

## MS 6 Safety Method Statement – Roofing

### Description of Work and Location

#### ROOF TILING

##### A. Generally

All materials shall be of a standard not lower than the requirements of the latest appropriate British Standard.

The Contractor is advised that numerous types of tiled roofs exist throughout the Contract Area and that provision must be made for obtaining and stocking the requisite products and accessories, or compatible products, should the existing type be unobtainable this shall apply to all relevant roof types. Where compatible tiles/slates are, by necessity, used then they shall at all times comply with the relevant British Standard.

**B. All tiles, slates and accessories** laid or fitted shall be of a colour to match the existing and fixed in accordance with the manufacturer's instructions and current Codes of Practice. If the Codes of Practice have been altered since the original tiles or slates were fixed the Contract Administrator must be informed and the current Code of Practice conformed to.

The whole of the roof tiling and slating shall be carried out in accordance with the recommendations of BS 5534: Part 1: 1997 and in accordance with the manufacturer's instructions and recommendations.

**C. The Contractor** is to note that the Items and Prices in the Schedule of Rates together with any percentage adjustment thereto are deemed to allow for the reinstatement of any missing or defective battens and roofing felt when undertaking repairs.

##### D. Concrete Roof Tiles and Fittings

All concrete tiles and fittings are to comply with BS EN 490 and BS EN 491 and be equal to samples deposited with and approved by the Contract Administrator.

##### E. Plain Clay Tiles

Plain clay tiles are to comply with BS 402 and BS EN 538.

##### F. Natural Slates and Fittings

Natural slates and fittings are to comply with BS 680: Part 2: 1971 and shall be equal to samples deposited with and approved by the Contract Administrator.

##### G. Fibre Cement Roof Slates and Fittings

The roof slates and fittings for pitched roofs and tile hanging shall be Eternit slate or similar approved fixed in accordance with the manufacturer's instructions. Ridge tiles are to be 130 degrees internally socketed ridge tiles.

##### H. Dry Ridge/Verge

Dry ridge and dry verge works shall be installed to the approved manufacturer's instructions and will be compatible with existing dry ridge and dry verge installation and existing roof coverings.

##### A. Underfelt

The roof tile underfelt is to be reinforced bituminous felt to BS 747 Type IF weighing not less than 11 Kg/sqm, lapped 150mm at horizontal and vertical joints over adequately supporting members.

The underfelt for copper, lead and zinc roofing shall be brown sheathing felt to BS 747 Type 4A (ii) (No. 1 inodorous).

##### B. Battens

The tile battens to be good quality deal, reasonably free from knots, clean and with no waney

## MS 6 Safety Method Statement – Roofing

edges in accordance with BS EN 1313-1 and impregnated with "Celcure", "Tanalith", "Treatim", or "Protim" wood preservative or equivalent approved before delivery to site, as specified under Woodwork.

Battens to be fixed with staggered joints and square butt jointed.**C.**

### Wood Rolls

Wood rolls for copper, zinc or aluminium roofing shall be wrot seasoned timber to the tapered profile shown in CP 143: Parts 12: 1970 and 15: 1973. Common rolls approximately 45 x40mm overall unless otherwise shown.

Wood rolls for lead roofing shall be wrot seasoned timber to the smooth rounded profile shown in BS 6915. Common rolls approximately 45 x 45mm with 25mm wide flat base unless otherwise shown.

### D. Mortar

The mortar for bedding and pointing to be cement mortar (1:3) as described in "Brickwork and Blockwork", but slightly tinted in colour to approval and specially mixed for the purpose.

### E. Nails

The nails for underlay and battens shall comply with BS 1202: Part 1: 1974 for galvanised steel clout nails. Nails for battens shall be sized to give a secure fixing without splitting the batten. The nails for slates and tiles shall be aluminium alloy to BS 1202: Part 3: 1974, copper to BS 1202: Part 2: 1974, silicon bronze to BS 5534 or as recommended by the manufacturer and approved by the Contract Administrator.

