

Atelier Mb Ltd

# 1995 Mosley St

1995 Mosley St - Roof Package

02-10-2023

## Contents

|                                                                         |    |
|-------------------------------------------------------------------------|----|
| H62 Natural slating .....                                               | 1  |
| H71 Lead sheet fully supported roof and wall coverings/ flashings ..... | 8  |
| M20 Plastered/ rendered/ roughcast coatings .....                       | 16 |
| P10 Sundry insulation/ proofing work .....                              | 22 |
| R10 Rainwater drainage systems .....                                    | 24 |

## H62 Natural slating

### Clauses

#### 2 To be read with preliminaries/ general conditions.

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### Types of slating

#### 100\* Methodology

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1. Preparation
  - 1.1. Obtain LBC for and install temporary scaffold and access platforms to access all parts of the roof safely. Submit and agree safe working methodologies with Principal Designer.
  - 1.2. Prepare slate removal methodology to minimise risk of slates/timbers falling inside and damaging lath and plaster/other building fabric.
  - 1.3. Record existing slate coursing widths and laps prior to carefully removing slates and stacking for reuse. Note size of slates especially and differentiation between the ridge and eaves.
2. Materials
  - 2.1. Source new slates as required to match the size/thickness/colour and where possible source of existing slates which are broken or otherwise damaged. Damaged slates to be redressed for re-use where smaller slates are required. Any salvaged slates to be from a clearly identified, recorded and verified source.

#### 105 Roof slating

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1. Description: Existing to be re-used
2. Substrate: Existing rafters at 400 mm centres.
3. Pitch: Existing
4. Underlay: Vapour permeable underlay as clause 235
  - 4.1. Recycled content: submit proposals
  - 4.2. Direction: Parallel to eaves.
  - 4.3. Head-lap (minimum): 150mm
5. Battens
  - 5.1. Size: 50mm x 25mm (to match existing)
  - 5.2. Fixing: 65 x 3.35 mm galvanized annular ring shank nails
6. Slates
  - 6.1. Supplier: Submit proposals
    - 6.1.1. Product reference: Slates to match existing
  - 6.2. Type: To match existing
  - 6.3. Size: To match existing
  - 6.4. Head-lap (minimum): 150mm
7. Fixing: Two nails each slate using hand drill to minimise risk of damage. Minimise use of cut slates and no slate to be cut to less than half width.
8. Accessories: Access anchorage points - details TBC.

## Slating generally

### 210 Basic workmanship

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1. **General:** Fix slating and accessories to make the whole sound and weathertight at earliest opportunity.
2. **Setting out:** To true lines and regular appearance, with neat fit at edges, junctions and features.
3. **Fixings for slating accessories:** As recommended by manufacturer.
4. **Gutters and pipes:** Keep free of debris. Clean out at completion.

### 220 Removing existing slating

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1. **General:** Carefully remove slates, battens, underlay, etc. with minimum disturbance of adjacent retained slating.
2. **Undamaged slates:** Set aside for reuse.

### 235A Vapour permeable underlay

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1. **Manufacturer:** Manufacturer: DuPont Tyvek.- Web: [www.construction.tyvek.co.uk](http://www.construction.tyvek.co.uk).- Email: [tyvek.construction@dupont.com](mailto:tyvek.construction@dupont.com). Roll size: 1.5 x 50 m. Accessories: Tyvek® Double Sided Acrylic Tape.
  - 1.1. **Product reference:** Tyvek® Supro
2. **Standard:** To BS EN 13859-1
  - 2.1. **Reaction to fire:** Manufacturer's standard
  - 2.2. **Water vapour transmission (minimum):** Manufacturer's standard
  - 2.3. **Resistance to water penetration:** Manufacturer's standard
  - 2.4. **Tensile strength (minimum):** Manufacturer's standard
  - 2.5. **Tear resistance (minimum):** Manufacturer's standard
  - 2.6. **Other BS EN 13859 characteristics:** None
3. **Weight (mass per unit area):** 160 g/m<sup>2</sup>
4. **Resistance to wind uplift:** Greater than 2350 N/m<sup>2</sup>

### 240 Underlay

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1. **Handling:** Do not tear or puncture.
2. **Laying:** Maintain consistent tautness. Horizontal laps min 100mm. Dress over imdercloak course and into gutters as per details. At valleys and hips lay 600mm wide underlay strips to underlap general underlay.
3. **Vertical laps (minimum):** 150 mm wide, coinciding with supports and securely fixed.
4. **Fixing:** Joints to be sealed with TYVEK 2060B Tape or TYVEK Acrylic Tape (double-sided). Copper nails to **BS1202**. Size/length to match slate thickness.
5. **Eaves:** Where exposed, use an external grade (UV resistant) underlay or a proprietary eaves support product.
6. **Penetrations:** Use proprietary underlay seals or cut underlay to give a watertight fit around pipes and components.
7. **Ventilation paths:** Do not obstruct.

### 245 Battens/ Counterbattens – treated

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1. **Timber:** Sawn softwood.
  - 1.1. **Species:** In accordance with BS 5534, clause 4.11.1.
  - 1.2. **Permissible characteristics and defects:** Not to exceed limits in BS 5534, Annex D.
  - 1.3. **Grading:** Fully factory pre-graded in accordance with BS 5534

- 1.4. Moisture content at time of fixing and covering (maximum): 22%.
2. Preservative treatment: As section Z12 and Wood Protection Association Commodity Specification C8.
  - 2.1. Type: Copper-organic

## 265 Batten fixing

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1. Setting out: Align parallel to ridge in straight horizontal lines to gauge of slates. Align on adjacent areas.
2. Batten length (minimum): Sufficient to span over three supports.
3. Joints in length: Square cut. Butt centrally on supports. Joints must not occur more than once in any group of four battens on one support.
4. Additional battens: Provide where unsupported laps in underlay occur between battens.
5. Fixing: Each batten to each support. Splay fix at joints in length.

## 275 Slate fixing

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1. Setting out: Lay slates with an even overall appearance with slightly open (maximum 5 mm) butt joints. Align tails.
2. Slate thickness: Consistent in any one course. Lay with thicker end as tail.
3. Ends of courses: Use extra wide slates to maintain bond and to ensure that cut slates are as large as possible. Do not use slates less than 150 mm wide.
4. Top course: Head-nail short course to maintain gauge.
5. Fixing: Centre nail each slate twice through countersunk holes 20-25 mm from side edges.
  - 5.1. Nails: Copper clout to BS 1202-2
  - 5.2. Nail dimensions: Determine in accordance with BS 5534 to suit site exposure, withdrawal resistance and slate supplier's recommendations.

## 290A Mortar bedding/ pointing

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1. Mortar: For ridge tiles: 1:2.5 by volume lime (NHL 5) to sand.
  - 1.1. Bond strength providing resistance to uplift: In accordance with BS 5534.
2. Weather: Do not use in wet or frosty conditions or when imminent.
3. Preparation of concrete and clay tile accessories to be bedded: Wet and drain surface water before fixing.
4. Appearance: Finish neatly as work proceeds and remove residue.
5. All existing chimneys to be carefully taken down and set aside for re-use.
6. All chimneys to be cleaned and re-used and rebed on mortar to match existing

## Roof slating edges/ junctions/ features

### 305 Generally

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1. Fittings and accessories: As recommended by slate supplier, do not improvise.
  - 1.1. Exposed fittings and accessories: To match slate colour and finish.
2. Cut slates: Cut only where necessary, to give straight, clean edges.
3. Flashings: Fix with or immediately after slating. Form neatly.

