

All clauses with the suffix 'A' are either NBS Plus non-standard clauses and/or amended by Alumasc.

J42 SINGLE LAYER POLYMERIC SHEET ROOF COVERINGS

To be read with Preliminaries/ General conditions.

TYPES OF ROOF COVERING**102-A SPECIFICATION OVERVIEW**

- Eurorof ZK Primer
- Eurorof Self-Adhesive Vapour Control Layer.
- Eurorof PU Insulation Adhesive.
- 150mm Alumasc GTF Rigid Polyisocyanurate Insulation.
- Derbigum VAEPLAN V Single Ply Membrane.
- Derbigum VAEPLAN F (detailing only).

110A WARM DECK ROOF COVERING

- Minimum 18mm exterior grade plywood to structural engineer's/architect's specification.
Fixed using corrosion-resistant screws or ring shank nails, in accordance with DD CEN/TS 12872. Expansion gap of one millimetre per metre of the panel size should be provided at all edges.
- Falls: Roof falls are to be designed within the structure to achieve a minimum finished fall of 1:80.
- Preparation:
 - Surface is to be dry, clean and free from all contaminants including oils, grease, dirt and debris.
- Primer: Eurorof ZK Primer.
Application: As clause 530-A.
Primer (where insulation to the vertical is not applicable): Alumasc Bitumen Primer.
Application: As clause 530-A.
- Vapour control layer: Eurorof Self-Adhesive Vapour Control Layer.
Attachment: Self-adhered, as clause 670-A.
- Insulation to field area: 150 mm Alumasc GTF Rigid Polyisocyanurate.
Attachment: Bonded by Eurorof PU Insulation Adhesive, as clause 680-A.
- Waterproof covering: Derbigum VAEPLAN Single Ply System.
 - Manufacturer: Alumasc Exterior Building Products Ltd
White House Works, Bold Road, Sutton, St Helens, WA9 4JG. Telephone: 01744 648400
 - Waterproof membrane: VAEPLAN V Single Ply Membrane.
 - Roll size: 1.04m or 1.54m x 15m or 25m.
 - Thickness: 1.5mm.
 - Colour: Grey
 - Attachment: Bonded in VAEPLAN Contact Adhesive (applied to both surfaces 150 250g/m²)
- Surface protection: Self Finished.
- Accessories: Derbigum VAEPLAN F (Detailing membrane) 25m x various widths
 - VAEPLAN Coated Metal Sheet
 - VAEPLAN Internal & External Corners
 - VAEPLAN Pipe Collars
 - VAEPLAN Cleaner.

PERFORMANCE**210 ROOF PERFORMANCE**

- Roof covering: Secure, free draining and weathertight.

225 AVOIDANCE OF INTERSTITIAL CONDENSATION: WARM AND INVERTED ROOFS

- Determine: Interstitial condensation risk of roof construction as recommended in BS 5250, annex D.

- Vapour control layer: If necessary, provide a suitable membrane 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:

- Compressive strength of insulation (minimum) at 10% compression: 150KN.
- Finished surface: Suitably even, stable and robust to receive roof covering.
- Insulation compliance: To a relevant British Standard, or Agrément certified.

PRODUCTS**322-A PRIMER**

- Type: Solvent based primer.
- Manufacturer: Alumasc Exterior Building Products Ltd.
 - Product reference: Eurorof ZK Primer.
- Packaging: 25 kg Drums.
- Approx. coverage: 100-200g/m² (250-125m² per unit).

327-A BONDING COMPOUND - INSULATION

- Type: High foaming one part polyurethane adhesive.
- Manufacturer: Alumasc Exterior Building Products Ltd.
 - Product reference: Eurorof PU Insulation Adhesive.
- Packaging: 6 kg Cans.
- Approx. coverage: 30-35m² to central areas & 25m² at roof perimeter/detail and exposed areas.
- Storage temperature: +10°C, keep clear of the ground.

330 TIMBER TRIMS, ETC

- Quality: Planed. Free from wane, pitch pockets, decay and insect attack except ambrosia beetle damage.
- Moisture content at time of covering (maximum): 22%.
- Preservative treatment: To BWPDA commodity specification C8.

345 PERIMETER TRIMS

- Type: Pre-coated once bent galvanised sheet trims fabricated by installing contractor.
- Manufacturer: Alumasc Exterior Building Products.
- Product reference: VEAPLAN Coated metal.
- Colour: Grey.
- Size: 2m x 1m.

