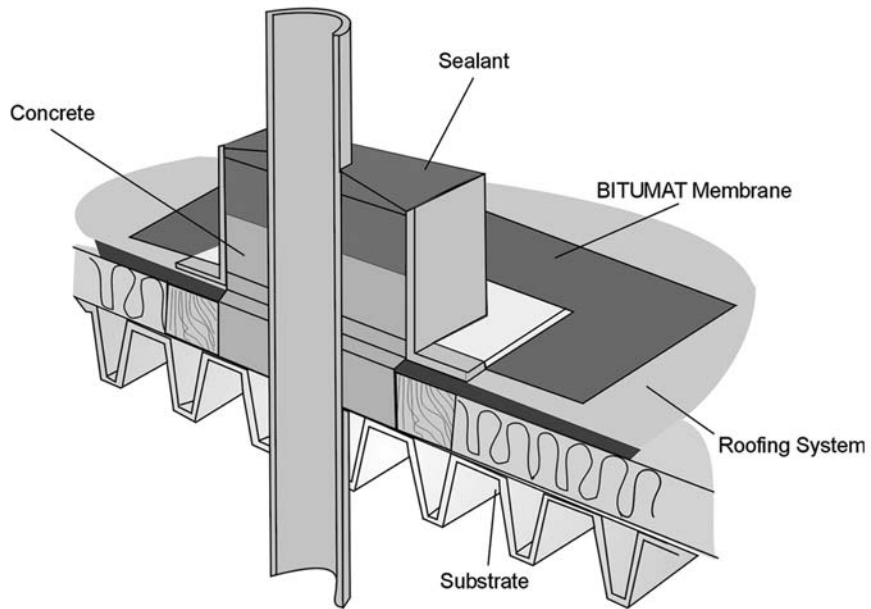


BITUMAT

**TECHNICAL
DRAWINGS
FILE**

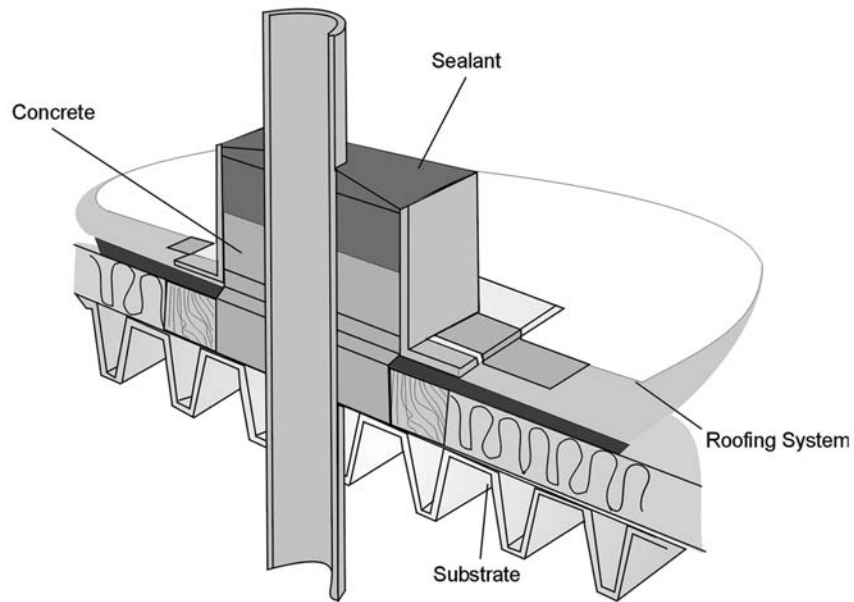
TECHNICAL DRAWINGS LIST

- * Roofing Applications**
- * Single Layer Covered Systems**
- * Two Layers Covered Systems**
- * Two Layers Exposed Systems**
- * Roofing Over Concrete Deck**
- * Roofing Over Steel Deck**
- * Underground Tanking Systems**
- * Wet Rooms Waterproofing Systems**
- * Bituseal Dampproofing Systems**
- * Bridge Deck Waterproofing Systems**
- * Drain Details**
- * Roof Garden Waterproofing Systems**
- * Pipe Penetrations**
- * Pile Treatments**