### 325 Fire separating walls

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1. Separating walls: Completely fill space between top of wall and underside of slates with mineral wool quilt to provide fire stopping.

2. **Boxed eaves:** Completely seal air paths in plane of separating wall with wire reinforced mineral wool, not less than 50 mm thick, fixed to rafters and carefully cut to shape to provide fire stopping.

### 365 eaves

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1. Underlay support: 18 mm plywood, as section G20
  - 1.1. Continuous to prevent water retaining troughs.
2. Gutter: Dress underlay or underlay support tray to form drip into gutter.
3. Undercourse and first course slates: Fix with tails projecting 50 mm over gutter or to centre of gutter, whichever dimension is the lesser.

### 365 Eaves fascia grilles Type B

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1. Manufacturer: [BPD Building Product Design Ltd](#)
2. Contact details
  - 2.1. Address: 2 Brooklands Road  
Sale  
Cheshire  
M33 3SS
  - 2.2. Telephone: [+44 \(0\)161 905 5700](tel:+44(0)1619055700)
  - 2.3. Web: <https://www.buildingproductdesign.com/divisions>
  - 2.4. Email: [info@buildingproductdesign.com](mailto:info@buildingproductdesign.com)
3. Product reference: [Glidevale Protect FV250 Over Fascia Ventilator](#)
4. Style: Unobtrusive over fascia vent.
5. Ventilation opening: 25 000 mm<sup>2</sup>/ m.
6. Colour: Black.
7. Accessories: Gutter space brackets.

### 365 Abutment ventilators Type C

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1. Manufacturer: [Nicholson STS Ltd](#)
2. Contact details
  - 2.1. Address: Unit 13 Wireless  
Station Park  
Bassingbourn  
Royston  
Hertfordshire  
SG8 5JH
  - 2.2. Telephone: [+44 \(0\) 1763 295828](tel:+44(0)1763295828)
  - 2.3. Web: [www.nicholsonsts.com](http://www.nicholsonsts.com)
  - 2.4. Email: [info@nicholsonsts.com](mailto:info@nicholsonsts.com)
3. Product reference: [Airtrak AB1 Abutment Ventilator \(Airtrak AB1\)](#)
4. Purpose:
5. Ventilation opening: 25 mm continuous ventilation aperture.
6. Colour: Stainless steel.
7. Airtrak CF ClipFast fixing clips:
8. Grade:
9. Dimensions: 180 x 1000 mm.
10. Activation: 180—200°C.
11. Expansion: 30:1.

### 365 Roof slope ventilator tiles Type D

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1. Manufacturer: [BPD Building Product Design Ltd](#)
2. Contact details
  - 2.1. Address: 2 Brooklands Road  
Sale  
Cheshire  
M33 3SS
  - 2.2. Telephone: [+44 \(0\)161 905 5700](#)
  - 2.3. Web: <https://www.buildingproductdesign.com/divisions>
  - 2.4. Email: [info@buildingproductdesign.com](mailto:info@buildingproductdesign.com)
3. Product reference: [Glidevale Protect Universal In-line® Slate Ventilator](#)
4. Purpose: Roof void ventilator.
5. Ventilation opening: 10 000 mm<sup>2</sup>.
6. Colour: To match slates
7. Roof pitch: TBC on site.
8. Spacing: Equally as required to achieve air flow stated.
9. Air flow: 54 m<sup>3</sup>/hr (10 Pa), 108 m<sup>3</sup>/hr (42 Pa), 216 m<sup>3</sup>/hr (162 Pa).

### 525 Mitred hips

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1. Underlay: Lay courses over hip.
  - 1.1. Overlaps (minimum): 150 mm.
2. Mitred slates: Cut extra wide slates and fix to form a straight, close mitred junction.
3. Soakers: Interleave with mitred slates. Fix by turning down over head of mitred slates.

### 660 Side abutments

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1. Underlay: Turn up not less than 100 mm at abutments.
2. Abutment slates: Cut as necessary. Fix close to abutments.
3. Soakers: Interleave with abutment slates. Fix by turning down over head of abutment slates.

### 670 Top edge abutments

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1. Underlay: Turn up not less than 100 mm at abutments.
2. Top slate courses: Fix close to abutments.

### 690 Roof windows

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1. Underlay: Turn up not less than 100 mm at window surrounds under integral flashings/ soakers.
2. Roof slates: Cut as necessary and fix closely all round.

### 740 Mortar bedded and mechanically fixed tile ridges

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1. Underlay: Lay courses over ridge.
  - 1.1. Overlap (minimum): 150 mm.
2. Ridge tile fixing battens: To manufacturer recommendations.
3. Ridge tiles
  - 3.1. Manufacturer: Submit proposals.
  - 3.2. Bedding: On mortar, continuous to edges and solid to joints.
  - 3.3. Fixing: Secure all ridge tiles to ridge boards or supplementary ridge battens with self-sealing non-ferrous fixings.

- 3.4. Gable end ridge tiles: Fill ends with mortar and slips of tiles finished flush.

## 740 Roof ridge ventilator tiles Type A

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1. Ridge tiles
  - 1.1. Manufacturer: [Nicholson STS Ltd](#)
    - 1.1.1. Contact details
      - 1.1.1.1. Address: Unit 13 Wireless  
Station Park  
Bassingbourn  
Royston  
Hertfordshire  
SG8 5JH
      - 1.1.1.2. Telephone: [+44 \(0\) 1763 295828](#)
      - 1.1.1.3. Web: [www.nicholsonsts.com](#)
      - 1.1.1.4. Email: [info@nicholsonsts.com](#)
    - 1.1.2. Product reference: [Airtrak RTV Ridge Tile Ventilator \(Airtrak RTV Ridge Tile Ventilator\)](#)
  - 1.2. Ventilation opening: 5 mm continuous air gap equivalent.
  - 1.3. Accessories: To be used with Airtrak LPS Low Pitch Soaker.
  - 1.4. Colour: Stainless steel.
  - 1.5. Grade: 316.
  - 1.6. Dimensions: To manufacturer recommendations.
  - 1.7. Activation: 180—200°C.
  - 1.8. Expansion: 30:1.
  - 1.9. Type: Standard. For slated roofing.

## 800 Change of roof pitch

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1. Slating substrate work: Fix timber tilting fillet to support flashing and courses of slates above change of pitch.
2. Roof slates: Make weathertight with flashing.
  - 2.1. Courses above change of pitch: Fix undercourse and first course slates.
  - 2.2. Courses below change of pitch: Cut top two courses as necessary to maintain gauge. Head-nail top course.

## Vertical slating edges/ junctions

### 910 Bottom edges

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1. Slating substrate work: Fix proprietary eaves ventilators/tilt fillet as per details. Fix flashing to ventilator/tilting fillet in accordance with manufacturer recommendations
2. Underlay: Dress over flashing.
3. Undercourse and bottom course slates: Fix with tails neatly aligned.

### 920 Top edges

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1. Top slate courses: Fix under abutment and make weathertight with flashings dressed down not less than 150 mm.

### 930 Side abutments

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1. Slating substrate work: Chase abutment wall and insert stepped flashing.

