

J21 MASTIC ASPHALT ROOFING/ INSULATION/ FINISHES

To be read with Preliminaries/ General conditions.

TYPES OF COATING/ PAVING

115 FLEXIPHALTE WARM ROOF DECK COATING

- Substrate: (Cement:sand screed) (Existing covering) (Metal deck) (Plywood deck) (Concrete deck)
– Preparation: (Primer – see clause 320) (Plywood overlay to metal deck with taped joints) (Remove existing chippings and make good)
- Vapour control layer: (Not required) (See Clause 395)
- Insulation: (Expanded polystyrene as Clause 410) (PIR insulation as clause 420) (Mineral wool insulation as clause 425) (Cellular glass as clause 430) (Composite insulation as clause 430) (Cork insulation as clause 430) (Perlite insulation as clause 430)
- Overlay: (Not required) (Cork board) (Fibreboard) (Two layers of building paper to BS 1521)
- Separating layer (loose laid): (Black sheathing felt to BS 747 Type 4Aa) (Glass fibre tissue, 50 – 70 g/m².
Laps (minimum): 50 mm
- Coating: Mastic asphalt.
– Manufacturer: Briggs Amasco.
Product reference: Flexiphalte Pommar.
– Application: (20 mm nominal thickness in two coats) (30 mm nominal thickness in three coats)
- Surface protection: (Chippings as clause 475) (Mineral surface felt cap sheet as clause 490) (Solar reflective paint as clause 495)
- Accessories: (Perimeter edge trims) (Ventilators)

125 FLEXIPHALTE TRIPLE PROTECTION INVERTED ROOF DECK COATING

- Substrate: Float finish concrete deck (to achieve finished falls of 1:80) (laid dead flat)
– Preparation: Primer – see clause 320
Primary Waterproofing Membrane: See clause 632.
- Coating: Mastic asphalt.
– Manufacturer: Briggs Amasco.
Product reference: Flexiphalte Pommar.
– Application: (10 mm nominal thickness in one coat) (15 mm nominal thickness in one coat) (20 mm nominal thickness in two coats)
- Isolating layer (loose laid): Geotextile fabric recommended by Briggs Amasco
- Insulation: Extruded polystyrene board as clause 440.
- Filter layer (loose laid): Min-k membrane.
- Securement: (Precast concrete paving slabs as clause 465) (Stone ballast as clause 460)
- Accessories: (Perimeter edge trims) (Ventilators)

155 FLEXIPHALTE WATERPROOF PAVING TO (CAR) (LORRY) DECK

- Substrate: Float finish concrete laid to designed falls.
– Preparation:
Separating layer (loose laid): Glass fibre tissue, 50 – 70 g/m² with 50 mm minimum laps.
- Paving: Mastic asphalt.
– Manufacturer: Briggs Amasco.
– Undercoat reference: (Flexiphalte Pommar) (Flexiphalte modified roofing grade asphalt) (Flexiphalte Baryprene high performance polymer modified membrane).
Application: (10 mm nominal thickness in one coat) (20 mm nominal thickness in two coats) (laid loose)
– Wearing coat reference: (Flexiphalte Pompav) (Flexiphalte modified paving grade asphalt).
Application: (25 mm nominal thickness in one coat) (30 mm nominal thickness in one coats) (40 mm thickness in one coat)
Colour: Black
Finish: Crimped as clause 876.
– Margin infill: See clause 760.
- Accessories: (Perimeter edge trims)

155A FLEXIPHALTE INSULATED WATERPROOF PAVING TO (CAR) (LORRY) DECK

- Substrate: Float finish concrete laid to designed falls.
– Preparation:
- Insulation: As clause 440.