395-A VAPOUR CONTROL LAYER

- Type: Polyester reinforced, self-adhesive, modified bitumen vapour barrier with an aluminium core.
- Manufacturer: Alumasc Exterior Building Products Ltd.
 - Product reference: Eurorof Self-Adhesive Vapour Control Layer.
- Roll size: Width 1m x 15m Length, Thickness 2mm.

400A WATERPROOF MEMBRANE

- Type: VAE Single Ply Membrane.
- Manufacturer: Alumasc Exterior Building Products.
- Product reference: VAEPLAN V Single Ply Membrane.
- Width: 1.04 or 1.54m.
- Thickness: 1.5mm.
- Colour: Grey.
- Guarantee: Required

420-A RIGID URETHANE FOAM WARM ROOF INSULATION

- Standard: Polyisocyanurate (PIR) roofboard manufactured to BS EN 13165.
- Manufacturer: Alumasc Exterior Building Products Ltd.

- Product reference: Alumasc GTF Rigid Polyisocyanurate.

- Grade: 32 kg/m³.
- Edges: Square.
- Board size: Standard 1200mm x 600mm.
- Thickness: 150mm.
- Facing: Mineral coated glass fibre tissue to both sides.
- Environmental status: Blowing agent: Pentane, CFC and HCFC free.
Ozone depletion potential: Zero, Global warming potential: <5.
BRE Green Guide Rating: A.

480 PIPE COLLARS

- Type: Preformed Pipe sleeves.
- Manufacturer: Alumasc Exterior Building Products Ltd.
- Product reference: VAEPLAN Pipe Collars.
- Colour: Grey.
- Size: To suit pipe sizes

485 MEMBRANE WALKWAY

- Manufacturer/ Supplier: Alumasc Exterior Building Products Ltd.
- Product reference: VAEPLAN Walkway Membrane.
- Roll size: 1.05m x 25m.
- Thickness: 1.2m.
- Colour: Dark Grey.
- Finish: Anti-slip.

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.

520 INCOMPLETE WORK

- At the end of the working day:
- Temporarily seal the membrane to the deck to prevent any water infiltration.
- Protect warm deck insulation 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.

530-A APPLYING PRIMERS

- Product reference: Eurorroof ZK Primer.
- Coverage per coat: 100-200g/m² (250-125m² per unit), subject to substrate.
- Surface coverage: Even and full.
- Application: The adhesive must only be applied in dry weather conditions at temperatures of at least 5°C, in a thin, even layer, with a brush or roller.
- Product reference: Alumasc Bitumen Primer.
- Coverage per coat (minimum):
Metal 6-12 m²/litre.
Concrete and timber 6-8 m²/litre.
- Surface coverage: Even and full.

590-A GENERAL NOTES / REQUIREMENTS

- Prior to installation, the Alumasc project specification, associated drawings, and manufacturer's installation instructions for all materials should have been studied and understood, and must be followed.

- These proposals relate to the roof waterproofing area only. They do not include associated work to be carried out by other trades, which may be required to complete a satisfactory refurbishment.
- All preliminary work including alterations to detailing, where applicable, is complete and satisfactory.
- Installation may only be carried out by Alumasc registered operatives, who have sufficient training for each specialist system and awareness to work safely, under the direction of qualified supervisors.
- Where applicable, all operatives must be able to produce their individual ID card upon demand, whilst installing the system for which they are registered. These should be available for inspection at all times.
- Contractors are advised to visit site when deemed necessary and make themselves fully acquainted with the extent of the works and the conditions under which they are to be executed.
- It is the sole responsibility of the contractor to ensure that all roofing works shall be installed in accordance with the appropriate sections of all current relevant codes of practice, Building Regulations, and manufacturer's installation instructions for product supplied by the company.
- Provision is to be made for flame-free detailing to encapsulate any combustible materials that may be present (whether visible or not) in the roof construction and particularly within 900mm of any abutment or perimeter details. It is the responsibility of the appointed contractor to assess the potential risk. Alumasc will accept no liability for any loss, damage, or injury attributable to non-flame-free detailing in such cases.
- Outlet/s shall be set at a level to compensate for the thickness of the outlet flange and avoid any check against the flow of water. All outlets are to include a clamping ring to secure the waterproof covering.
- Outlets and apertures must be protected from ingress of debris to prevent blockage of downpipe/s; protection should be removed during non-operating periods.
- Where applicable, all roof services and plant, access walkways, platforms, pipes etc. must be mounted on Roof-Pro support systems providing at least 500mm clearance above the roof membrane, in order to facilitate access for future inspection/maintenance or repair.
- The contractor must ensure that satisfactory aesthetic appearance of the completed works is achieved.

