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*Design Co-operative*

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**FUSIONS JAMEEN SELF BUILD CO-OPERATIVE  
BROCKLEY PARK / LOWTHER HILL**

PLOT

**C**

# CONSTRUCTION MANUAL

**MAY 1992**

REVISED  
ADDED TO

**26/8/92**

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The instructions are grouped with the drawings and schedule of materials required for each stage of the construction process in sequence.

The following is a list of the sections in this manual, which will be added as work progresses to each stage.

Included in this second pack is the section on roofing.

**CONTENTS:**

*OUTLINE SPECIFICATION*

*PROJECT PLANNING*

*TAKING LEVELS OFF FOUNDATIONS*

*FRAMING*

*JOISTS AND NOGGINS*

*BRACING*

**ROOF**

CARCASSING SERVICES

FLOORS

EXTERNAL WALLS

WINDOWS AND DOORS

RAINWATER

LIGHTING CARCASS

SERVICE INSTALLATIONS

INTERNAL PARTITIONS

INTERNAL DOORS

CEILINGS

FINISHING

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## ROOF

The Roof is constructed of a roof deck fixed flat, covered with a proprietary single layer roofing membrane - laid loose, and with a layer of gravel to weigh it down and protect it. The roof should retain water over its whole area to act as a coolant.

Walter Segal's design of roof is for a floating waterproof layer which is allowed to expand and contract in differing weather situations and also not fixed to the deck thus allowing the deck to move freely and differently from the felt. This arrangement has cured the faults commonly found in flat roofs.

The only openings through the roof are for the rain water outlets and they are positioned in the overhang, so that if it should leak it should not damage the interior of the house.

The roof capping is to stop the roofing membrane turning over at the edges in high winds and to finish of the edge of the membrane - it does not hold it down.

The attached drawings explain the arrangement graphically.

Drawings 290/D/5 and 290/D/6 show the whole arrangement of the roof in relation to the walls, and are provided for you information only at this stage.

Drawings 290/DC/5 and 290/DC/6 are the relevant drawings in this case and should be read in conjunction with the following explanation.

### METHOD:

#### *Before roof finish:*

- 1) Fix 50 x 75 noggins between joists, with top edge level with top edge of joists, and side edge flush against the roof noggins which you have already installed. This is shown on drawing 290/DC/5.
- 2) Lay out rolls of debris netting over top of roof joists, stretch netting taught and fix with staple gun into joists and to the 50 x 75 edge noggin. Allow minimum of 150mm overlap of edges. It is important that the netting does not sag between joists.
- 3) Screw 50 x 75 battens on top of joists with 4½" or 5" no 10 supascrews at 650 c/cs, along full length of every joists.
  - Note that at each end of the joists the battens overhang the joists by 30mm (see drawing 290/DC/5).
  - Note also that the battens on top of the edge joists overhang along their length by 10mm (see drawing 290/DC/6)
- 4) Fix the roof deck of tongued and grooved 'Sterling Board' using 50mm ring shank nails at 300 mm centres. The joints must be glued using white PVA wood glue. The boards run lengthways across the joists, and it is not necessary for joints to line up with joists.
  - Note - aim to fix the roof decking only a few days prior to the day on which you are proposing to lay the roof membrane, so that the sterling board is not left exposed to the weather
- 5) Cut opening for roof outlet with a jigsaw.
- 6) Screw triangular arris at perimeter with no 10 screws - from above through into the sterling board and batten - and from below through the sterling board into the arris. Mitre at the roof corners.

#### *Roof finish*

You will have a training session with the manufacturer of the roof membrane, so full instruction are not given here for the roof finish. However, in summary the main stages are as follows.

- 7) Lay roof underlay over the sterling board and position metal angle over arris along roof edge.
- 8) Roof membrane laid out over roof with overlaps between sheets and with metal angle heat

welded together.