- Concrete: As clause 500.
Separating layer (loose laid): Glass fibre tissue, 50 – 70 g/m² with 50 mm minimum laps.
- Paving: Mastic asphalt.
 - Manufacturer: Briggs Amasco.
 - Undercoat reference: (Flexiphalte Pommar) (Flexiphalte modified roofing grade asphalt) (Flexiphalte Baryprene high performance polymer modified membrane).
Application: (10 mm nominal thickness in one coat) (20 mm nominal thickness in two coats) (laid loose)
 - Wearing coat reference: (Flexiphalte Pompav) (Flexiphalte modified paving grade asphalt).
Application: (25 mm nominal thickness in one coat) (30 mm nominal thickness in one coats) (40 mm thickness in one coat)
 - Colour: Black
 - Finish: Crimped as clause 876.
 - Margin infill: See clause 760.
- Accessories: (Perimeter edge trims)

155B FLEXIPHALTE WATERPROOF PAVING TO CAR RAMP

- Substrate: Concrete ramp tamped to a ridge depth not exceeding 5 mm.
 - Preparation:
- Paving: Mastic asphalt.
 - Manufacturer: Briggs Amasco.
 - Undercoat reference: Flexiphalte modified roofing grade asphalt
Application: (10 mm nominal thickness in one coat) (20 mm nominal thickness in two coats)
 - Wearing coat reference: (Flexiphalte Pompav) (Flexiphalte modified paving grade asphalt).
Application: (25 mm nominal thickness in one coat) (30 mm nominal thickness in one coats) (40 mm thickness in one coat)
 - Colour: Black
 - Finish: Crimped as clause 876.
 - Margin infill: See clause 760.
Dense bitumen macadam or hot-rolled asphalt can be used as an alternative to the Flexiphalte modified paving grade asphalt.
- Accessories: (Perimeter edge trims)

155C FLEXIPHALTE INSULATED WATERPROOF PAVING TO CAR RAMP

- Substrate: Concrete ramp tamped to a ridge depth not exceeding 5 mm.
 - Preparation:
- Insulation: As clause 440 spiked onto hoops.
- Concrete: As clause 500.
- Paving: Mastic asphalt.
 - Manufacturer: Briggs Amasco.
 - Undercoat reference: Flexiphalte modified roofing grade asphalt
Application: (10 mm nominal thickness in one coat) (20 mm nominal thickness in two coats)
 - Wearing coat reference: (Flexiphalte Pompav) (Flexiphalte modified paving grade asphalt).
Application: (25 mm nominal thickness in one coat) (30 mm nominal thickness in one coats) (40 mm thickness in one coat)
 - Colour: Black
 - Finish: Crimped as clause 876.
 - Margin infill: See clause 760.
Dense bitumen macadam or hot-rolled asphalt can be used as an alternative to the Flexiphalte modified paving grade asphalt.
- Accessories: (Perimeter edge trims)

165 FLEXIPHALTE PAVING TO INTERMEDIATE DECKS.

- Substrate: Float finish concrete laid to designed falls.
 - Preparation:
Separating layer (loose laid): Glass fibre tissue, 50 – 70 g/m² with 50 mm minimum laps.
- Paving: Mastic asphalt.
 - Manufacturer: Briggs Amasco.
 - Product reference: (Flexiphalte Pompav) (Flexiphalte modified paving grade asphalt).
Application: (25 mm nominal thickness in one coat) (30 mm nominal thickness in one coats) (40 mm thickness in one coat)
 - Colour: Black

Finish: Crimped as clause 876.

- Angle fillet: Flexiphalte angle fillet in two coats to perimeters
– Profile: 45° angle, 40 mm minimum width on face.
- Accessories: (Perimeter edge trims)

185 SKIRTINGS/ VERTICAL WORK – FLEXIPHALTE SKIRTINGS

- Substrate: (Brickwork) (Blockwork) (Timber) (Lightweight concrete) (Concrete)
– Preparation: Primer – See Clause 320.
- Separating layer: (Not required) (Black sheathing felt to BS 747, Type 4Aa) with 50 mm minimum laps)
- Keying: (Not required) (Expanded metal lathing to BS 8204-5, clause 5.4 – see clause 549 for application)
- Coating: Mastic asphalt – see clause 750 for application.
– Manufacturer: Briggs Amasco
Product reference: Flexiphalte modified roofing grade asphalt.
– Application: (13 mm (nominal) in two coats) (20 mm (nominal) in three coats)
– Height above finished roof level (minimum): 150 mm.
– Fillet profile: 45° angle, 40 mm minimum width on face.
- Surface protection: (Mineral faced cap sheet) (Solar reflective paint) (Cementitious faced extruded polystyrene insulation board)

PERFORMANCE

210 ROOF PERFORMANCE

- General: Secure, free draining and weathertight.