- 1.1. **Flashing:** Return not less than 75 mm behind slating, overlapping underlay and battens.  
Turn back to form a vertical welt.
2. **Abutment slates:** Cut and fix neatly.

## **960 Junction with roof verges**

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1. **Slating substrate work:** Fix additional slating batten parallel to and below verges.
2. **Course end slates:** Splay cut slate and a half width slates to angle of verge rake. Fix to additional slating batten with cut edge parallel to and below verge.

Ω End of Section

## H71

# Lead sheet fully supported roof and wall coverings/ flashings

## Types of leadwork

### 209 Gutter lining – box, parapet, tapered and flat roof valley

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1. Substrate: Replacement 18mm external grade plywood on rafters at 400 mm centres
  - 1.1. Preparation: Not required
2. Sheet underlay: Calder Geotec 220PY
3. Type of lead: Rolled to BS EN 12588
  - 3.1. Thickness: 2.50 or 2.65 mm (Code 6)
4. Pretreatment: Apply thin coating of patination oil to underside of lead and allow to dry before laying  
OR Apply chalk slurry coat to underside of lead and allow to dry before laying, followed by chalk paste coat after bossing but before final fixing
5. Joints in direction of fall: Wood-cored roll
  - 5.1. Spacing: On centre line of gutter
6. Cross joints: Wood-cored roll at gutter watershed
  - 6.1. Spacing: To suit lead code and to LSTA recommendations.
7. Outlets: Catchpit with overflow pipe, Chute outlet through wall to hopper head, Lead-welded flashing to internal rainwater pipe. Refer to drawings and review locations on site - remediation of existing only.

### 230 Valley gutter lining to slate/ tile roofs

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1. Sheet underlay: Building paper to BS 1521, Class A1
2. Type of lead: Rolled to BS EN 12588
  - 2.1. Thickness: 2.50 or 2.65 mm (Code 6)
3. Pretreatment: Apply chalk slurry coat to underside of lead and allow to dry before laying, followed by chalk paste coat after bossing but before final fixing OR Apply thin coating of patination oil to underside of lead and allow to dry before laying.
4. Laying: Over and beyond tilting fillets
5. Lengths: Not more than to LSTA recommendations..
  - 5.1. Cross joints: Lapped not less than to LSTA recommendations.
6. Fixing: Welt edges. Nail top edge of each sheet. Dress bottom end neatly into eaves gutter

### 250 Weathering to

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1. Description: PARAPETS
2. Substrate: fascia ventilator as cl H62.
3. Sheet underlay: Building paper to BS 1521, Class A1
4. Type of lead: Rolled to BS EN 12588
  - 4.1. Thickness: 2.50 or 2.65 mm (Code 6)
5. Joints: Laps (100 mm minimum)
  - 5.1. Spacing: to LSTA recommendations
6. Edge details: To LSTA recommendations and to suit fascia ventilator manufacturer recommendations.
7. Fixing: Copper clips at 500 centres

### 322 Soakers for mitred hips to slate/ plain tile roofs

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1. Lead
  - 1.1. Thickness: 1.25 or 1.32 mm (Code 3).
2. Dimensions
  - 2.1. Length: Slate/ tile gauge + lap + 25 mm.
  - 2.2. Underlaps: Not less than 150 mm for roof pitches up to 35° and 100 mm for roof pitches of 35° and above..

### 324 Soakers for mitred valleys to slate roofs - 27.5-45 deg pitches.

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1. Lead
  - 1.1. Thickness: 1.25 or 1.32 mm (Code 3).
2. Dimensions
  - 2.1. Length: Slate/ length of valley mitre + 25 mm.
  - 2.2. Underlaps: Not less than 150 mm.

### 325 Soakers for mitred valleys to slate/ plain tile roofs - over 45 deg pitch.

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1. Lead
  - 1.1. Thickness: 1.25 or 1.32 mm (Code 3).
2. Dimensions
  - 2.1. Length: Slate/ tile gauge + lap + 25 mm.
  - 2.2. Underlaps: Not less than 150 mm.

### 410 Apron flashings

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1. Description: AT LEAN-TO TOP ABUTMENTS
2. Lead
  - 2.1. Thickness: 2.00 or 2.24 mm (Code 5)
3. Dimensions
  - 3.1. Lengths: Not more than To LSTA recommendations 1500 mm.
  - 3.2. End to end joints: Laps of not less than 100 mm.
  - 3.3. Upstand: Not less than 75 mm.
  - 3.4. Cover to abutment: Not less than To LSTA recommendation.
4. Fixing: Lead wedges into bed joint, clips to bottom edge at laps and 500 mm centres

### 440 Soakers and step flashings

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1. Description: AT LEAN-TO SIDE ABUTMENT
2. Lead soakers
  - 2.1. Thickness: 1.75-2.00 mm (Code 4)
  - 2.2. Dimensions
    - 2.2.1. Length: Slate/ tile gauge + lap + 25 mm.
    - 2.2.2. Upstand: Not less than 75 mm.
    - 2.2.3. Underlay: Not less than 100 mm.
  - 2.3. Fixing: By roofer.
3. Lead step flashings
  - 3.1. Thickness: 2.00 or 2.24 mm (Code 5)
  - 3.2. Dimensions

- 3.2.1. Lengths: Not more than To LSTA recommendation.
- 3.2.2. End to end joints: Laps of not less than 100 mm.
- 3.2.3. Cover: Overlap to soaker upstands of not less than 65 mm.
- 3.3. Fixing: Lead wedges at every course.

## **472 Chimney flashings to slate/ plain tile roofs**

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- 1. Lead front apron
  - 1.1. Thickness: 2.00 or 2.24 mm (Code 5)
  - 1.2. Dimensions
    - 1.2.1. Length: Width of chimney plus not less than 150 mm underlap to each side flashing.
    - 1.2.2. Upstand: Not less than 75 mm.
    - 1.2.3. Cover to roof: Not less than To LSTA recommendation.
  - 1.3. Fixing: Lead wedges into bed joint.
- 2. Lead soakers
  - 2.1. Thickness: 1.25 or 1.32 mm (code 3).
  - 2.2. Dimensions
    - 2.2.1. Length: Slate/ tile gauge + lap + 25 mm.
    - 2.2.2. Upstand: Not less than 75 mm.
    - 2.2.3. Underlap: Not less than 100 mm.
- 3. Lead step flashings
  - 3.1. Thickness: 2.00 or 2.24 mm (Code 5)
  - 3.2. Dimensions
    - 3.2.1. Lengths: Not more than 1500mm.
    - 3.2.2. End to end joints: Laps of not less than 100 mm.
    - 3.2.3. Front end: Turn 75 mm around chimney over apron.
    - 3.2.4. Cover: Overlap to soaker upstands of not less than 65 mm.
  - 3.3. Fixing: Lead wedges at every course.
- 4. Lead back gutter
  - 4.1. Thickness: 2.00 or 2.24 mm (Code 5)
  - 4.2. Dimensions
    - 4.2.1. Length: Width of chimney plus not less than 100 mm overlap to each side flashing.
    - 4.2.2. Upstand: Not less than 100 mm.
    - 4.2.3. Gutter sole: Not less than 150 mm.
    - 4.2.4. Cover up roof: Not less than 225 mm.
- 5. Lead back gutter cover flashing
  - 5.1. Thickness: 2.00 or 2.24 mm (Code 5)
  - 5.2. Dimensions
    - 5.2.1. Length: Width of chimney plus not less than 100 mm overlap to each side flashing.
    - 5.2.2. Cover: Overlap to back gutter upstand of not less than 75 mm.
  - 5.3. Fixing: Lead wedges into bed joint.

