: **Light Grey, RAL 7035 (To contrast with the Field Area)**Attachment: **Heat welded to Fatra FF807V, 50mm weld along length and ends**

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PERFORMANCE

210 ROOF PERFORMANCE

- Roof covering: Secure, free draining and weather tight.

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 psychrometric conditions, winter:
 - Temperature: -5°C
 - Relative humidity: 90%.
 - Vapour pressure: 0.36 kPa
 - Duration: 60 days
 - Outdoor notional psychrometric conditions, summer:
 - Temperature: 18°C
 - Relative humidity: 65%
 - Vapour pressure: 1.34 kPa
 - Duration: 60 days
 - Indoor notional psychrometric conditions:
 - Temperature:
 - Relative humidity:
 - Vapour pressure:
- Winter interstitial condensate (warm roof):
 - Calculated amount (maximum): 0.35 kg/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: **0.15 W/m²K TBC**
- Compressive strength of insulation (minimum) at 10% compression:
- Finished surface: Suitably even, stable and robust to receive roof covering.
- Insulation compliance: To a relevant British Standard, or Agrément certified.

240 ATTACHMENT OF ROOF COVERING INCLUDING INSULATION

- Requirement: Determine methods of attachment to resist wind loads. Provide for relative movement of materials and effects of vapour pressure. Do not reduce performance of vapour control layer.
- Wind loads: **Calculate to BS EN 1991-1-4, UK National Annex Method**
 - Basic wind speed (V_b): - m/s
 - Altitude factor (C_{alt}): -
 - Orography factor (C_o): -
 - Exposure factor ($\sqrt{C_e}$): -
 - Directional factor (C_{dir}): -
 - Seasonal factor (C_{season}): -
 - Size factor (C_s): -
- Post code: -
- OS Grid reference: -

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PRODUCTS

320 PRIMER (For VCL)

- Type: **Low Viscosity, Cold Applied Bitumen Primer**
- Manufacturer: **Fatra UK Ltd**
- Product reference: **Fatra FF817 Primer**
- Size: **25 litre can**
- Open time: **Resistant to rainfall within 20 to 30 minutes of application**
- Drying time: **Safe drying time of two hours minimum should be allowed**
- Coverage rate: **Up to 150m²**

321 ADHESIVE (Insulation)

- Type: **Moisture Curing Polyurethane Adhesive**
- Manufacturer: **Fatra UK Ltd**
- Product reference: **Fatra FF867 Insulation Adhesive**
- Size: **6kg can**
- Open time: **5 to 15 minutes**
- Coverage rate: **Up to 40m² per 6 litre can (300mm centre beads)**

322 ADHESIVE (FF807V Membrane)

- Type: **Moisture Curing Polyurethane Adhesive**
- Manufacturer: **Fatra UK Ltd**
- Product reference: **Fatra FF859 Adhered Membrane Adhesive**
- Size: **20kg can**
- Open time: **Up to 20 minutes**
- Coverage rate: **Approximately 70m² per 20 litre can**

340 PREFORMED SLEEVES

- Type: **Fatra Un-Reinforced Membrane Sleeve**
- Manufacturer: **Fatra UK Ltd**
- Product reference: **Fatra FF858 Universal Sleeve**
- Colour: **Dark Grey, RAL 7012**
- Size: **400mm diameter**

341 PREFORMED CORNERS

- Type: **Preformed PVC corner manufactured from Fatra FF804 un-reinforced membrane**
- Manufacturer: **Fatra UK Ltd**
- Product reference: **Fatra FF850 PVC Internal Corner & FF851 PVC External Corner**
- Colour: **Dark Grey, RAL 7012**
- Size: **FF850: 120mm diameter, FF851: 160mm diameter**

342 MEMBRANE COVER TAPE

- Type: **Preformed membrane strap manufactured from Fatra FF810 reinforced membrane**
- Manufacturer: **Fatra UK Ltd**
- Product reference: **Fatra FF842 Membrane Cover Tape**
- Width: **160mm**
- Length: **32m**
- Thickness: **1.5mm**
- Colour: **Dark Grey, RAL 7012**

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343 MEMBRANE STRAPS

- Type: **Preformed membrane strap** manufactured from Fatra FF804 unreinforced membrane
- Manufacturer: **Fatra UK Ltd**
 - Product reference: **Fatra FF840 / FF841 Membrane Butt-Strap**
- Width: **125mm / 200mm**
- Length: **32m**
- Thickness: **1.5mm**
- Colour: **Dark Grey, RAL 7012**