220 VAPOUR CONTROL

- Interstitial condensation risk of roof: Determine as recommended in BS 6229. Modify calculation method to conform to BS 5250.
- Basic design data:
 - Outdoor notional psychometric conditions, winter:
Temperature: -5°C.
Relative humidity: 90%.
Vapour pressure: 0.36kPa.
Duration: 60 days.
 - Outdoor notional psychometric conditions, summer:
Temperature: 18°C.
Relative humidity: 65%.
Vapour pressure: 1.34kPa.
Duration: 60 days.
 - Indoor notional psychometric conditions:
Temperature: (20°C (Houses and flats)) (20°C (Offices)) (20°C (Schools)) (15°C (Factories and heated warehouses)) (30°C (Swimming pools (ventilated)))
Relative humidity: (55% (Houses and flats)) (40% (Offices)) (50% (Schools)) (35% (Factories and heated warehouses)) (60% (Swimming pools (ventilated)))
Vapour pressure: (1.28kPa (Houses and flats)) (0.93kPa (Offices)) (1.17kPa (Schools)) 0.60kPa (Factories and heated warehouses)) (2.54kPa (Swimming pools (ventilated)))
- Winter interstitial condensate:
 - Calculated amount (maximum): 0.35 kg/m².
 - Calculated annual net retention: Nil.
- Vapour control layer: If calculated amounts of condensate exceed allowed maxima, 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:
 - Thermal transmittance of the roof (maximum): 0.25 W/m²K.
 - 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 ROOFING

- 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 6399-2, Standard Method.
 - Basic wind speed (V_b): _____
 - Attitude factor (S_a): _____
 - Direction factor (S_d): _____
 - Seasonal factor (S_s): 1.
 - Probability factor (S_p): 1.
 - Terrain and building factor (S_b): _____
 - Size effect factor (C_a): 1.
 - External pressure coefficients (C_{pe}): _____
 - Internal pressure coefficients (C_{pi}): _____

PRODUCTS

- 320 PRIMER (FOR METAL DECK) (FOR BRICKWORK) (FOR CONCRETE)
- Type: Adhesive primer.
 - Manufacturer and product reference: As recommended by Briggs Amasco.
- 325 BONDING COMPOUND
- Type: Bitumen to BS 3690.
 - Manufacturer and product reference: As recommended by Briggs Amasco.
- 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: (Not required) (Copper Azule (CU AZ)) (Copper Quaternary Ammonium (CQA))
- 340 PREFORMED SLEEVES, TRIMS ETC.
- Type: _____
 - Manufacturer: _____
 - Product reference: _____
 - Colour: _____
 - Size: _____
- 345 PERIMETER TRIMS
- Type: _____
 - Manufacturer: _____
 - Product reference: _____
 - Colour: _____
 - Size: _____
- 360 PLYWOOD OVERLAY TO METAL DECK
- Plywood: To BS EN 636, section 7 (plywood for use in humid conditions).
 - Quality: Naturally durable timber, free from preservatives.
 - Thickness: 12 mm.
- 365 ORIENTED STANDARD BOARD OVERLAY TO METAL DECK
- Oriented standard board: To BS EN 300, type OSB/3.
 - Thickness: (12) (15) (18) (22) mm.
- 370 COVER STRIPS TO JOINTS IN RIGID BOARD SUBSTRATES
- Bitumen membrane: To BS 747 type 5U.
 - Width: 150 mm
- 380 PROPRIETARY MOVEMENT JOINTS FOR (CAR PARK) (LORRY DECK)
- Manufacturer and reference: Flexiphalte Movement Joints as detailed in Flexiphalte Technical Notes Waterproof Vehicle Deck Surfacing and Agreement Certificate OS/04272 page 6 figure 2

Briggs Amasco
Amasco House
101 Powke Lane
Cradley Heath
West Midlands
B64 5PX
Tel No. 0121 502 9600

- Joints must extend through full depth of the roof construction. Ensure that joints coincide with movement joints in the base.
- Preparation: As detailed in Flexiphalte Technical Notes RA/2006/Series 10 page 10 clause 4.4.
- Bond one layer 225 mm wide strip of butyl rubber membrane to Flexiphalte Pommar polymer modified roofing grade asphalt layer. Fill gap formed in Flexiphalte Pommar polymer modified roofing grade asphalt with rubberised bituminous filler. Bond one layer 300 mm wide strip of butyl rubber membrane to Flexiphalte Pommar polymer modified roofing grade asphalt layer.