## **480 Lead slates**

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- 1. Manufacturer:
- 2. Lead
  - 2.1. Thickness:

### 3. Dimensions

- 3.1. Base: Not less than 400 x 400 mm.
- 3.2. Upstand: Not less than 150 mm, to fit pipe and at angle to suit roof pitch.

## General requirements/ preparatory work

### 510 Workmanship generally

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- 1. **Standard:** In accordance with BS EN 14783 and BS EN 12588 and to BS 6915 and latest edition of 'Rolled lead sheet. The complete manual' published by the Lead Sheet Training Academy.
- 2. **Fabrication and fixing:** To provide a secure, free draining and completely weathertight installation.
- 3. **Operatives:** Trained in the application of lead coverings/ flashings. Submit records of experience on request.
- 4. **Preforming:** Measure, mark, cut and form lead prior to assembly wherever possible.
- 5. **Marking out:** With pencil, chalk or crayon. Do not use scribes or other sharp instruments without approval.
- 6. **Bossing and forming:** Straight and regular bends, leaving sheets free from ripples, kinks, buckling and cracks.
- 7. **Solder:** Use only where specified.
- 8. **Sharp metal edges:** Fold under or remove as work proceeds.
- 9. **Finished work:** Fully supported, adequately fixed to resist wind uplift but also able to accommodate thermal movement without distortion or stress.
- 10. **Protection:** Prevent staining, discolouration and damage by subsequent works.

### 516 Lead-welding

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- 1. **In situ lead-welding:** Is permitted, subject to completion of a 'hot work permit' form and compliance with its requirements.

### 520 Lead sheet

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- 1. **Production method**
  - 1.1. Rolled, to BS EN 12588, or
  - 1.2. Machine cast and BBA-certified, or
  - 1.3. Sand cast, from lead free from bitumen, solder, other impurities, inclusions, laminations, cracks, air, pinholes and blowholes; to code thicknesses but with a tolerance (by weight) of  $\pm 10\%$ .
- 2. **Identification:** Labelled to show compliance with the harmonized standard (hEN) BS EN 14783, where appropriate, and detail of the thickness/ code, weight and type.

### 550 Lightning protection

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- 1. **Lead coverings:** Attach the following to a lightning protection system: TBC.
  - 1.1. **Electrical continuity:** Provide between lead sheets. Discontinuous sections must be separately bonded.

### 555 Layout

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- 1. **Setting out of longitudinal and cross joints:** Submit proposals.

### 560 Control samples

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- 1. **General:** Complete areas of the finished work, and obtain approval of appearance before proceeding:
- 2. **Size:** Not less than 5 m<sup>2</sup>.

3. Location: Submit proposals

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### **570 Existing metal retained**

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1. Type/ Location/ Extent: Pending site survey.
2. Cleaning: Remove dirt without damage to metal or adversely affecting other material.

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### **580 Existing metal reused**

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1. Type/ Location/ Extent: Pending site survey.
2. Handling/ Storage: Keep for reuse in the Works.

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### **585 Existing metal removed to remain the property of the employer**

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1. Type/ Location/ Extent: TBC
2. Removal: Give notice when the metal is to be stripped.
  - 2.1. Handling/ Storage: Keep for reuse by the employer.

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### **610 Suitability of substrates**

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1. Condition: Dry and free of dust, debris, grease and other deleterious matter.

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### **620 Preparation of existing timber substrates**

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1. Remedial work: Adjust boards to level and securely fix. Punch in protruding fasteners and plane or sand to achieve an even surface.
2. Defective boards: Give notice.
3. Moisture content: Not more than 22% at time of covering. Give notice if greater than 16%.

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### **625 Existing membrane**

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1. Defective, unsuitable or missing membrane: Give notice.

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### **627 Existing AVCL**

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1. Defective, unsuitable or missing AVCL: Give notice.

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### **630 Plywood overlay**

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1. Standard: Manufactured to an approved national standard and to BS EN 636, section 8 (plywood for use in humid conditions).
  - 1.1. Sheet size: 2400 or 1200 x 1200 mm and 6 mm thick.
2. Moisture content: Not more than 22% at time of covering. Give notice if greater than 16%.
3. Laying: Parallel to perimeter edges with cross joints staggered and a 0.5-1 mm gap between sheets.
4. Fixing: With 25 mm annular ringed shank copper or stainless steel nails, at 300 mm grid centres over the area of each sheet and at 150 mm centres along edges, set in 10 mm from perimeter edges and in pairs across joints.
  - 4.1. Nail heads: Set flush with or just below the surface.

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### **640 Timber for use with leadwork**

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1. Quality: Planed, free from wane, pitch pockets, decay and insect attack (ambrosia beetle excepted).
2. Moisture content: Not more than 22% at time of fixing and covering. Give notice if greater than 16%.

3. **Preservative treatment:** Organic solvent as section Z12 and Wood Protection Association Commodity Specification C8.

## 645 Building papers Type A

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1. Manufacturer: [Associated Lead Mills](#)
  - 1.1. Contact details
    - 1.1.1. Address: Unit B  
Bingley Road  
Hoddeson  
United Kingdom  
EN11 0NX
    - 1.1.2. Telephone: [+44 \(0\)199 2444100](tel:+44(0)1992444100)
    - 1.1.3. Web: [www.associatedlead.co.uk](http://www.associatedlead.co.uk)
    - 1.1.4. Email: [sales@leadsales.co.uk](mailto:sales@leadsales.co.uk)
  - 1.2. Product reference: [Building Papers](#)
2. Width: 1 m.

## 650 Laying sheet underlay

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1. **Handling:** Prevent tears and punctures.
2. **Laying:** Butt or overlap jointed onto a dry substrate.
  - 2.1. **Fixing edges:** With copper or stainless steel staples or clout nails.
  - 2.2. Do not lay over roof edges but do turn up at abutments.
  - 2.3. **Wood core rolls:** Fixed over sheet underlay.
  - 2.4. **Protection:** Keep dry and cover with lead at the earliest opportunity.

## Fixing lead

## 705 Head fixing lead sheet

---

1. **Top edge:** Secured with two rows of fixings, 25 mm and 50 mm from top edge of sheet, at 75 mm centres in each row, evenly spaced and staggered.
2. **Sheets less than 500 mm deep:** May be secured with one row of fixings, 25 mm from top edge of sheet and evenly spaced at 50 mm centres.

## 710 Fixings

---

1. **Nails to timber substrates:** Copper clout nails to BS 1202-2, or stainless steel (austenitic) clout nails to BS 1202-1.
  - 1.1. **Shank type:** Annular ringed, helical threaded or serrated.
  - 1.2. **Shank diameter:** Not less than 2.65 mm for light duty or 3.35 mm for heavy duty.
  - 1.3. **Length:** Not less than 20 mm or equal to substrate thickness.
2. **Screws to concrete or masonry substrates:** Brass or stainless steel.
  - 2.1. **Diameter:** Not less than 3.35 mm.
  - 2.2. **Length:** Not less than 19 mm.
  - 2.3. **Washers and plastic plugs:** Compatible with screws and lead.
3. **Screws to composite metal decks:** Self tapping as recommended by the deck and lead manufacturer/ supplier for clips.