The nails for lead roofing shall be copper in accordance with BS 1202: Part 2: 1974, Table 2 jagged or ring shank not less than 20mm long with large flat heads.

Where roofing slates or tiles are described as fixing with clips, the clips shall be of lead or copper, approx. 300mm long x 20mm wide and shall be fixed to the roof batten beneath the slate or tile to be fixed, bent up and over the bottom edge of the slate or tile. Clips for slates shall be aluminium alloy to BS 5534 or stainless steel to BS 5534.

### G. Fibre Cement Corrugated Roofing Sheets

Shall be obtained from an approved manufacturer, be of a profile to match existing sheets and conform to BS 5427, BS 143 and BS 1256.

### H. Galvanised Steel Corrugated Roofing Sheets

The sheets shall be hot dipped to BS 3083, Table 1, Coating type 350, 0.7mm thick with corrugations at 76.2mm pitch.

### A. Translucent Corrugated Roofing Sheets

The sheets shall be glass fibre reinforced plastics to BS 4154 with fire exposure performance Category P60 to BS 476: Part 3: 1975.

### B. Steel Hook Bolts and Nuts

The bolts for fixing corrugated sheets are to comply with BS 1494: Part 1 : 1965, cadmium or zinc coated and with plastic sleeves and washers. Bolt profile and size to suit sheets and roof members and the sheet manufacturer's recommendations.

### C. Steel Roofing Screws

Roofing screws for corrugated sheets shall be galvanised and are to conform to BS 1494: Part 1 : 1965 and be complete with plastic washers. Length of nail shall suit the application and roof sheet manufacturer's recommendations.

## **MS 6 Safety Method Statement – Roofing**

### **D. Plywood Decking for Flat Roofs**

The plywood sheets shall be exterior quality bonding grade WBP conforming with BS 6566.

### **E. Woodwool Slab Decking for Flat Roofs**

The woodwool slabs shall conform to BS 1105, Type B and where appropriate be reinforced with pressed steel channels all to the satisfaction of the Contract Administrator. Fixings for the slabs shall be galvanised steel large flat headed nails of a length to suit the application or steel clips galvanised to BS 729 or such other types of fixing as may be recommended by the manufacturer of the slabs.

### **F. Wood Chipboard Decking for Flat Roofs**

Chipboard shall conform to BS 5669: Part 2: 1989 and be of an appropriate moisture resistant grade suitable for the purpose and be fixed with galvanised nails or screws conforming with BS 1202 and BS 1210 respectively each being of a size and gauge to suit the application.

### **G. Insulation**

Insulation shall comply with BS 5803: Part 1: 1985 and be obtained from an approved manufacturer.

### **H. Lead**

The lead roof coverings, flashings, soakers, rainwater chutes, valley gutter linings, hips, ridges and the like are to be of best English milled lead in accordance with the Lead Development Association recommendations and in accordance with BS 1178. Tacks minimum 40mm wide of the same lead substance to be provided at not more than 1 metre centres to flashings.

### **J. Self Adhesive Flashings**

Self adhesive flashings may only be used with the prior agreement of the Contract Administrator.

Where self adhesive flashings are permitted they shall be fixed over existing flashings, fillets and the like in strict accordance with manufacturer's instructions, including applying recommended primer to ensure complete adhesion.

### **A. Asphalt Roofing**

Asphalt roofing is to comply with BS 6925 Type R988, the isolating membrane shall be black sheathing felt to BS 747, Type 4A(i), bitumen based.

Clean natural coarse sand passing a 600mm micron BS 470 test sieve is to be used as rubbing sand.

Chippings shall be hard light coloured non absorbent natural stone graded 6 to 10mm. Solar reflective paint shall be used in accordance with manufacturer's recommendations.

Asphalt roofing subject to traffic shall be to BS 6925 Type R988 undercoat with BS 1447, finishing coat.

Isolating membrane for roofing subject to traffic shall be glass fibre tissue as recommended by the asphalt specialist.