380A PROPRIETARY MOVEMENT JOINTS FOR (CAR PARK) (LORRY DECK)

- Manufacturer and reference: Radflex S200 mechanical expansion joint.

395 VAPOUR CONTROL LAYER

- Type: (Metal lined polyester bitumen membrane) (Single coat mastic asphalt) (Single layer BS 747 bitumen membrane, type 5U) (Two layers BS 747 bitumen membrane, first layer type 5U, second layer 3B)
- Manufacturer: As recommended by Briggs Amasco
– Product Reference: As recommended by Briggs Amasco
- Thickness: (13 mm (nominal) in one coat) (nominal 2 mm thick)
- Vapour resistance: 300 MN s/g.

410 EXPANDED POLYSTYRENE (EPS) WARM DECK ROOF INSULATION

- Standard: To BS EN 13163.
- Manufacturer: As recommended by Briggs Amasco
– Product Reference: As recommended by Briggs Amasco
- Grade: (EPS 150 flame retardant) (EPS 200 flame retardant)
- Edges: (Rebated) (Square)
- Thickness: To suit required U-value
- Facing: (Bitumen membrane) (Composite cork overlay)

425 MINERAL WOOL (MW) WARM DECK ROOF INSULATION

- Standard: Roofing grade to BS EN 13162.
- Manufacturer: As recommended by Briggs Amasco
– Product Reference: As recommended by Briggs Amasco
- Density: (135 – 180 kg/m³)
- Edges: (Rebated) (Square)
- Thickness: To suit required U-value
- Facing: (None) (Tissue faced)

430 WARM DECK ROOF INSULATION

- Standard: (Cellular glass to BS EN 13167) (Corkboard to BS EN 13170) (Perlite to BS EN 13169) (Phenolic foam to BS EN 13166)
- Manufacturer: As recommended by Briggs Amasco
– Product Reference: As recommended by Briggs Amasco
- Density: (110 – 180 kg/m³)
- Edges: (Rebated) (Square)
- Thickness: To suit required U-value

440 EXTRUDED POLYSTYRENE (XPS) INVERTED ROOF DECK INSULATION

- Standard: To BS EN 13164.
- Manufacturer: As recommended by Briggs Amasco
– Product Reference: (As recommended by Briggs Amasco)
- Grade: (300) (500) (700)
- Edges: Ship lapped

- Thickness: To suit required U-value
 - Integral topping: (None) (10 mm cementitious topping) (10 mm cementitious topping to vertical insulation only)
- 450 OVERLAY TO WARM ROOF DECK INSULATION
- Material: (Corkboard) (Fibreboard)
 - Manufacturer: As recommended by Briggs Amasco
– Product Reference: As recommended by Briggs Amasco
 - Density: (110 – 140 kg/m³)
 - Thickness: (13 mm) (20 mm)
- 455 SAND FOR RUBBING
- Type: Clean, coarse sand from natural deposits, free from loam
– Size: Passing a 600 micrometre sieve and retained on a 212 micrometre sieve.
- 460 STONE BALLAST
- Type: Washed, rounded aggregate.
 - Supplier: As recommended by Briggs Amasco.
 - Size: Graded 20 – 40 mm, free from fines and sharps.
- 465 PRECAST CONCRETE PAVING SLABS
- Standard: To BS 7263-1 hydraulically pressed.
 - Manufacturer: As recommended by Briggs Amasco
– Product Reference: As recommended by Briggs Amasco
 - Colour/ Finish: Standard Natural
 - Size: (600 x 600 x 50 mm) (450 x 450 x 50 mm)
- 467 SUPPORT SYSTEM FOR PRECAST CONCRETE PAVING SLABS
- Manufacturer: As recommended by Briggs Amasco
– Product Reference: As recommended by Briggs Amasco
 - Size: Nominal 5 mm high
 - Accessories: (None) (Levelling pads)
- 470 PAVING TILES
- Type: Porous concrete.
 - Manufacturer: Spartan Tiles
– Product Reference: Grey Spartan Tiles
 - Colour/ Finish: Grey
 - Size: 305 x 305 x 25 mm
- 475 CHIPPINGS AND DRESSING COMPOUND
- Type: Limestone
 - Size (minimum): 10 mm (nominal) graded as single sized aggregate for asphalt roofing.
 - Dressing compound: To BS 3690-1 and BS EN 12591.
- 485 ROOF VENTILATORS
- Manufacturer: As recommended by Briggs Amasco.
– Product Reference: As recommended by Briggs Amasco
 - Size: _____
- 490 MINERAL/ METAL FACED CAPSHEET
- Manufacturer: As recommended by Briggs Amasco.
– Product Reference: As recommended by Briggs Amasco
- 495 SOLAR REFLECTIVE PAINT
- Manufacturer: As recommended by Briggs Amasco.
– Product Reference: As recommended by Briggs Amasco
 - Colour: White.
- 500 LYTAG CONCRETE:
- 25 N Lytag concrete incorporating A142 fabric mesh reinforcement or steel/ synthetic fibres.