## 715 Clips

---

1. Manufacturer: Submit proposals

## 2. Material

- 2.1. Lead clips: Cut from sheets of same thickness/ code as sheet being secured.
- 2.2. Copper clips
  - 2.2.1. Thickness: 0.60 mm
  - 2.2.2. Temper: BS EN 1172, designation R220 in welts, seams and rolls, R240 elsewhere; dipped in solder if exposed to view.
- 2.3. Stainless steel clips
  - 2.3.1. Thickness: 0.38 mm
  - 2.3.2. Grade: BS EN 10088-1, 1.4301(304)terne-coated if exposed to view.

## 3. Dimensions

- 3.1. Width: 50 mm where not continuous.
  - 3.2. Length: To suit detail.
4. Fixing clips: Secure each to substrate with either two screw or three nail fixings not more than 50 mm from edge of lead sheet. Use additional fixings where lead downstands exceed 75 mm.
5. Fixing lead sheet: Welt clips around edges and turn over 25 mm.

## 770 Wedge fixing into joints/ Chases

---

- 1. Joint/ chase: Rake out to a depth of not less than 25 mm.
- 2. Lead: Dress into joint/chase.
  - 2.1. Fixing: Lead wedges at not more than 450 mm centres, at every change of direction and with at least two for each piece of lead.
- 3. Sealant:
  - 3.1. Application: As section Z22.

## 770 Wedge fixing into joints/ Chases Type A

---

- 1. Joint/ chase: Rake out to a depth of not less than 25 mm.
- 2. Lead: Dress into joint/chase.
  - 2.1. Fixing: Lead wedges at not more than 450 mm centres, at every change of direction and with at least two for each piece of lead.
- 3. Sealant: Everbuild Lead Mate sealant.
  - 3.1. Application: As section Z22.

## Jointing lead

## 810 Forming details

---

- 1. Method: Bossing or lead-welding except where bossing is specifically required.
- 2. Lead-welded seams: Neatly and consistently formed.
  - 2.1. Seams: Do not undercut or reduce sheet thickness.
  - 2.2. Filler strips: Of the same composition as the sheets being joined.
  - 2.3. Butt joints: Formed to a thickness one third more than the sheets being joined.
  - 2.4. Lap joints: Formed with 25 mm laps and two loadings to the edge of the overlap.
- 3. Bossing: Carried out without thinning, cutting or otherwise splitting the lead sheet.
  - 3.1. Details where bossing must be used:

## 845 Wood-cored roll joints with splash lap

---

- 1. Wood core
  - 1.1. Size: 45 x 45 mm round tapering to a flat base 25 mm wide.

- 1.2. **Fixing to substrate:** Brass or stainless steel countersunk screws at not more than 300 mm centres.
2. **Undercloak:** Dress three quarters around core.
  - 2.1. **Fixing:** Nail to core at 150 mm centres for one third length of the sheet starting from the head.
3. **Overcloak:** Dress around core and extend on to main surface to form a 40 mm splash lap.

## **865 Drips without splash laps**

---

1. **Underlap:** Dress into rebate along top edge of drip.
  - 1.1. **Fixing:** One row of nails at 50 mm centres on centre line of rebate.
2. **Overlap:** Dress over drip to just short of lower level.

## **880 Weltd joints**

---

1. **Joint allowance:** 50 mm overlap and 25 mm underlap.
2. **Copper or stainless steel clips:** Fix to substrate at not more than 450 mm centres.
3. **Overlap:** Welt around underlap and clips and lightly dress down.

Ω End of Section

## M20

# Plastered/ rendered/ roughcast coatings

## Types of coating

### 240 Lime plasters Type A

---

1. Manufacturer: [Lime Green Products Ltd](#)
  - 1.1. Contact details
    - 1.1.1. Address: Coates Kilns  
Stretton Road  
Much Wenlock  
Shropshire  
TF13 6DG
    - 1.1.2. Telephone: +44 (0)1952 728611
    - 1.1.3. Web: [www.lime-green.co.uk](http://www.lime-green.co.uk)
    - 1.1.4. Email: [enquire@lime-green.co.uk](mailto:enquire@lime-green.co.uk)
  - 1.2. Product reference: [Solo® Onecoat Breathable Lime Plaster](#)
2. Components: Selenitic lime, sand and chalk.
3. Standard: To EN 998-1.
4. CompressiveStrength: CS II.
5. Reaction to fire: Class A1.
6. Water vapour permeability: Coefficient  $\mu$  12.
7. Adhesion: 0.35 N/mm<sup>2</sup>, FP: B.
8. ThermalConductivity: 0.76 W/mK (p=90%).
9. Thickness (excluding dubbing out and keys): As manufacturer's recommendations
10. Finish: Smooth
11. Accessories: Timber beads to match existing elsewhere.
12. Application: Ensure substrate is profiled to reinstate curved profile of the existing soffits.

### 240 Lime plasters Type B

---

1. Description: Plaster and Lath Reinstatement and Repair to existing ceilings.
2. Preparation of substrate:: - Plaster key and laths are to be inspected and checked throughout the specified area. Allow time for detailed inspection by the Architect to enable final instructions to be issued for the work.-  
-All timbers including joists and laths are to be inspected for decay by specialist timber preservation company and a report issued to the Architect for consideration of further treatment.  
-Where existing lath and plaster is poorly adhered or damaged, carefully remove. Remove sufficient perimeter plaster to facilitate repair/installation of laths. Clean down reveals to surround framing including removal of any remaining nail fixings.
3. Application:: -Fix new riven oak plaster laths to support structure. New laths should be spaced 1cm apart. Where existing laths are broken or decayed, these are to be cut out with a hacksaw. blade and snapped off  
Allow for pre-drilling both the laths, and supports where applicable. The contractor is to determine the final nail type, gauge and length in accordance with BS 5534 to suit site exposure and withdrawal resistance.  
Setting out: Align parallel wall.  
Lath length (minimum): Sufficient to span over three supports.  
Joints in length: Square cut. Butt centrally on supports. Joints must not occur more than once in any group of four laths on one support. Where the batten gauge is less than 200mm, joints must not occur more than three times within twelve consecutive laths on one support. Additional

battens: Provide additional battens and ridge and eaves to allow double slating, and where unsupported laps in underlay occur between battens, where applicable.  
Nails are to be positioned down the middle of each lath and rafter, and at batten ends are to be driven in at a slight angle towards the centre of the rafter, to minimise the risk of splitting the rafters, and improve pull-out holding. Any laths split during nailing are to be replaced.  
Old plaster and laths are to be thoroughly cleaned and treated with a thin coating of PVA solution (1 part PVA to 10 parts / water) in order to control suction and prevent rapid removal of water from the new plaster.

4. **Materials::**

5. **Fixings::** Fixings: For tendering purposes, allow for grade 304 stainless steel annular ring shank nails to BS EN 1008-3, minimum 8 gauge (2.65mm dia) and 50mm long.
6. **Laths::** - Laths are to be riven from straight-grained oak heartwood, approximately 6mm x 32mm. Laths are to be individually inspected for straightness, knots, waness, fissures and splits prior to use. Untreated to prevent leaching into plasterwork.
7. **Plaster::** Plaster - mature slaked lime putty Lime putty shall be made from quick lime which has been freshly burned and properly slaked, run to putty and matured for not less than two weeks. Lime putty made from dry hydrate or an acetylene by-product (Lamotex) is not acceptable. Before ordering the contractor is to gain confirmation that the putty has been prepared from Quick Lime.  
Sand – well graded, sharp aggregate ranging from up to 3mm through to fines.  
Hair reinforcement :  
Hair should be strong, long and free from grease or other impurities. Well mixed with no clumps of hair.