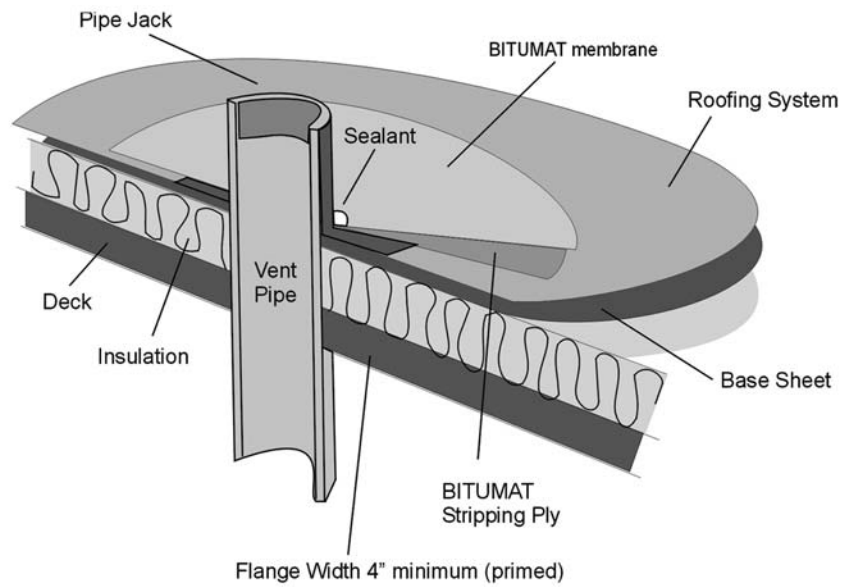
PITCH POCKET FLASHING DETAILS 1

**ROOFING APPLICATIONS
(BITUMAT TECHNICAL DRAWING)**



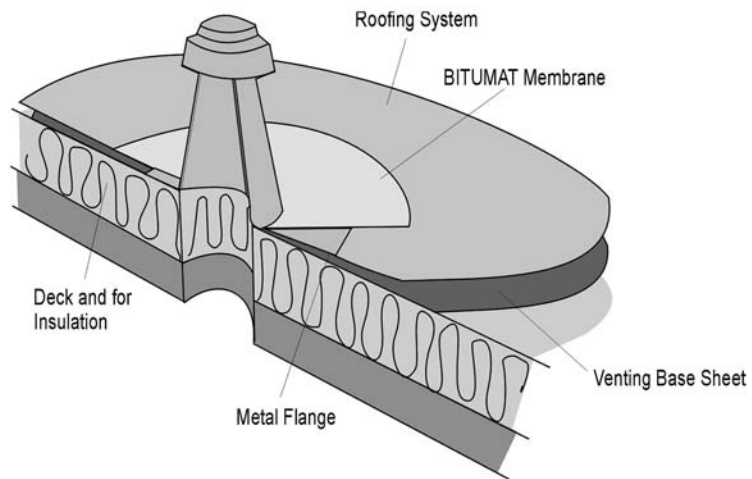
PITCH POCKET FLASHING DETAILS 2

**ROOFING APPLICATIONS
(BITUMAT TECHNICAL DRAWING)**



VENT PIPE DRESSING

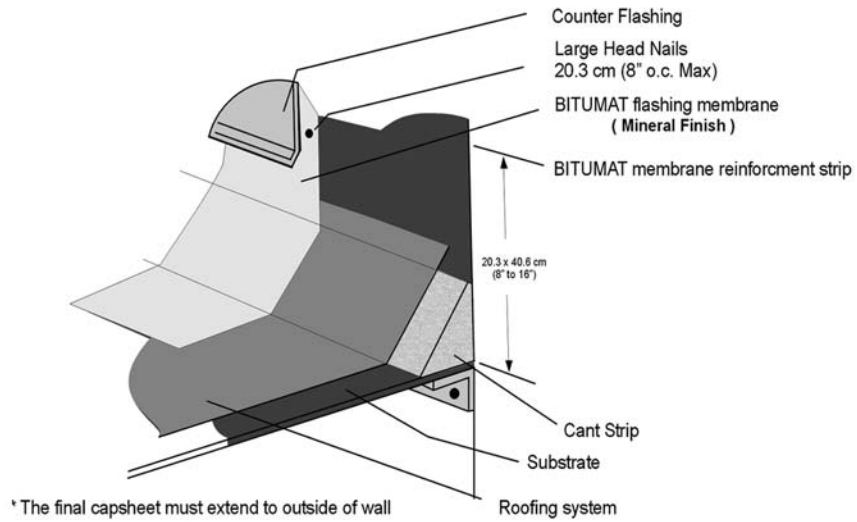
**ROOFING APPLICATIONS
(BITUMAT TECHNICAL DRAWING)**