- Thickness: (Constant mm (nominal)) (Minimum mm (nominal)) (Average mm (nominal))

EXECUTION GENERALLY

510 ADVERSE WEATHER

- General: Do not lay mastic asphalt in wet or damp conditions unless effective temporary cover is provided over working area.
- Unfinished areas of the roof: Keep dry.

520 INCOMPLETE WORK

- Daywork joints in warm roofs and edges of phased roofing: Adequately protected and fully weathertight.

525 PREPARING EDGES OF EXISTING MASTIC ASPHALT

- Single coat applications:
 - Cut edges: Soften and clean
- Two coat applications:
 - Cut edges: Soften and remove half depth of softened material for minimum width of 75 mm.
 - Jointing: Lapped between new and existing material at prepared edges.
- Torching: Not permitted.
- Timing: Immediately prior to laying mastic asphalt.

530 APPLYING PRIMERS

- Coverage per coat (minimum): 1 L/m².
- Surface coverage: Even and full.
- Coats: Fully bonded. Allow volatiles to dry off thoroughly between coats.

550 CONTROL SAMPLES

- Type of mastic asphalt: Inverted Triple Protection Roofing System
- Sample area:
 - Location: _____
 - Details: _____
- Approval of appearance: Obtain before proceeding

SUBSTRATES/ VAPOUR CONTROL LAYERS/ WARM ROOF DECK INSULATION

610 SUITABILITY OF SUBSTRATES

- Substrates generally:
 - Secure, even textured, clean, dry and frost free.
- Preliminary work: Completed including
 - Chases (minimum): 25 x 25 mm.
 - External angles: Chamfered where required to maintain full thickness of mastic asphalt.
 - Formation of upstands and kerbs.
 - Grading to correct falls.
 - Movement joints.
 - Penetrations/ Outlets.
- Moisture content and stability of substrate: Must not impair integrity of roof.

620 REMOVING EXISTING MASTIC ASPHALT

- Areas to be removed: _____
- Existing Roof: Do not damage.
- Timing: Only remove sufficient mastic asphalt as will be replaced and made weathertight on same day.

630 MAKING GOOD EXISTING MASTIC ASPHALT

- Existing items to be removed: _____
- Defective areas of mastic asphalt: Soften and carefully cut out.
 - Hammers, chisels etc.: Do not use to cut cold asphalt.
 - Substrate: Clean and dry.
 - Separating Membrane: Make good.
 - Mastic asphalt: Patch level with existing surface in two coats, the top coat lapped minimum 75 mm onto existing asphalt and to half its depth.

632 MEMBRANE LAYER:
Material: Polymer modified bitumen coated membrane.
Manufacturer: Axter Limited
Cliff Road
Ipswich
Suffolk IP3 0AY
Tel No: 01473 217154
Fax No: 01473 232118

Reference: Flexiphalte Baryprene or Flexiphalte Baryprene Plus (B3A).

635 REMOVING EXISTING CHIPPINGS

- Mechanical stripping: (Permitted) (Not permitted)

640 FIXING TIMBER TRIMS

- Fasteners: Sheradized steel screws
– Fixing centres (maximum): 600 mm.