- 9) Lay roof overlay over roof membrane to protect from shingle.
- 10) Lay shingle to an even depth of 30mm over entire roof. This is to weight down the membrane and prevent it blowing away

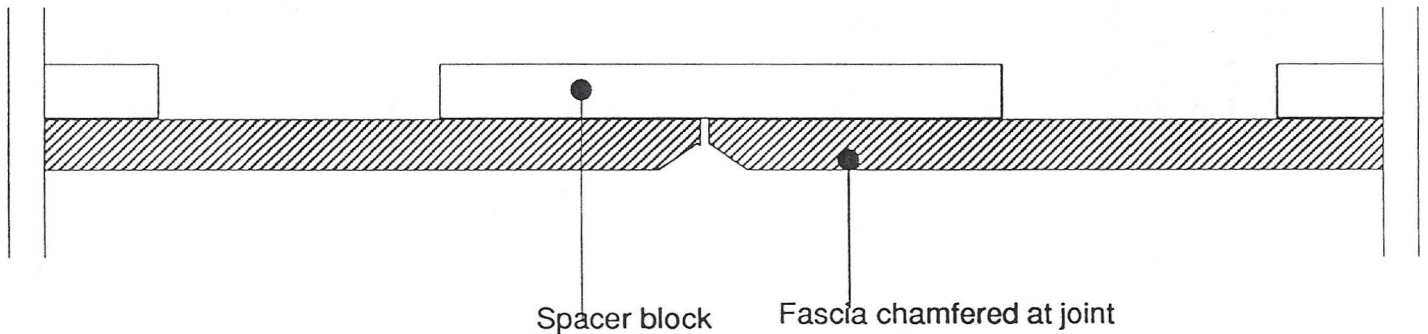
### *After roof finish*

The roof capping to the edge of the roof is in two parts -

- the downstand fascia and
- the capping

The two parts are fixed together to form an L shaped section and it is fixed to the roof through spacer blocks. The fascia and the capping should be primed prior to fixing with two coats of Auro resin oil primer ref 121. (The first coat is brush applied very wet, allowed to soak into the wood, with excess removed with a cloth after 15 minutes. This should be allowed to dry for 24 to 48 hours. The second coat is brush applied thinly, without excess and should be allowed to dry for 24 to 48 hours prior to the wood being fixed)

- 11) Cut the 32 x 75 blocks lengths into pieces 300mm long. Screw these to the arris as shown on the drawings with 3" no 10 screws, with 150mm between each spacer block.
- 12) Screw the downstand fascia to the blocks, with 3" no 10 screws. Do not mitre corners but overlap the corners by 5 mm to give a neat finish. Joints along the length of the fascia to be butt jointed with a "V" slot as follows. It is important that this joint occurs over a spacer block.



- 13) Drill roof capping and fix to capping fascia with 2&1/2" no 10 screws, leave 10mm overhang at front to act as drip. Joints are simply butted, and should be located in a different position to the joints in the fascia. Mitre corners and fix with 6 mm timber dowelling glued in place.
- 14) Take shelter under roof when it starts to rain, and congratulate yourself on having no leaks!!



Job	brockley park
For	fusion lameen / chisel

Title	Wall/Roof Section Detail
Number	290/DC/6
Scale	1:5
Date	8/92

After roof finish:

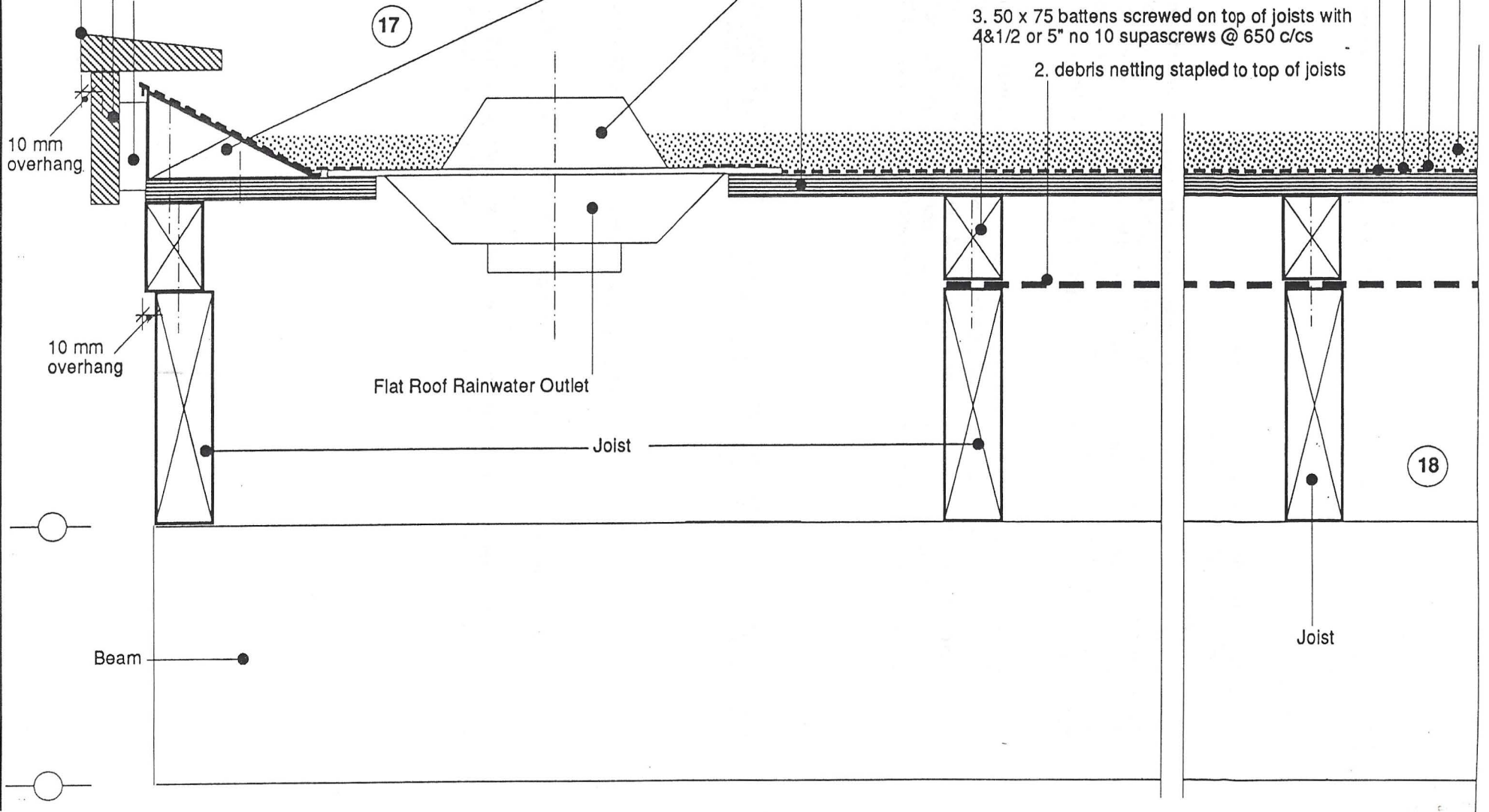
- 13. capping screwed into fascia with 2&1/2" no 10
- 12. fascia screwed into blocks with 3" no 10 supascrews
- 11. blocks 300mm long screwed into arris with 3" no 10 supascrews - 150mm gap between blocks

Before roof finish:

- 6. arris screwed with no 10 screwed from above through into sterling board & batten, and from below through sterling board into arris

Roof finish:

- 10. 30mm layer of shingle laid over
- 9. overlay laid over roof
- 8. roof membrane installed
- 7. underlay laid over roof