Render coat lime plaster (9mm) 1 part lime putty 3 parts sand. Coarse stuff is to be reinforced with hair well beaten in, at a rate of 7 kg/m<sup>3</sup>. Render coat is to be cross keyed with a lath scratcher.  
Floating coat (6mm) 1 part lime putty to 3 parts sand reinforced with hair as above. Floating coat to be keyed with a devils float.  
Setting coat (3mm); 3 parts lime putty to 2 parts sand setting coat is to be laid on with a laying on trowel, trowelled and floated and made compact by scouring with a cross grained wood float lubricated with water to prevent shrinkage cracking.  
Lime putty to be fully slaked – 3 months old.

8. **WEATHER AND PROTECTION::** Cold Weather Working - No work involving the preparation of plaster shall be undertaken when the temperature is 5 degree centigrade falling or below 4 degrees centigrade when the temperature is rising.  
Protection  
All work is to be protected from the frost. In warm weather the work is to be similarly damped down to prevent curing occurring too quickly.
9. **SAMPLES::** -Provide a 1m x 1m sample panel in a location to be agreed with the Architect, to be fully representative of the likely finished product.
10. **Finish:** Smooth
11. **Accessories:** Timber beads to match existing elsewhere.
12. **Application:** Ensure substrate is profiled to reinstate curved profile of the existing soffits.

## General

### 413 Samples

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1. **General:** Provide representative samples of the following: Provide representative samples of the following: Lime Green Natural Finish.

### 418 Control samples

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1. **Complete sample areas,** being part of the finished work, in locations as follows: Sample panel 1m<sup>2</sup>

## 423 Uniformity

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1. UNIFORMITY OF COLOUR AND TEXTURE
  - General: Maintain consistent colour and texture. Obtain materials from one source. -- Mix different loads if necessary.

## 424 Special protection of historic plasterwork

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1. General: Prevent damage and disturbance to retained plasterwork.
2. Protection methods: Submit proposals.

## Materials and marking of mortar

### 481 Ready prepared lime putty

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1. Type: Slaked directly from CL 90 quicklime to BS EN 459-1, using an excess of water.
  - 1.1. Maturation: In pits/ containers that allow excess water to drain away.
  - 1.2. Density of matured lime putty: 1.3-1.4 kg/L.
2. Maturation period before use (minimum): 90 days.
3. Storage: Prevent drying out or wetting: Protect from frost.

### 492 Hair reinforcement

---

1. Manufacturer/ Supplier: Submit proposals.
2. Proportions (approximate): 5 kg hair to 1 m<sup>3</sup> of coarse stuff.
3. Condition: Clean, free from grease and other impurities. Well teased before adding to the mix.
4. Distribution: Evenly throughout with no balling into lumps.
5. Storage period for haired mortar (maximum): Four weeks.

### 497 Cold weather

---

1. General: Do not use frozen materials or apply coatings on frozen or frost bound substrates.
2. External work: Avoid when air temperature is at or below 5°C and falling or below 3°C and rising. Maintain temperature of work above freezing until coatings have fully hardened.
3. Internal work: Take precautions to enable internal coating work to proceed without detriment when air temperature is below 3°C.

## Preparing substrates

### 507 ACCEPTANCE OF BACKGROUNDS:

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1. Before preparation or application of coatings ensure that:
  - Backgrounds are secure, adequately true and level to achieve specified tolerances, free from contamination and loose areas, reasonably dry and in a suitable condition to receive specified coatings

### 510 Suitability of substrates

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1. General: Suitable to receive coatings/ backings.
2. Soundness: Free from loose areas and significant cracks and gaps.
3. Cutting, chasing, making good, fixing of conduits and services outlets and the like: Completed.
4. Tolerances: Permitting specified flatness/ regularity of finished coatings.
5. Cleanliness: Free from dirt, dust, efflorescence and mould, and other contaminants incompatible with coatings.

## **541 Bonding agent application**

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1. **General:** To manufacturer recommendations. Apply evenly to substrate to achieve effective bond of plaster/ render coat. Protect adjacent joinery and other surfaces.

## **551 Removal and renewal of existing plaster/ render**

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1. **Location and extent:** Agree, at least on a provisional basis, before work commences. Minimize extent of removal and renewal.

## **566 Removing defective existing plaster**

---

1. **Plaster for removal:** Detached, soft, friable, badly cracked, affected by efflorescence or otherwise damaged.
  - 1.1. **Hollow, detached areas:** Obtain instructions
2. **Stained plaster:** Submit proposals
3. **Removing defective plaster.** Cut back to a square, sound edge.
4. **Faults in substrate (structural deficiencies, damp, etc.):** Submit proposals.
5. **Cracks**
  - 5.1. **Fine hairline cracking/ crazing:** Leave.
  - 5.2. **Other cracks:** Cut out to a width of 75 mm (minimum)
6. **Dust and loose material:** Remove from exposed substrates and edges.

## **568 Existing damp affected plaster/ render**

---

1. **Plaster affected by rising damp:** Submit proposals for extent of removal required.
2. **Perished and salt contaminated masonry**
  - 2.1. **Mortar joints:** Rake out.
  - 2.2. **Masonry units:** Submit proposals.
3. **Faults in substrate (structural deficiencies, additional sources of damp, etc.):** Submit proposals.
4. **Drying out substrates:** Establish drying conditions. Leave walls to dry for as long as possible before plastering.
5. **Dust and loose material:** Remove from exposed substrates and edges.

## **587 Replacing timber laths**

---

1. **Defective plaster and laths:** Remove. Prevent disturbance to adjacent sound plaster.
  - 1.1. **Defective laths:** Cut back to supporting timbers.
  - 1.2. **Cavities:** Keep clear of debris.
2. **Supports for laths:** Sound and firmly fixed. Provide additional supports where necessary.

## **589 Refixing sound timber laths through plaster**

---

1. **Application of repair:** To loose but otherwise sound laths on sound framework.
2. **Method:** Cut out plaster patches to sound, undercut edges. Screw laths back to framework using screws and washers.
  - 2.1. **Screws:** Brass or stainless steel.
  - 2.2. **Washers:** Metal to match screws.
    - 2.2.1. **Inner washer:**
    - 2.2.2. **Outer washer:**
  - 2.3. **Fixing centres:**
3. **Replastering:**

3.1. Finish: Flush with existing.

## 592 Consolidating existing timber lath and plaster ceilings

---

1. **General:** Achieve effective consolidation of plasterwork to supporting structure.
2. **Methods:** Where a larger area of ceiling is hollow and detached from substrate (0.5m<sup>2</sup> or larger), approach repairs as follows:
3. **Support ceiling::** Apply sheeps wool insulation or similar breathable matting on suitable scaffold from below.
4. **Principal joist failure:** Structural repairs should be undertaken with the guidance of a structural engineer.
5. **Secondary joist failure:** Fix new joist to the side of the existing joist or alongside. Screw fix in place.
6. **Lath/nail failure:** Back plastering: Vacuum debris from plaster from above - ensure nibs are not damaged. Dampen surface and lay casting plaster soaked hessian or fibreglass mesh over joists and onto back of plaster.  
OR  
Suspend loose ceiling from above with stainless steel countersunk washers and straps attached to joists. Make good ceiling face.