### **B. Building Paper**

Building paper used in roofing shall comply with BS 1521, Class B for temporary use and Class A of appropriate grade for permanent installation.

### **C. Liquid Applied Waterproofing**

Liquid applied waterproofing shall be from an approved manufacturer and be used strictly in

## MS 6 Safety Method Statement – Roofing

accordance with the manufacturer's directions.

### **D. Bitumen Felts for Felt Roofing**

Fine granule surfaced bitumen felt shall comply with BS 747, Type 2B, 3B and 5B, mineral surfaced bitumen felt shall comply with BS 747, Type 2E, 3E and 5E.

### **E. High Performance Felt Roofing**

High performance felt roofing shall be from an approved manufacturer and applied strictly in accordance with the manufacturer's instructions to suit the relevant sub surface.

### **F. High Performance "Torch On" Felt Roofing**

High performance "torch on" felt roofing shall be prepared and applied strictly in accordance with the manufacturer's instructions to suit the relevant sub surface.

### **G. Bitumen Primer**

Primer for felt roofing shall be cut back bitumen with a maximum volatile solvent 60% by weight. Viscosity to be Redwood No. 2 at 21 deg. C 25 sec maximum.

### **A. Bitumen Compounds**

Bonding compound for felt roofing shall be oxidised bitumen having a penetration of 20/30 at 25 deg. C and a softening point (A & B) of 80/100 deg. C. Dressing compound for felt roofing shall be cut back bitumen to BS 3690: Part 1: 1989 Grade 50 sec at 40 deg. C. Cold compounds dressing for bonding solar reflective chipping may be permitted but only at the sole discretion of the Contract Administrator. The bitumen coating for lead, copper or zinc roofing shall be a black coating solution to BS 3416.

## **WORKMANSHIP**

### **B. Roof Tiling**

The roof tiling to be laid generally in accordance with BS 5534: Part 1: 1997, BS 8000: Part 6: 1990 and in even courses to suit existing gauging and laps and be secured with the appropriate patent clips and or nails. Tiles shall be head nailed with two nails in every tile.

Eaves shall be formed with double course of tiles.

Verges shall be formed with tile and a half in alternate courses including any undercloak, or cut tiles if recommended by the manufacturer and pointed in cement mortar all to match existing. Exposed cut edges of tiles will not be permitted.

### **C. Roof Slating**

Natural slate roofing shall be close jointed with horizontal and alternate vertical joints ranging through perfectly straight.

Slates shall be head nailed with two nails to each slate every course. Slates to eaves, verges, ridges, hips, valleys and abutments shall be secured with two nails to each slate.

Eaves shall be formed with double course of slates.

Verges shall be formed with slates and slate and a half slates in alternate course including any undercloak and shall be bedded, jointed and pointed with mortar tinted to match colour of slates. Exposed cut edges of slates will not be permitted.

Tile ridges and hips shall be of the type stated in the Schedule of Rates. Ridge and hip tiles shall be bedded, jointed and pointed with mortar tinted to match colour of tiles or slates.

### **D. Fibre Cement Sheet Roofing**

Fibre cement sheet roofing shall be laid and fixed in accordance with BS 5247: Part 14: 1975,

## MS 6 Safety Method Statement – Roofing

Section 4, CPUS: Part 16: 1974 and as recommended by the manufacturer incorporating where appropriate end and side lap sealing strips.

### **E. Galvanised Steel**

Lay galvanised corrugated sheeting in accordance with the general recommendations of CP 143: Part 10: 1973, Section 4 (Application) and generally as shown in Figures 1 to 3 inclusive of the Code. Allow slight movement between the structural frame and sheeting. Lap all sheets 150mm at ends and two corrugations at sides.

### **A. Reinforced Plastics**

Where specified use reinforced corrugated plastic sheets in limited areas in association with roof sheeting of another material. Lap at ends and sides as for the main roofing material and seal with approved woven fibre sealing strip.