345 PERIMETER TRIMS

- Type: **0.6mm PVC Faced Galvanized Steel**
- Manufacturer: **Fatra UK Ltd**
 - Product reference: **Fatra FP Range Steel Trims**
- Colour: **Dark Grey, RAL 7012**
- Size: **Standard 50mm x 50mm @ 2m or 3m lengths**

346 PERIMETER TRIMS

- Type: **Galvanised Bar**
- Manufacturer: **Fatra UK Ltd**
 - Product reference: **Fatra FP882 Galvanised Steel Termination Bar**
- Colour: **Grey**
- Profile: **30mm wide, 1.2mm thick, 4.5mm leg height**
- Length: **2.1m**
- Hole size: **Alternate 6.5mm holes (for fasteners) and 15mm holes (for Tube washers)**
- Fastener centres: **50mm (Fix at 200mm centres)**

355 MECHANICAL FASTENINGS, WASHERS PLATES ETC. (For securing perimeter trims)

- All part of membrane roof package
- Manufacturer: **Fatra UK Ltd**
 - Product reference: **Fatrafix**
- Washer: **n/a**
- Fastener: **FBS-5.8 Steel or Timber Fastener**
- Size: **TBC**

395 VAPOUR CONTROL LAYER

- Type: **Bitumen Self Adhered Vapour Barrier with Aluminium Foil**
- Manufacturer: **Fatra UK Ltd**
 - Product reference: **Fatra FF816 Self Adhered Vapour Barrier**
- Thickness: **0.6mm**
- Roll size: **40m x 1.08m (43.2m²)**
- Vapour resistance: **11,800 MNs/g**

425 WARM DECK ROOF INSULATION

- Type: **Uniform Thickness Insulation Board**
- Manufacturer: **Xtratherm or equal approved**
 - Product reference: **Xtratherm FR/MG or equal approved**
- Thickness: **150mm TBC**
- Facing: **Tissue**

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450 PROTECTION LAYER (If required for plant, PV panels etc.)

- Manufacturer: **Fatra UK Ltd**
 - Product reference: **Fatra FF914 Stafol Protection Membrane**
- Material: **PVC**
- Width: **1.4m**
- Length: **60m**
- Thickness: **0.5mm**

480 PIPE COLLARS

- Manufacturer: **Fatra UK Ltd**
 - Product reference: **Fatra FF858 Universal Sleeve**
- Size: **400mm**

485 MEMBRANE WALKWAY (If required)

- Manufacturer: **Fatra UK Ltd**
 - Product reference: **Fatra FF812 Slip-Resistant Membrane**
- Width: **650mm**
- Thickness: **1.2mm**
- Colour: **Light Grey, RAL 7035 (To contrast with the Field Area)**
- Finish: **Textured Slip-Resistant (Diamond-embossed pattern)**
- Reinforcement: **n/a**
- Attachment: **Hot air welded along length and ends**

487 RAINWATER OUTLETS

- Manufacturer: **Fatra UK Ltd**
 - Product Reference: **Fatra FO Range Outlet (Vertical & Horizontal outlets available)**
- Diameter: **TBC (82mm, 110mm and 160mm available as standard)**
- Spigot: **210mm as standard (Longer sizes available on request)**
 - Description: **Polyamide spigot and baseplate with factory fitted membrane flange**
- Type of grate / fittings: **Perforated leaf guard**
 - Outlet: **Type and direction to suit pipework (with suitable adaptors and connections sourced by M&E contractor)**
- Accessories: **Leaf guard as standard**
- Installation: **Mechanically fix through the baseplate fixing lugs into the substrate. Hot air weld the factory fitted membrane flange to field area.**
 - **Refer to Fatra installation guide for further details**

EXECUTION GENERALLY**510 ADVERSE WEATHER**

- General: Do not lay membrane at temperatures below 5°C or in wet or damp conditions unless effective temporary cover is provided over working area.
- Unfinished areas of roof: Keep dry and protect edges of laid membrane from wind action.
- Work in severe or continuously wet weather: Suspend or provide effective temporary cover over working area.
- Unavoidable wetting: Minimise and make good any damage.

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520 INCOMPLETE WORK

- End of working day: Provide temporary seal to prevent water infiltration.
On resumption of work: Cut away tail of membrane from completed area and remove from roof.