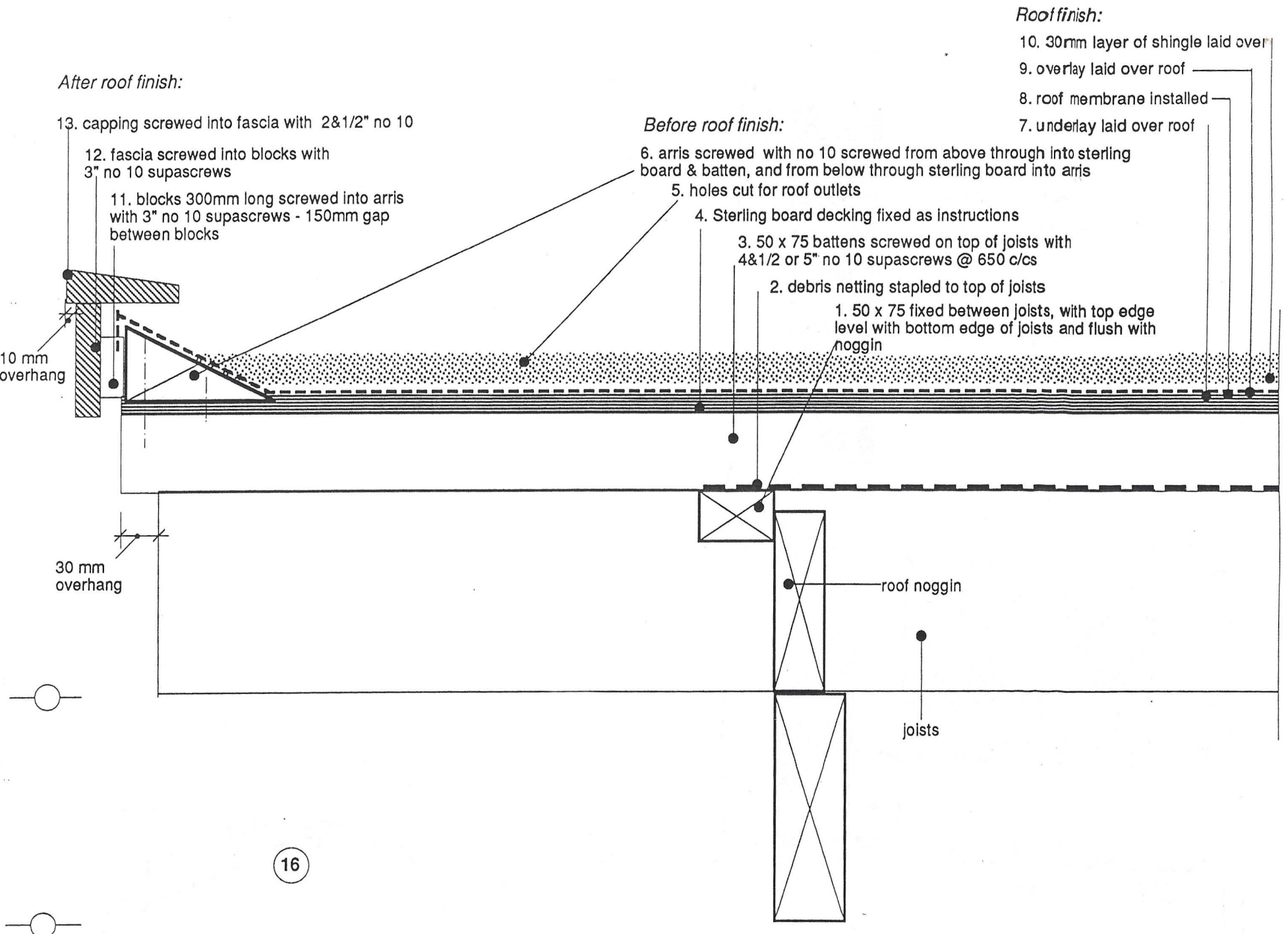
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 Design Co-ordinates

Job	brockley park
For	fusions jamneen / chisel
Title	Wall/Roof Section Details
Number	290/DC/5
Scale	1:5
Date	8/92



After roof finish:

- 13. capping screwed into fascia with 2&1/2" no 10
- 12. fascia screwed into blocks with 3" no 10 supascrews
- 11. blocks 300mm long screwed into aris with 3" no 10 supascrews - 150mm gap between blocks

Before roof finish:

- 6. aris screwed with no 10 screwed from above through into sterling board & batten, and from below through sterling board into aris
- 5. holes cut for roof outlets
- 4. Sterling board decking fixed as instructions
- 3. 50 x 75 battens screwed on top of joists with 4&1/2 or 5" no 10 supascrews @ 650 c/cs
- 2. debris netting stapled to top of joists
- 1. 50 x 75 fixed between joists, with top edge level with bottom edge of joists and flush with noggin

Roof finish:

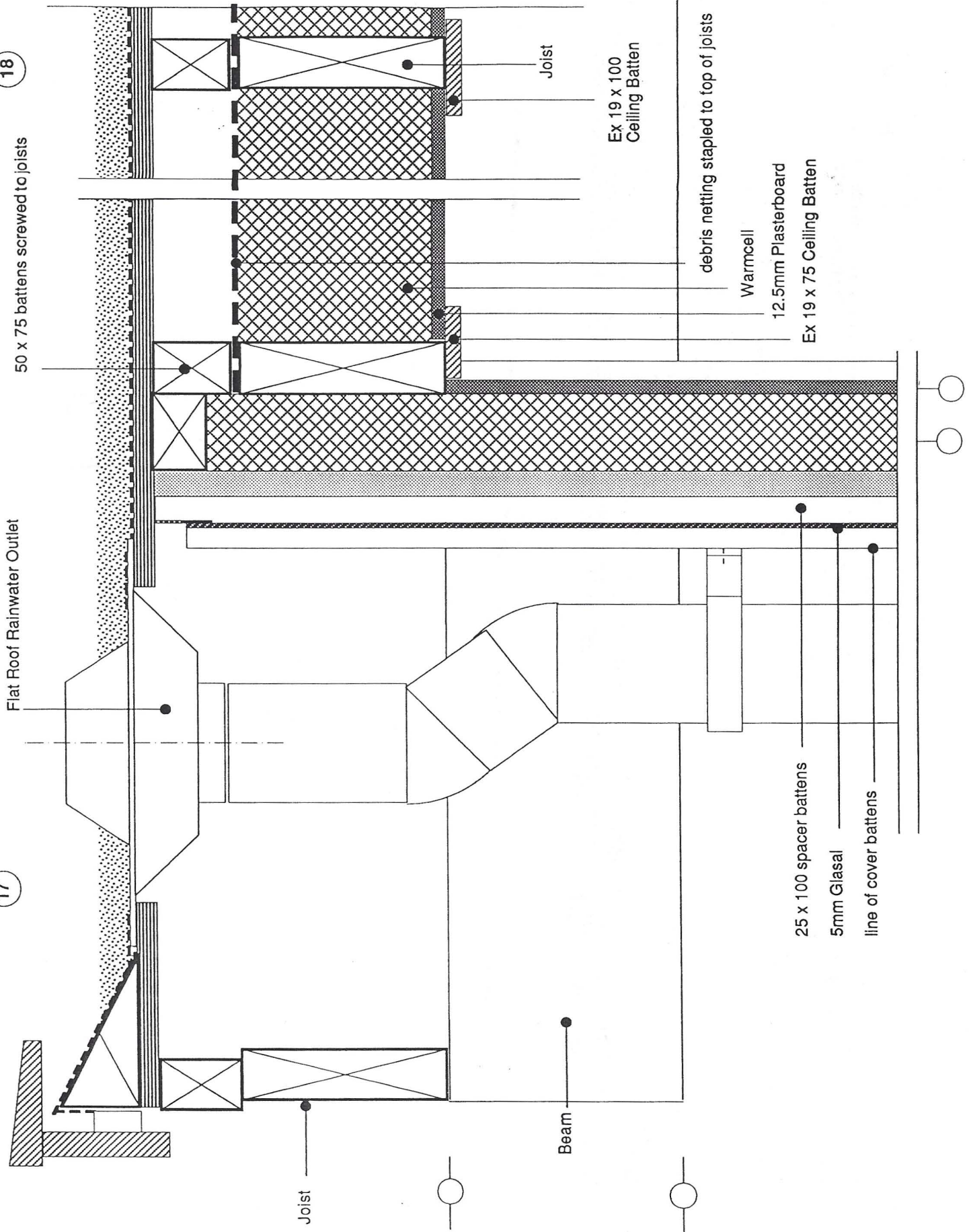
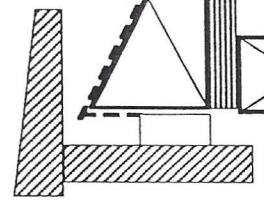
- 10. 30mm layer of shingle laid over
- 9. overlay laid over roof
- 8. roof membrane installed
- 7. underlay laid over roof

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50 x 75 battens screwed to joists