642 KEYING TO VERTICAL/ SLOPING DENSE CONCRETE

- Surface preparation: Remove mould oil, clean and apply proprietary high bond primer or proprietary keying mix of cement sand slurry incorporating a bonding agent.

644 KEYING TO NEW BRICKWORK/ DENSE BLOCKWORK

- Joints: Flush pointed.
- Surface protection: Apply proprietary high bond primer.

646 KEYING TO EXISTING BRICKWOR/ DENSE BLOCKWORK

- Joints: Sound and flush pointed.
- Surface protection: Clean and apply proprietary high bond primer.

648 KEYING TO METAL SURFACES

- Surface preparation: Clean and apply proprietary high bond primer.

649 APPLYING METAL LATHING TO VERTICAL/ SLOPING TIMBER

- Placing:
 - Long way of mesh: Horizontal.
 - Pitch of horizontal strands: Sloping upwards away from background.
- Butt joints: Wire tie between sheets at 75 mm centres.
- Method of fixing: Large head nails.
 - Perimeter edges: 75 mm centres.
 - General areas (maximum): 150 mm vertical and horizontal centres.

650 LAYING OVERLAY TO METAL DECK

- Setting out: Lay boards with staggered joints and long edges at right angles to troughs in deck
 - Joints: 2 mm.
 - End joints: Centre over crown of deck.
- Fasteners:
 - Type: As recommended for the purpose by fastener manufacturer.
 - Fixing: One fastener per crown along long edge and longitudinal centre line of board, and at 600 mm centres along each end edge.

660 JOINTS IN RIGID BOARD SUBSTRATES

- Cover strip: Lay centrally over substrate joints before laying vapour control layers or coverings. Adhere to substrate with bonding compound along edges only.

670 LAYING VAPOUR CONTROL LAYER

- Attachment: Secure
 - Bond: Continuous with no air pockets.
 - Appearance on completion: Smooth.
- Side and headed laps: Seal using materials and method recommended by membrane manufacturer.
- Joints in second layer (if any): Stagger by half a sheet.

- Upstands, kerbs and other penetrations: Enclose edges of insulation. Fully seal at abutment by bonding or taping.

680 LAYING WARM ROOF DECK INSULATION

- Setting out:
 - Long edges: Fully support and run at right angles to (direction of span) (structure) (troughs)
 - End edges: Adequately support.
 - Joints: Butt together.
 - End joints: Stagger.
 - Margin to walls, upstands, pipes and other projections (minimum): (Not required) (25 mm)
- Bedding: Full bed of bonding compound.
- Mechanical fixing: (Not required) (Six screws and washers per board to agreed pattern)
- Completion: Boards must be in good condition, well fitting and stable.

685 LAYING OVERLAY TO WARM ROOF DECK INSULATION

- Setting out:
 - Joints: Butt together.
 - End joints: Stagger to break joint with insulation.
 - Margin to walls, upstands, pipes and other projections (minimum): 25 mm
- Bedding: Full bed of bonding compound.
- Mechanical fixing: (Not required) (Six screws and washers per board to agreed pattern)

690 MARGIN INFILL TO ANGLE FILLETS IN WARM ROOF DECKS:

- Infill material: (Earth damp 1:3 cement:sand mortar (expanded polystyrene)) (Mastic asphalt when laying roofing (all other insulation boards))

695 SEPARATING LAYER

- Give notice: Where it is or becomes apparent that a separating layer is required.

ASPHALTING

710 DELIVERY

- Condition of mastic asphalt as delivered to site:
 - Hot prepared, do not remelt on site.

720 DELIVERY

- Condition of mastic asphalt as delivered to site:
 - Hot prepared, do not remelt on site, or
 - Blocks: Remelt on site, mix thoroughly. Temperature of material (maximum), 200 °C.

730 TRANSPORTING

- Transport distances: Minimize to avoid excessive cooling of molten mastic asphalt.
- Buckets, barrows or dumpers used for mastic asphalt: Line with minimum quantity of fine inert dust. Use silica or similar acid resisting dust where acid resisting mastic asphalt is being used.