MOISTURE VENT FLASHING

BITUMAT بیتومات

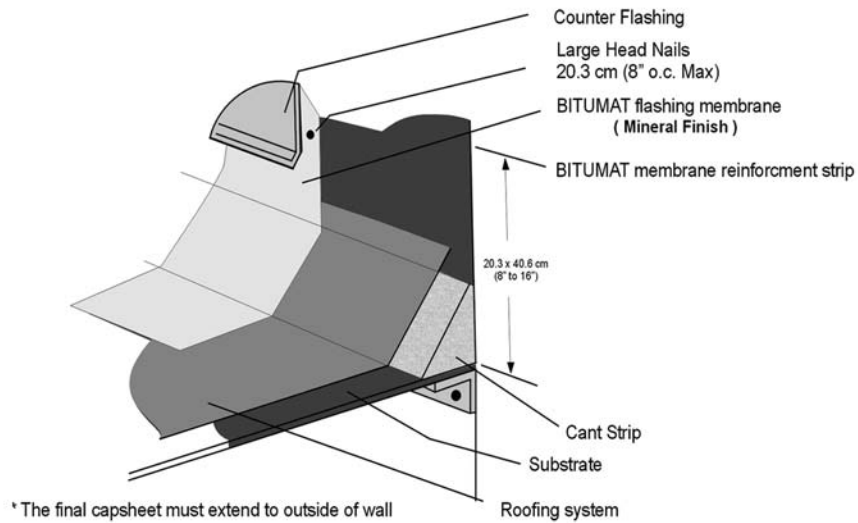
ROOFING APPLICATIONS (BITUMAT TECHNICAL DRAWING)



SINGLE LAYER APPLICATION DETAILS

BITUMAT بیتومات

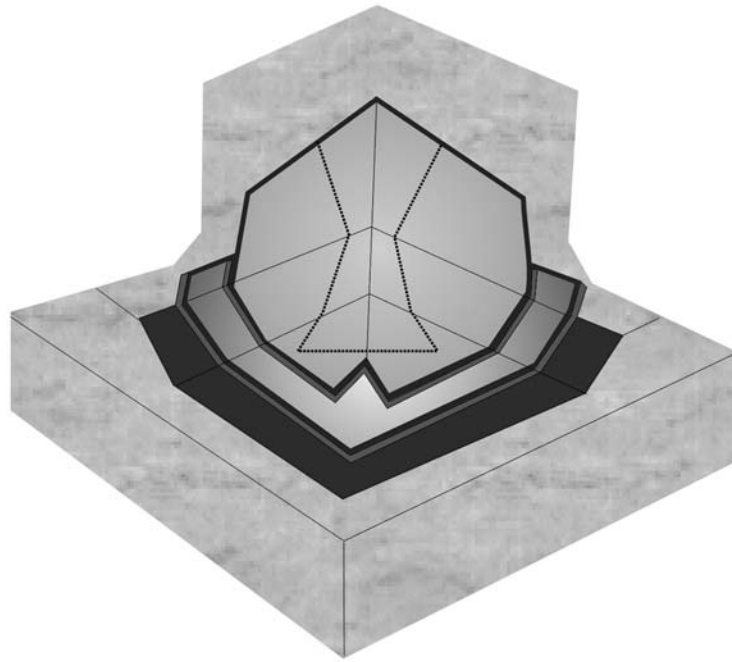
**ROOFING APPLICATIONS
(BITUMAT TECHNICAL DRAWING)**