591-A SITE INSPECTIONS

- Site inspections will be made by Alumasc during the works to ensure that the installation is executed in accordance with the Alumasc warranty requirements and current codes of practice. A site visit report form, along with supporting photographs will be issued to the client/contractor following each inspection. The reports will identify and monitor the works observed during the inspections and will, where applicable, make recommendations for appropriate rectification which the contractor is to undertake in order to satisfy the warranty requirements.

592-A HEALTH & SAFETY

- It is strictly the contractor's responsibility to ensure that all works are executed in accordance with current health and safety legislation. Guidance may be taken from HSE publication reference: HSG33 - Health and Safety in Roof Work.
- Safety scaffolding, the location of rubbish skips, access ladders etc. should be agreed with the client/principal contractor and be in accordance with current Health and Safety regulations.
- Whenever torch application is employed, the contractor must observe a minimum one-hour fire watch after finishing torch application each day. Fire extinguishing equipment must be readily available, in accordance with Health and Safety legislation.
- Sure-Foot Guardrail System or other suitable temporary or permanent fall arrest or fall protection measures will be necessary for the inspection and maintenance of the warranted Alumasc Roofing System throughout its life cycle.
- Product data and MSDS documents are available for all relevant products supplied by Alumasc; available for download from <http://www.alumascroofing.co.uk>.

593-A STORING OF MATERIALS

- Materials must be stored carefully on a clean dry surface, under cover and raised clear of the ground.
 - Insulation should be stored inside wherever possible. If outside storage is unavoidable, the insulation packaging alone is not under any circumstances sufficient to provide protection.
- Roll materials must be stored on end.
- The load-bearing capacity of the structure must be checked if material is to be stored at roof level.
- Only sufficient material for the day's schedule should be taken out of store, or uncovered, and placed close to the area being worked. Insulation should only be unwrapped immediately prior to use.
- Materials that become wet during storage that are susceptible to weakening, damage etc. (e.g. Insulation), should be replaced.

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.
- 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.

670-A LAYING VAPOUR CONTROL LAYER

- Preparation: Substrate/s must be even and free from any irregularities that may compromise the bond.
 - Undertake an adhesion test to establish a full bond can be obtained to the primed substrate.
- Bond: Full over whole surface, with no air pockets.
- Application: Remove release film and firmly pressure roll the surface and overlaps to ensure adhesion. The roll must be accurately aligned prior to the removal of the release film.
- Side and end laps: 75mm side lap & 100mm end lap.
 - Side laps are self-adhesive when subject to temperatures of >15° under normal conditions. However, in cold weather or if the lap has become contaminated, hot air equipment should be used to ensure the laps are fully sealed. End laps should be heat welded using hot-air equipment. If left exposed overnight both side and end laps must be heat welded to ensure they are fully sealed.
- Edges of insulation at roof edges, abutments, upstands, kerbs, penetrations and the like:
 - Dress to form edge protection and provide a minimum 50mm seal above the top surface of the insulation.
 - Where insulation is to be installed vertically against abutments, parapets etc. the vapour control layer is to be taken the full height of the upstand.

680-A LAYING WARM DECK ROOF INSULATION TO FIELD AREA

- Settig out:
 - Long edges: Fully supported.
 - End edges: Fully supported.
 - Joints: Butt together.
 - End joints: Stagger.
- Bedding: For central areas apply in 10mm continuous parallel beads at a rate of 4 beads per metre at 250mm centres (30-35m²/6kg can). For roof perimeters/detail and exposed areas apply in 10mm continuous beads at a rate of 6 beads per metre at 175mm centres (25m²/6kg can).
 - Eliminate uneven surfaces to ensure positive contact between the insulation board and substrate.
 - Firmly press the insulation into place to ensure full contact and adhesion.

- Minimum application temperature of PU adhesive: 5°C.
- Protection to exposed edges of insulation: Install treated timber batten approx. 10mm less in thickness to the adjacent insulation, to avoid creating a step in the waterproofing.
- Completion: Boards must be in good condition, well fitting and stable.

WATERPROOF MEMBRANES/ ACCESSORIES**720 ADHESIVE BONDING OF WATERPROOF MEMBRANE**

- Lay sheets on a continuous even coating of adhesive taking care to avoid wrinkles and any stretching of the membrane.
- Ensure there is a full bond over the whole surface, with no air pockets.
- Attachment: As determined by membrane manufacturer
- Surface condition on completion: Fully sealed, weatherproof and free draining.