735 LOCALIZED HEATING

- Blowlamps and gas torches: Use only types with controlled gradual heating during laying, removal and repair of mastic asphalt.

740 LAYING MASTIC ASPHALT

- Standard: To BS 8218.
- Application:
 - In bays to even thickness.
 - Re-heated asphalt: Do not use.
- External angles, junctions and tuck-ins: Maintain full thickness of asphalt.
- Fillets at internal angles: Solid, fully fused to asphalt coating.
- Previously laid coats: Protect whilst exposed.
- Successive coats:
 - Timing: Apply without delay and within same working period.
 - Coats: Apply at right angles to preceding.
 - Stagger joints between bays in consecutive coats (minimum): 75 mm.
- Condition of contact edges of previously laid bays: Warm and clean.

- Blowing: Pierce and make good affected areas while mastic asphalt is still at working temperature.
- Completion: During final floating operation, whilst asphalt is still warm, apply sand to horizontal surfaces and rub in well using wooden float. Remove surplus material.
- Surface condition at completion: Firmly adhered, weatherproof and free draining.

750 MASTIC ASPHALT SKIRTINGS AND VERTICAL WORK

- Top edge: Tuck into 25 x 25 mm continuous splayed chase or groove.
- External angles: Maintain full thickness of asphalt.
- Splayed top: Form to shed water away from substrate.

760 MARGIN INFILL TO MASTIC ASPHALT PAVINGS

- Top coat: Set 100 mm back from upstands.
- Infill: Roofing grade mastic asphalt.
- Completion: Provide angle fillet to infill.

770 INSTALLING PROPRIETARY MOVEMENT JOINTS

- Location: Centre over structural movement joint, and bed to exact finished level.
 - Bedding: _____.
 - Fixing: _____.

785 FIXING PERIMETER TRIMS

- Separating layer: Terminate at trim. Do not carry under or over.
- Trim:
 - Setting out (minimum): 3 mm from wall or fascia.
 - Fasteners: 50 mm aluminium countersunk wood screws.
 - Fixing: 30 mm from ends of trim 300 mm (maximum) centres.
 - Jointing sleeves: Fix one side only.
 - Expansion gap between ends of trim: 3 mm for aluminium; not required for GRP
 - Corner pieces: Purpose made.

790 INSTALLING ROOF VENTILATORS

- Setting out: Position evenly over roof area.
 - Centres (maximum): _____.
 - Distance from roof edges: _____.
- Holes for ventilators: Cut neatly to suit size of vents through (insulation and vapour control layer)
- Skirts and substrate below vents: (Do not prime or apply bonding agent) (Prime before asphaltting)

SURFACING

810 LAYING INVERTED ROOF INSULATION

- Condition of substrate: Clean
- Setting out: Loose lay with stagger joints. Minimize cutting and avoid small cut pieces at perimeters and penetrations.
 - Joints: Butt together.
- Projections, upstands, rainwater outlets, etc: Cut insulation cleanly and fit closely around.
- Completion:
 - Boards must be in good condition, well fitting and stable.
 - Cover to prevent wind uplift and floatation as soon as practicable.

820 LAYING STONE BALLAST

- Condition of substrate: Clean
- Gravel guards: Fit to outlets.
- Previously laid materials: Protect during laying of ballast.
- Laying: Spread evenly. Do not pile to excessive heights.
 - Depth (minimum): 50 mm.

840 LAYING PRECAST CONCRETE PAVING SLABS

- Condition of substrate: Clean
- Setting out: Minimize cutting.
- Laying: On proprietary support system.
- Joints: Open.

- Width: Predetermined by support system.
- Perimeter/ Upstands: Gravel margin infill.

860 LAYING PAVING TILES

- Condition of substrate: Clean.
- Setting out: Minimize cutting.
- Primer: Required.
- Bedding: Hot bitumen
 - Separating layer: Not required.
- Joints: Open
 - Width generally: 3 mm.
 - Between bays in approved locations: 25 mm.
 - Gaps for drainage: 100 mm in direction of fall.

870 LAYING CHIPPINGS

- Condition of substrate: Clean.
- Gravel guards: Fit to outlets.
- Dressing compound: Hot or cold applied. Evenly pour at 1.5 kg/m².
- Chippings application (approximately): 16 kg/m².
- Completion: Remove excess chippings without exposing asphalt.