SINGLE LAYER APPLICATION DETAILS

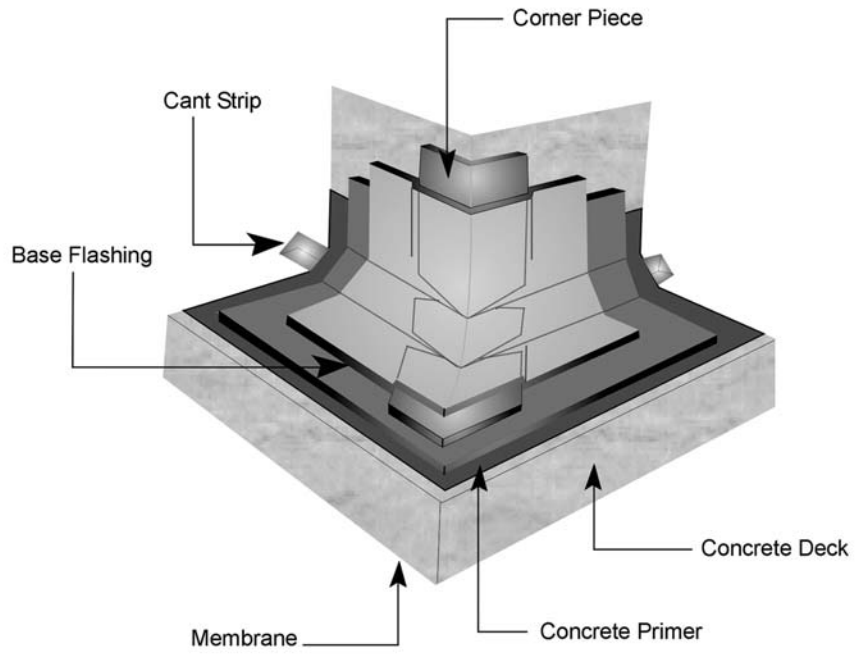
BITUMAT |  **بيتومات**

**ROOFING APPLICATIONS
(BITUMAT TECHNICAL DRAWING)**



CONCRETE DECK INTERNAL VIEW

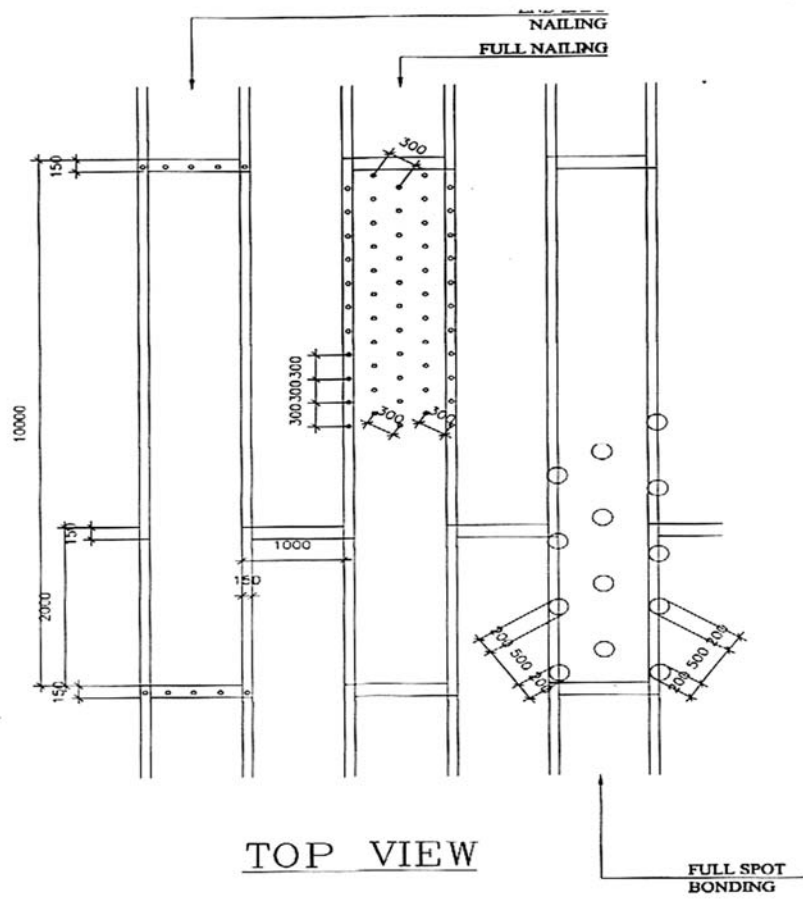
Concrete Deck - Corner View



CONCRETE DECK EXTERNAL VIEW