SUBSTRATES / VAPOUR CONTROL LAYERS / WARM DECK ROOF INSULATION**610 SUITABILITY OF SUBSTRATES**

- Surfaces to be covered: Secure, clean, dry, smooth, free from frost, contaminants, voids and protrusions.
- Ensure all decking works are completed and inspect works for damage prior to commencing.
- Preliminary work: Complete, including
 - Grading to correct falls.
 - Formation of upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.
 - Fixing of battens, fillets and anchoring plugs/ strips.
- Moisture content and stability of substrate: Must not impair integrity of roof.
- Substrate Tolerances / Levels to be checked prior to commencement to ensure effectiveness of drainage scheme.

660 LAYING VAPOUR CONTROL LAYER

- Laying: **Lay FF816 loose, flat and without wrinkles**
- Side and head laps: Sheets should be correctly aligned. **FF816 VCL must overlap on the edge a minimum of 70mm and at the head of the roll a minimum of 150mm.**
- **After installation, press the membrane well by hand, heavy broom or roller being very careful not to trap air pockets. When installing above profiled metal decks, laps should be sealed on the crowns of the deck**
- Upstands, kerbs and other penetrations: Enclose edges of insulation. Fully seal at abutment by bonding or taping

680 LAYING WARM DECK ROOF INSULATION

- Setting out:
 - Long edges: Fully supported and running at right angles to troughs in metal decking.
 - End edges: Adequately supported.
 - Joints: Butted together.
 - End joints: Staggered.
- Attachment: **Adhered with FF867 Adhesive**
- **FF867 Adhesive should be applied in 5mm beads at 300mm centres in the centre of the roof and at 150mm centres in perimeter zones.**
- **Refer to wind load calculations for zone dimensions**
 - Coverage rate: **Up to 40m² per 6 litre can (300mm centre beads)**
- Completion: Boards must be in good condition, well-fitting and secure.

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WATERPROOF MEMBRANES / ACCESSORIES

720 ADHESIVE BONDING OF WATERPROOF MEMBRANE

- Attachment: **Fully adhered with FF859 Adhesive**
- **Roll out the membrane loose over the insulation making sure the membrane is running straight and the selvedge is lapped correctly**
- **Apply Fatra FF859 fully adhered membrane adhesive to the insulation / substrate at a rate of no more than 4m² per litre**
- **Wait until the adhesive foams**
- **Roll the membrane into the wet adhesive and apply pressure over the membrane by using a foam covered water filled roller or a soft brush. Repeat this operation several times over the first 2 hours while the adhesive is still rising and gaining contact with the fleece backed membrane.**
 - Coverage rate: **Approximately 70m² per 20 litre can**
- Surface condition at completion: Fully sealed, smooth, weatherproof and free draining.

720 ADHESIVE BONDING OF WATERPROOF MEMBRANE

- Attachment: Do not wrinkle or stretch.
- Surface condition at completion: Fully sealed, smooth, weatherproof and free draining.

730 WELDED JOINTING OF WATERPROOF MEMBRANE

- Side and end joints: **40mm**
- Laps (minimum): **50mm**
- Preparation: **Clean and dry surfaces beyond full width of joint**
- Sealing: **Weld together**
- Seam sealant: **Site-cut edges of FF810 membrane only**
- Condition at completion: **Fully sealed, smooth, weatherproof and free draining**

770 PERIMETER DETAILS

- Upstands, edge trims, drips, kerbs, etc: Form flashings from waterproof membrane material.
- All **Fatra PVC Membrane Coated Steel Trims** to be fixed at **200mm** centres
- Roof membrane: Terminate in horizontal plane immediately adjacent to change in direction and secure with mechanical fasteners.
- Flashings: Dress over perimeter profile. Overlap horizontal roof membrane beyond perimeter securement by minimum 50mm

785 ROOF PENETRATIONS THROUGH PVC MEMBRANES

- All in accordance with membrane manufacturer's details

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COMPLETION

910 INSPECTION

- Interim and final roof inspections: Submit reports.

920 ELECTRONIC ROOF INTEGRITY TEST

- Testing authority:
- Timing of test:
- Condition of roof prior to testing:
 - Waterproof membrane complete to a stage where integrity can be tested.
 - Surface: Clean.
- Test results and warranty: Submit on completion of testing.

940 COMPLETION

- Roof areas: Clean.
 - Outlets: Clear.
- Work necessary to provide a weathertight finish: Complete.
- Storage of materials on finished surface: Not permitted.
- Completed membrane: Do not damage. Protect from traffic and adjacent or high level working.

943 PRODUCT WARRANTY

- On satisfactory completion of the contract, our Manufacturer’s Warranty for the roof covering is to be issued after final payment.
- Guarantee Period: **20 year product guarantee**

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