## Backings/ beads/ joints

### 640 Beads/ stops generally

---

1. **Location:** External angles and stop ends except where specified otherwise.
2. **Corners:** Neat mitres at return angles.
3. **Fixing:** Secure, using longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with substrate.
  - 3.1. **Beads/ stops for external render:** Fix mechanically.
4. **Finishing:** After coatings have been applied, remove surplus material while still wet, from surfaces of beads/ stops exposed to view.

### 659 Plasterboard joints

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1. Joints and angles (except where coincident with metal beads). Reinforce with continuous lengths of jointing tape.

## Mouldings/ decorative plasterwork - Not Used

## Internal plastering

### 710 Application generally

---

1. **Application of coatings:** Firmly and in one continuous operation between angles and joints. Achieve good adhesion.
2. **Appearance of finished surfaces:** Even and consistent. Free from rippling, hollows, ridges, cracks and crazing.
  - 2.1. **Accuracy:** Finish to a true plane, to correct line and level, with angles and corners to a right angle unless specified otherwise, and with walls and reveals plumb and square.
3. **Drying out:** Prevent excessively rapid or localized drying out.

### 715 Flatness/ surface regularity

---

1. **Sudden irregularities:** Not permitted.
2. **Deviation of plaster surface:** Measure from underside of a straight edge placed anywhere on surface.

- 2.1. Permissible deviation (maximum) for plaster not less than 13 mm thick: 3 mm in any consecutive length of 1800 mm.

## **718 Junction of new plasterwork with existing**

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1. New plasterwork: Finish flush with original face of existing plasterwork to form a seamless junction.

## **720 Dubbing out**

---

1. General: Correct substrate inaccuracies.
2. New smooth dense concrete and similar surfaces: Dubbing out prohibited unless total plaster thickness is within range recommended by plaster manufacturer.
3. Thickness of any one coat (maximum): 10 mm.
4. Mix: As undercoat.
5. Application: Achieve firm bond. Allow each coat to set sufficiently before the next is applied. Cross scratch surface of each coat.

## **725 Undercoats generally**

---

1. General: Rule to an even surface. Cross scratch to provide a key for the next coat.
2. Undercoats on metal lathing: Work well into interstices to obtain maximum key.
3. Undercoats gauged with Portland cement: Do not apply next coat until drying shrinkage is substantially complete.

## **742 Thin coat plaster**

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1. Preparation for plasters less than 2 mm thick: Fill holes, scratches and voids with finishing plaster.

## **777 Smooth finish**

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1. Appearance: A tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks. Avoid water brush, excessive trowelling and over polishing.

## **External rendering**

## **840 Undercoats generally**

---

1. General: Rule to an even surface. Comb to provide a key for the next coat. Do not penetrate the coat.
2. Undercoats on metal lathing: Work well into interstices to obtain maximum key.

## **880 Curing and drying**

---

1. General: Prevent premature setting and uneven drying of each coat.
2. Curing coatings: Keep each coat damp by covering with polyethylene sheet and/ or spraying with water.
  - 2.1. Curing period (minimum): Comply with manufacturers recommendations.
  - 2.2. Final coat: Hang sheeting clear of the final coat.
3. Drying: Allow each coat to dry thoroughly, with drying shrinkage substantially complete before applying next coat.
4. Protection: Protect from frost and rain.

Ω End of Section

## P10

# Sundry insulation/ proofing work

### Clauses

#### 1 Sundry insulation/ proofing work

---

1. Flat ceilings: Insulation laid between and over rafters.
2. Sloped ceilings: Rigid Insulation laid to internal side of existing lath and plaster.

### Types of insulation

#### 110 Eaves roof ventilators for existing roofs

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1. Manufacturer: Refer to H62
  - 1.1. Product reference:
2. Eaves free air space (minimum): As recommended in BRE Report 262.

#### 125 Mineral wool slab insulation Type A

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1. Manufacturer:
  - 1.1. Product reference: [ROCKWOOL® Roll / Twin Roll / Rollbatt \(ROCKWOOL Roll\)](#)
2. Manufacturer: [ROCKWOOL Ltd](#)
  - 2.1. Contact details
    - 2.1.1. Address: ROCKWOOL Ltd  
14th Floor, Chiswick Tower  
389 Chiswick High Road  
London  
W4 4AJ
    - 2.1.2. Telephone: [+44 \(0\)1656 862621](tel:+44201656862621)
    - 2.1.3. Web: <https://www.rockwool.com/uk/>
    - 2.1.4. Email: [info@rockwool.com](mailto:info@rockwool.com)
3. General requirements: Insulation products generally.
4. Standard: To BS EN 13162, ISO 14001.
5. Thickness: 200 mm.
6. Edges: Square. No gaps.
7. Thermal conductivity (maximum): 0.044 W/mK.
8. Fire performance: To 13501-1, Euroclass A1.
9. Vapour resistivity: 5.9 MN·s/gm.
10. U-value: 0.24W/m2K
11. Installation requirements
  - 11.1. Installation standard: To BS 5803-5
  - 11.2. Joints: Butted, no gaps.
  - 11.3. Insulation at perimeter: Refer to details.
  - 11.4. Eaves ventilation: Unobstructed.
  - 11.5. Service holes: Sealed, and debris removed before laying insulation.
  - 11.6. Electric cables overlaid by insulation: Sized accordingly.

## 185 Wood fibre batt insulation Type A

---

1. Manufacturer:
  - 1.1. Product reference: [Warmshell Woodfibre Insulation Boards \(Square edge - 130 kg/m<sup>3</sup> density \)](#)
2. Manufacturer: [Lime Green Products Ltd](#)
  - 2.1. Contact details
    - 2.1.1. Address: Coates Kilns  
Stretton Road  
Much Wenlock  
Shropshire  
TF13 6DG
    - 2.1.2. Telephone: [+44 \(0\)1952 728611](#)
    - 2.1.3. Web: [www.lime-green.co.uk](#)
    - 2.1.4. Email: [enquire@lime-green.co.uk](mailto:enquire@lime-green.co.uk)
3. Standard: To EN 13171.
4. Thickness: 160 mm.
5. Density: 130 kg/m<sup>3</sup>.
6. Edges: Square.
7. Thermal conductivity (maximum): 0.040 W/(mK).
8. Fire performance: To EN 13501–1, Class E.
9. Installation requirements:
  - 9.1. Joints: Butted, no gaps.
  - 9.2. Fixing: To manufacturer recommendations

## 320A Breather membrane

---

1. To main roof
2. Manufacturer: DuPont Tyvek.
  - 2.1. Web: [www.construction.tyvek.co.uk](#).
  - 2.2. Email: [tyvek.construction@dupont.com](mailto:tyvek.construction@dupont.com).
  - 2.3. Product reference: Tyvek® Supro
3. Roll size: 1.5 x 50 m
4. Accessories: Tyvek® Double Sided Acrylic Tape
5. Standard:
6. Installation requirements
  - 6.1. Setting out: Joints minimized. Membrane to form a continuous barrier to prevent water, snow and wind blown dust reaching the substrate.
  - 6.2. Method of fixing: To manufacturer's recommendations.
  - 6.3. Joints: Lapped 100 mm minimum horizontally and 150 mm minimum vertically.
  - 6.4. Openings: Membrane fixed to reveals.
  - 6.5. Bottom edges: Membrane lapped over flashings, sills, etc. to allow free drainage to the exterior.
7. Penetrations: Sealed.