### **B. Fixing Sheets**

Secure sheets to steel with galvanised steel hook bolts and nuts, and to timber with galvanised steel roofing screws. Do not drill steelwork.

### **C. Holing Sheets**

Drill sheet fixing holes through the crown of the corrugations 1.5mm larger in diameter than that of the bolt or screw shank.

### **D. Safety Precautions**

Make arrangements to prevent unauthorised persons having access to the area below the roof whilst corrugated sheet roofing is under construction and do not allow any person to go on to roofing without using crawling boards.

### **E. Insulation**

Insulation quilts shall be butt jointed and laid up to wall plates leaving sufficient space to ensure adequate ventilation of the roof space is maintained. Quilt to be laid under electrical cables and over horizontal pipes wherever possible. Quilt should not be laid under water storage tanks. Quilts to hatches should be bagged in polythene and securely fixed to hatch.

### **F. General**

All debris resulting from roof works shall be cleared from all gutters.

### **G. Leadwork**

Sheet lead shall be undertaken by skilled leadworkers and laid in accordance with Lead Development Association recommendations and in accordance with BS 6915. Solder shall not be used without the authority of the Contract Administrator. Close and open nailing shall be undertaken with copper nails at 25mm and 75mm centres respectively. Lengths of lead pieces used in leadwork shall not exceed 3.00m in length or 2.20m<sup>2</sup> in area.

All laps to finishing's shall not be less than 100mm.

### **H. Lead Flashings**

Lead for flashings shall be milled sheet lead complying with BS 1178 and shall be in accordance with the classification recommendation in BS 6915.

Lead flashings shall be dressed to the appropriate profiles without reducing the thickness of the lead sheet.

The top edges of all cover flashings shall be turned 25mm into grooves chased or cut into brick, blockwork or other cladding material, securely wedged and pointed with cement mortar (1:3) in brick, block, masonry and concrete and in other cladding where appropriate.

## MS 6 Safety Method Statement – Roofing

### A. Asphalt Roofing

Asphalt shall be laid generally in accordance with BS 8218 and the recommendations and publications of the Mastic Asphalt Council and Employers Federation. Underlay shall be laid loose and with 50mm laps.

Asphalt shall be laid in two coats with 150mm laps and shall be properly bonded to the edges of existing sound asphalt and unless otherwise directed all existing planes shall be maintained. Fillets 50mm on face shall be provided at all internal angles. The asphalt surface finish shall unless otherwise directed match the existing surface.

### B. Felt Roofing

The felt roofing shall unless specified or directed otherwise comply with BS 8217.

If on removing any defective felt the Contractor discovers that the base is defective or unsuitable in any way to receive the new felt and that repair of the base is outside the Contractor's remit featured on the Order, the Contractor shall immediately seek instruction from the Contract Administrator. When the Contractor has satisfied himself that the base is sound and generally complies with BS 8217 Clause 6, he can commence the repair works.

Felts should be laid in the direction of the roof gradient with 75mm side and 100mm end laps, and breaking joints between layers. All concrete and screed base surfaces should receive a priming coat well brushed in and if the priority or period as the Order permits a period of 24 hours should be allowed to elapse before undertaking the felt laying.

The first layer of felt should be partially or fully bonded to the base as directed, with bonding compound heated in thermostatically controlled kettles, to a temperature not exceeding 215 deg. Celsius, but sufficient to provide a 200 deg. Celsius laying temperature.

A Partial Bonding System should be effected by spot, strip or frame bonding the first felt layer with hot bonding compound.

The perimeter of the roof should be fully bonded for a width of 450mm, leaving 150mm wide ventilation channels at appropriate centres.

A Fully Bonded System should be effected by applying a continuous even coating of hot bonding compound to the base at the rate of 1.5kg/m<sup>2</sup> to which should be applied the first layer of felt to provide a complete bond excluding all air trapped air.