730 WELDED JOINTING OF WATERPROOF MEMBRANE

- Laying: Loose lay, do not wrinkle or stretch.
- Side and end joints:
 - Laps (minimum): 75mm.
 - Preparation: Clean and dry surfaces for full width of joint.
 - Sealing: Weld together - 40mm (Automatic welder)/ 50mm (Hand welder).
- Condition at completion: Fully sealed, smooth, weatherproof and free draining.
- Accessories: N/A.

740 ADHESIVE JOINTING OF WATERPROOF MEMBRANE

- Side and end joints:
 - Laps (minimum): 50mm side, 100mm end.
 - Preparation: Prime, clean and dry surfaces beyond full width of joint and lap.
 - Sealing: Apply continuous even coverage of adhesive to both surfaces. Mate and roll together. Do not wrinkle or stretch membrane.
- Seam sealant: VAEFUSION S.
- Condition at completion: Fully sealed, smooth, weatherproof and free draining.

760 PERIMETER OF MEMBRANE

- General: Secure membrane at roof edge conditions, changes of plane, curb flashings, upstands to roof lights, etc. with mechanical fasteners.

775 PERIMETER DETAILS FOR ELASTOMERIC MEMBRANES

- Upstands, edge trims, drips, kerbs, etc: Preformed from waterproof membrane material.
- Reinforcing strip: Lay at edge of horizontal roof plane.
 - Securing: Mechanically fasten.
- Roof membrane: Dress over perimeter profiles.
- Sealing: Bond to substrate and to secured perimeter reinforcing strip.

785 ROOF PENETRATIONS THROUGH ELASTOMERIC MEMBRANES

- Roof membrane: Cut around penetrations.
- Flanged sleeve:
 - Type: Sunpipes etc. refer to drawings
 - Installation: Dress over and around penetration.
 - Seating: Flush to roof membrane.
 - Roof membrane overlap to flange (minimum): 75 mm beyond fasteners.
 - Sealing: As roof manufacturers recommendations

SURFACING**850 LAYING MEMBRANE WALKWAYS**

- Attachment: Hot air welded.

COMPLETION

910-A FINAL INSPECTION

- Interim and final roof inspections: Strictly in accordance with Alumasc requirements to satisfy the warranty requirements.
- Rainwater goods must be tested by the contractor upon completion of the works prior to handover.
- The contractor must contact Alumasc to arrange a final inspection upon completion of each stage of the works. It is strictly the responsibility of the contractor to notify Alumasc that a final inspection is required, and also to ensure that the inspection takes place prior to the application of any surfacing above the waterproof covering. Failure on either or both counts will jeopardise approval and/or warranty release.
- Once the final inspection has been carried out, the warranty will be issued via the roofing contractor upon acceptable rectification of any snags as identified by Alumasc, or without undue delay should all be satisfactory.

912-A PROTECTION

- As soon as an area of waterproofing has been completed it should be inspected upon notification of completion by the contractor. Completed areas should not be used as a building platform or as an access route by other trades. If unavoidable, appropriate protection must be provided for the duration of the construction period. Care should be taken not to mark or dent the works while laying any additional protection. Inspection and/or leak testing must always take place after removal of such protection.
- Roofs accessed for regular maintenance of plant, or parts of the building, should be given consideration in providing a predetermined route to and from the entry point to minimise potential hazards.

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 chemicals, traffic and adjacent or high level working.

941-A MANUFACTURER'S WARRANTY

- The above specification/s shall be installed in accordance with the appropriate sections of all current relevant codes of practice, Building Regulations, and manufacturer's installation instructions for product supplied by the company. The works shall be installed by an Alumasc Registered Contractor, and, as agreed in the contract, the Alumasc Backed Warranty shall be issued to the Building Owner from the date of final completion.

942-A MAINTENANCE

- It is recommended that all flat roofs be inspected at a minimum frequency of twice a year. Ideally, inspections should be carried out in spring and autumn accounting for the effects of annual extremes of weather to be checked. Inspection should also be carried out following works on the roof by other trades, or following installation of new roof equipment.
- All inspections/and or maintenance actions carried out at roof level must be in full compliance with the appropriate health and safety regulations, and particularly those specifically dealing with working at height.

Alumasc standard NBS specifications are offered on the condition that the customer is responsible for ensuring that each specification is appropriate for its intended purpose and that conditions for its use are suitable. This specification may require adjustment in accordance with specific project requirements.

The substitution of any products (or installation by means other than those described) is strictly prohibited, unless agreed in writing, in advance, with Alumasc.

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ROOFING SYSTEMS

Alumasc Exterior Building Products Ltd will not accept any liability arising from unauthorised variations or un-notified changes in circumstances relating to the application or performance of Alumasc products or systems.