Ω End of Section

# R10

## Rainwater drainage systems

### Clauses

#### 2 To be read with preliminaries/ general conditions.

---

### General

#### 110 Gravity rainwater drainage system

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1. Rainwater outlets: Rainwater collector units
2. Gutters: Lead as section H71
3. Pipework: Cast iron, spigot and socket
4. Below ground drainage: Not applicable
5. Disposal: To surface water drainage
6. Controls: Not applicable

### System performance

#### 221 Collection and distribution of rainwater

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1. General: Complete, and without leakage or noise nuisance.

#### 230 Design parameters - general

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1. Roof and gutter construction and finish: Lead on backing paper on Wbp plywood
2. Design rate of rainfall: As BS EN 12056-3, National Annex NB.2.
  - 2.1. Category: 4
3. Design life of building: 30 years
4. Available capacity of existing below ground drainage (maximum): Not applicable existing drains to existing roof

### Products

#### 360A Sealant

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1. Manufacturer: To RWP manufacturer recommendations.
2. Colour: Black

#### 380 Cast iron pipework - spigot and socket

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1. Manufacturer: Hargreaves Foundry or submit proposals.
2. Type: With projecting ears
3. Nominal size: Contractor to determine.
4. Finish as supplied: Prepainted semigloss black
  - 4.1. Fixings: Stainless steel screws
    - 4.1.1. Size: To manufacturer recommendations.

## Custom made products - Not Used

### Execution

#### 600 Preparation

---

1. Work to be completed before commencing work specified in this section
  - 1.1. Below ground drainage. Alternatively, make temporary arrangements for dispersal of rainwater without damage or disfigurement of the building fabric and surroundings.
  - 1.2. Painting of surfaces which will be concealed or inaccessible.

#### 605 Installation generally

---

1. Electrolytic corrosion: Avoid contact between dissimilar metals where corrosion may occur.
2. Plastics and galvanized steel pipes: Do not bend.
3. Allowance for thermal and building movement: Provide and maintain clearance as fixing and jointing proceeds.
4. Protection
  - 4.1. Fit purpose made temporary caps to prevent ingress of debris.
  - 4.2. Fit access covers, cleaning eyes and blanking plates as the work proceeds.

#### 610 Fixing and jointing gutters

---

1. Joints: Watertight
2. Brackets: Securely fixed.
  - 2.1. Fixings: Bolted into masonry
    - 2.1.1. Fixing centres: 900 mm
  - 2.2. Additional brackets: Where necessary to maintain support and stability, provide at joints in gutters and near angles and outlets.
3. Roofing underlay: Dressed into gutter.

#### 630 Installing rainwater outlets

---

1. Fixing: Secure. Fix before connecting pipework.
  - 1.1. Method: Support plate and clamp
2. Junctions between outlets and pipework: Accommodate movement in structure and pipework.

#### 635 Fixing pipework

---

1. Pipework: Fix securely, plumb and/ or true to line.
2. Branches and low gradient sections: Fix with uniform and adequate falls to drain efficiently.
3. Externally socketed pipes and fittings: Fix with sockets facing upstream.
4. Additional supports: Provide as necessary to support junctions and changes in direction.
5. Vertical pipes
  - 5.1. Provide a loadbearing support at least at every storey level.
  - 5.2. Tighten fixings as work proceeds so that every storey is self supporting.
  - 5.3. Wedge joints in unsealed metal pipes to prevent rattling.
6. Wall and floor penetrations: Isolate pipework from structure.
  - 6.1. Pipe sleeves: As section P31.
  - 6.2. Masking plates: Fix at penetrations if visible in the finished work.
7. Expansion joint pipe sockets: Fix rigidly to buildings. Elsewhere, provide brackets and fixings that allow pipes to slide.

## 640 Fixing vertical pipework

---

1. Bracket fixings: Bolted into masonry
2. Distance between bracket fixing centres (maximum): 900 mm

## 650 Jointing pipework and gutters

---

1. General: Joint with materials and fittings that will make effective and durable connections.
2. Jointing differing pipework and gutter systems: Use adaptors intended for the purpose.
3. Cut ends of pipes and gutters: Clean and square. Remove burrs and swarf. Chamfer pipe ends before inserting into ring seal sockets.
4. Jointing or mating surfaces: Clean and, where necessary, lubricate immediately before assembly.
5. Junctions: Form with fittings intended for the purpose.
6. Jointing material: Strike off flush. Do not allow it to project into bore of pipes and fittings.
7. Surplus flux, solvent jointing materials and cement: Remove.

## 655 Jointing internal pipework

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1. Jointing: Cold caulking compound

## 675 Cutting coated pipework and gutters

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1. Cutting: Recoat bare metal.

## 680 Fixing insulation to internal pipelines and gutters

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1. Fixing: Secure and neat. Provide continuity at supports and leave no gaps. Fix split pipe insulation with the split on 'blind' side of pipeline.
  - 1.1. Method: Mechanical fasteners
2. Timing: Do not fit insulation until completion of pipe airtightness or leakage testing.

## 690 Electrical continuity - pipework

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1. Joints in metal pipes with flexible couplings: Clips (or suitable standard pipe couplings) supplied for earth bonding by pipework manufacturer to ensure electrical continuity.

## 695 Electrical continuity - gutters

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1. Joints in metal gutters: Purpose made links supplied by the gutter manufacturer to ensure electrical continuity.

## 700 Access for testing and maintenance

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1. General: Install pipework and gutters with adequate clearance to permit testing, cleaning and maintenance, including painting where necessary.
2. Access fittings and rodding eyes: Position so that they are not obstructed.

## Completion

### 900 Testing generally

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1. Dates for testing: Give notice.
  - 1.1. Period of notice (minimum): 5 Days
2. Preparation
  - 2.1. Pipework: Complete, securely fixed, free from defects, obstruction and debris before testing.
3. Testing

- 3.1. Supply clean water, assistance and apparatus.
- 3.2. Do not use smoke to trace leaks.
4. Records: Submit a record of tests.

## **905 Internal pipework test - England, Wales, Ireland and Northern Ireland**

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1. Preparation: Temporarily seal open ends of pipework with plugs.
2. Test apparatus: Connect a 'U' tube water gauge and air pump to pipework via a plug.
3. Testing: Pump air into pipework until gauge registers 38 mm.
4. Required performance
  - 4.1. Allow a period for temperature stabilization, after which the pressure of 38 mm is to be maintained without loss for at least 3 minutes.

## **910 Gutter test**

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1. Preparation: Temporarily block all outlets.
2. Testing: Fill gutters to overflow level and after 5 minutes closely inspect for leakage.

## **915 Maintenance instructions**

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1. General: At completion, submit printed instructions recommending procedures for maintenance of the rainwater installation, including full details of recommended inspection, cleaning and repair procedures.

## **920 Immediately before handover**

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1. Construction rubbish, debris, swarf, temporary caps and fine dust which may enter the rainwater system: Remove. Do not sweep or flush into the rainwater system.
2. Access covers, rodding eyes, outlet gratings and the like: Secure complete with fixings.

Ω End of Section



Specification created using NBS Chorus