Subsequent felt layers should be effectively bonded to match underlayer excluding all trapped air. Should any air bubbles become apparent in the work undertaken, the felt shall be cut back by the Contractor to the satisfaction of the Contract Administrator and renewed entirely at the Contractor's expense.

### C. Torch on Felt Roofing

Torch on felt roofing shall be laid in accordance with the manufacturer's instructions. Ensure existing roof is clean and dry, cut out and patch blisters, nicks etc., and if necessary prime surface and allow to dry. Lay sheeting with 75mm side, 100mm end laps and apply flame to lower surface directing at the junction with the substrate so as to melt adhesive across roll width. Unroll felt onto part of molten bitumen and press down firmly. Seal laps with wide bladed scraper and seal plain finish (not mineral surface) by applying heat from above.

#### ➤ Asphalt Coverings to Balconies and Walkways

- 1) Shall comply with BS 8218 and the Contractor shall ensure that the asphalt work is undertaken in accordance with BS 8218 and the publications of the Mastic Asphalt Council and Employers Federation
- 2) Asphalt for roofing subject to traffic shall comply with BS 6925 undercoat with BS1447, finishing coat
- 3) Isolating membrane for roofing subject to traffic shall be glass fibre tissue as recommended by the Contractor and to the approval of the Contract Administrator.

# **MS 6 Safety Method Statement – Roofing**

Safety Method Statement prepared by Humphrey and Gray LTD

## MS 6 Safety Method Statement – Roofing

- 4) Metal lathing: Bitumen coated 'plain expanded' steel lathing to BS 1369, and minimum 26 swg and minimum 10 mm short way of mesh
- 5) Bonding primer: A high bond primer recommended by the asphalt specialist
- 6) Vapour barrier: BS 747 bitumen felt, BS 747, Type 3B bitumen felt glass fibre base
- 6) Primer for vapour barrier and general purposes: Cut back bitumen of suitable viscosity
- 7) Bitumen based bonding compound: For bonding vapour barriers and for general bonding purposes; oxidised bitumen suitable for applying hot
- 8) Rubbing sand: Clean natural coarse sand passing a 60 micron BS 470 test sieve
- 9) Chippings: Hard light coloured non absorbent natural stone graded 6 to 10 mm/nominal 14 mm single size 6
- 10) Dressing compound for chippings: Cut back bitumen to BS 3690 Grade 25 sec or a suitable cold applied bitumen based adhesive
- 11) Solar reflective paint: Shall be of a reputable proprietary brand and to the approval of the Contract Administrator
- 12) 190 Aluminium edging: A proprietary section profiled to suit asphalt manufactured from aluminium to BS 1474 HE9 TB or HE9 TF

### *Supervision*

### *Pre-Site Preparation Work*

Site manager or competent forman to attend to site prior to works commencing to ensure safe and smooth operation.

### *Work Operations*

### *Control of Operations*

### *Storage / Materials / Handling*

Materials only to be stored on site when necessary, otherwise transported as required.

### *Inspection / Monitoring*

Works to be inspected during and on completion of works by site manager or competent foreman.

### *Competence of Operatives*

All operatives are fully trained and qualified within their trades.  
Apprentices may be used where required.



## MS 6 Safety Method Statement – Roofing

---

<b><i>Accompanying Assessments</i></b>	Risk assessments to be completed for all works and associated works.	
<b><i>Plant &amp; Equipment</i></b>	All plant and equipment whether belonging to or hired, will be regularly tested.	
<b><i>Safety of 3rd Parties</i></b>	All precautions will be taken in keeping with the safety of any third parties being the occupiers or general public.	
<b><i>PPE Requirements</i></b>	All relevant PPE equipment will be used according to works involved.	
<b><i>First Aid Requirements</i></b>	First aid kits supplied to all vehicles.	
<b><i>Emergency Procedure</i></b>		
<b><i>Environmental Issues</i></b>	All waste and debris to be removed using registered waste carriers (skips)	
<b>Contractor.</b>	<b>Signed.</b>	<b>Date.</b>