Flat Roof Rainwater Outlet

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Joist

Ex 19 x 100 Ceiling Batten

debris netting stapled to top of joists

Warmcell

12.5mm Plasterboard

Ex 19 x 75 Ceiling Batten

Joist

Beam

25 x 100 spacer battens

5mm Glasal

line of cover battens

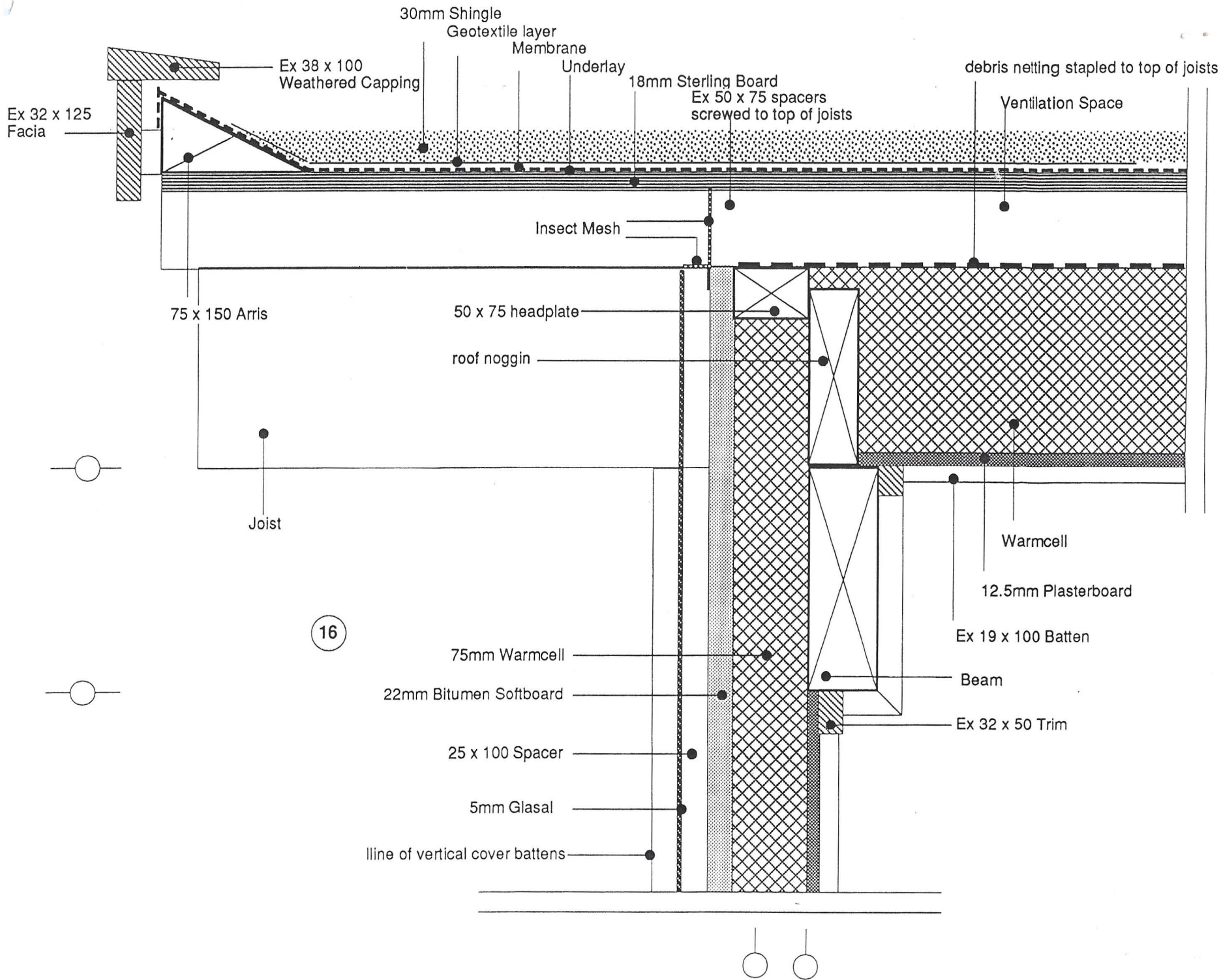
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Job <b>brockley park</b>	Title <b>Wall/Roof Section Detail</b>	Scale <b>1:5</b>
For <b>fusion jameen / chisel</b>	Number <b>290/D/6</b>	Date <b>12/91</b>
		<b>B</b>

Rev A: 8/7/92: ventilation detail revised Rev B: 25/8/92: vent batten direction changed





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Job	brockley park	Title	Wall/Root Section Details	Scale	1:5
For	fusions jameen / chisel	Number	290/D/5	Date	12/91
					B

Rev A: 8/7/92: ventilation detail revised, arris modified Rev B: 25/8/92: direction of vent battens altered