872 LAYING COATED CHIPPINGS

- Substrate: Clean, warm asphalt.
- Chippings:
 - Application (approximately): (7.5 – 10 kg/m² (14 mm)) (10 – 13 kg/m² (20 mm))
 - Drainage channels: Do not apply.
- Completion: Chippings rolled in.

874 LAYING MINERAL / METAL FACED CAPSHEETS

- Setting out: Neatly, neatly with carefully formed junctions.
- Face of capsheet: Do not mark, crease or stain.

876 CRIMPING

- Finish: Whilst asphalt is still sufficiently plastic, roll surface with indenting or crimping roller.
- Indentations: Regular and even.

880 APPLYING SOLAR REFLECTIVE PAINTS

- Number of coats: 2
 - Coverage per coat: 7 m²/L.
- Surface coverage: Even and full.
- Coats: Fully bonded.

COMPLETION

910 INSPECTION

- Interim and final roof inspections: Submit reports.

920 ELECTRONIC ROOF INTEGRITY TEST

- Testing authority: Independent tester (i.e. TCG)
- Timing of test: (Before laying insulation and ballast) (Before applying chippings/ solar reflective paint).
- Condition of roof prior to testing:
 - Complete to a stage where integrity can be tested.
 - Surface: Clean.
- Test results and waterproof integrity certificate: Submit on completion of testing.

930 FLOOD TEST

- Condition of roof prior to testing:
 - Coating: Complete to a stage where integrity can be tested.
 - Surface: Clean.

- Outlets: Externally cover and seal. Protect against damage from water pressure using temporary kerbs. Do not use plugs to seal outlets.
- Flood levels: Submit proposals. In no case higher than kerbs.
- Flood duration: 3 days.
- Inspection: Regular, to detect leaks.
- Completion of test: Slowly drain roof. Do not overload or flood outlets.
- Test results: Submit

940 COMPLETION

- Roof areas: Clean.
– Outlets: Clear.
- Work necessary to provide a weatertight finish: Complete.
- Storage of materials on finished surface: Not permitted.
- Completed mastic asphalt roof coating: Do not damage. Protect from petroleum based solvents and other chemicals, traffic and adjacent or high level working.

950 SUBCONTRACTOR EMPLOYED:

- The Briggs Amasco will be held responsible for the performance of the (Flexiphalte Triple Protection Roofing specification) (Flexiphalte Structural Waterproofing specification) (Flexiphalte Vehicle Deck specification/s) (Flexiphalte Roofing specification) and for the execution of all works including all waterproofing, insulation and any vapour control layer.
- Briggs Amasco shall design all details which shall be approved by the Main Contractor and CA. Briggs Amasco so employed by the Main Contractor shall have professional indemnity cover of 10m Euros.

960 GUARANTEE:

- A guarantee is required on the installation
- Such guarantee must include the following:
 1. Completely undivided responsibility between asphalt manufacturer and installer, who shall also lay the insulation.
 2. Cover for defects in design as well as workmanship and materials.
 3. Cover for consequential damage in the event of water ingress being proved to be due to defective design, workmanship or materials in the (Flexiphalte Triple Protection System) (Flexiphalte Vehicle Deck System) (Flexiphalte Roofing System) (Flexiphalte Structural Waterproofing System).
 4. The guarantee period for (20 years) (10 years).

970 ANNUAL INSPECTION / MAINTENANCE:

- As with all waterproofing and surfacing systems, proper maintenance is essential to obtain maximum performance and ensure the longest life expectancy for the Flexiphalte system as a whole.
- It is an integral part of the guarantee. Any deficiencies should be reported immediately to Briggs Amasco.
- BS 6229: 2003 gives guidance on the content of maintenance manuals and the scope and frequency or routine maintenance inspections applicable to flat roofing. All Flexiphalte installations should be inspected at least once each year.
- Ideally, there should be inspections in Spring and Autumn, to enable the effects of annual extremes of weather to be checked. (Vehicle decks) (Roofs) exposed to high levels of pollution or in close proximity to trees require more frequent inspection.
- An inspection/maintenance Contract can be arranged with the installing Branch of Briggs Amasco following the defects liability period.