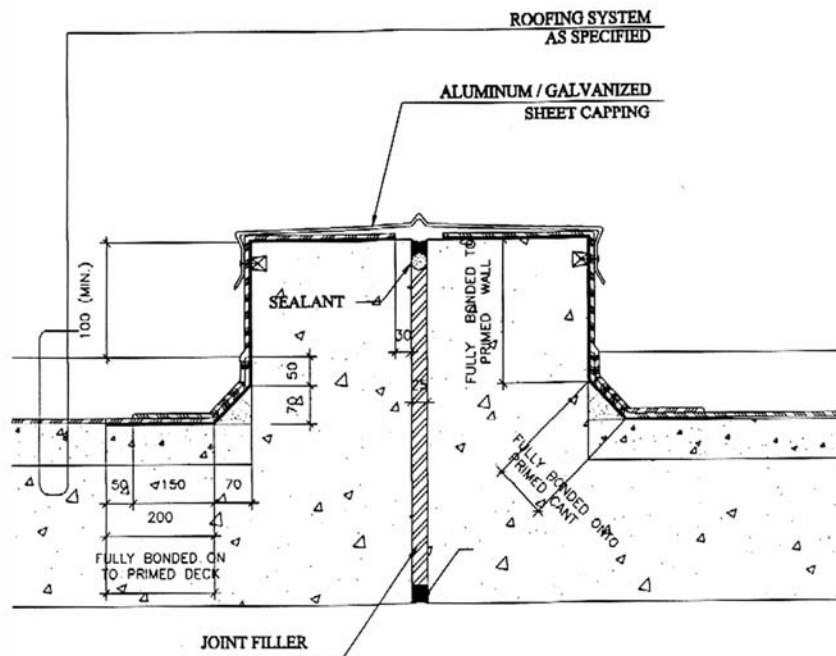
BITUMAT  **بيتومات**

**ROOFING OVER CONCRETE DECK
(BITUMAT TECHNICAL DRAWING)**



NAILING AND SPOT BONDING

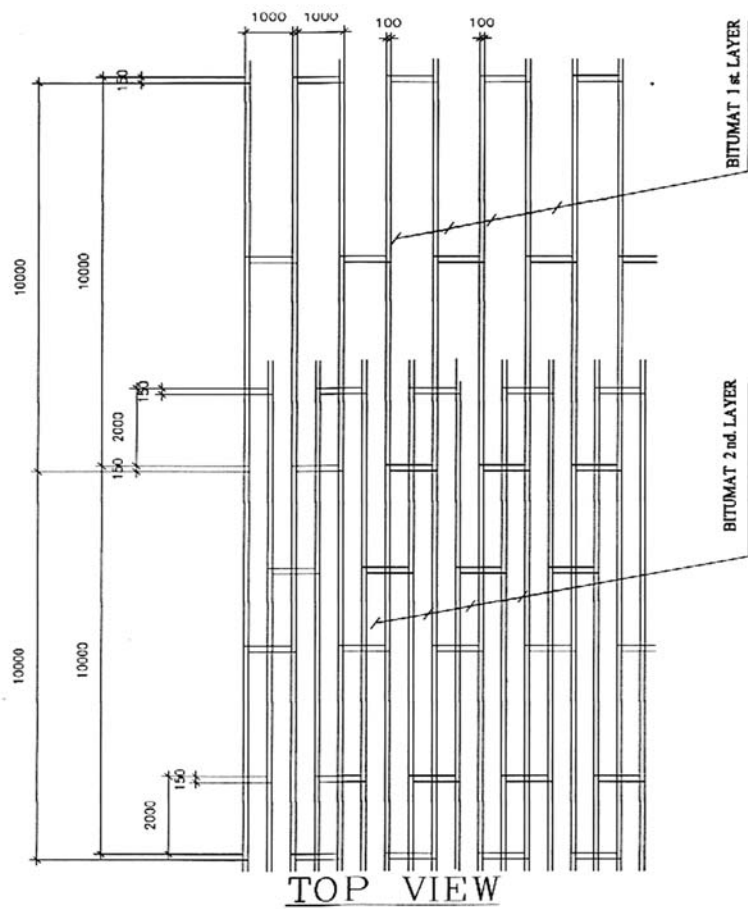
**ROOFING OVER CONCRETE DECK
(BITUMAT TECHNICAL DRAWING)**



EXPANSION JOINTS ON RIBS-1

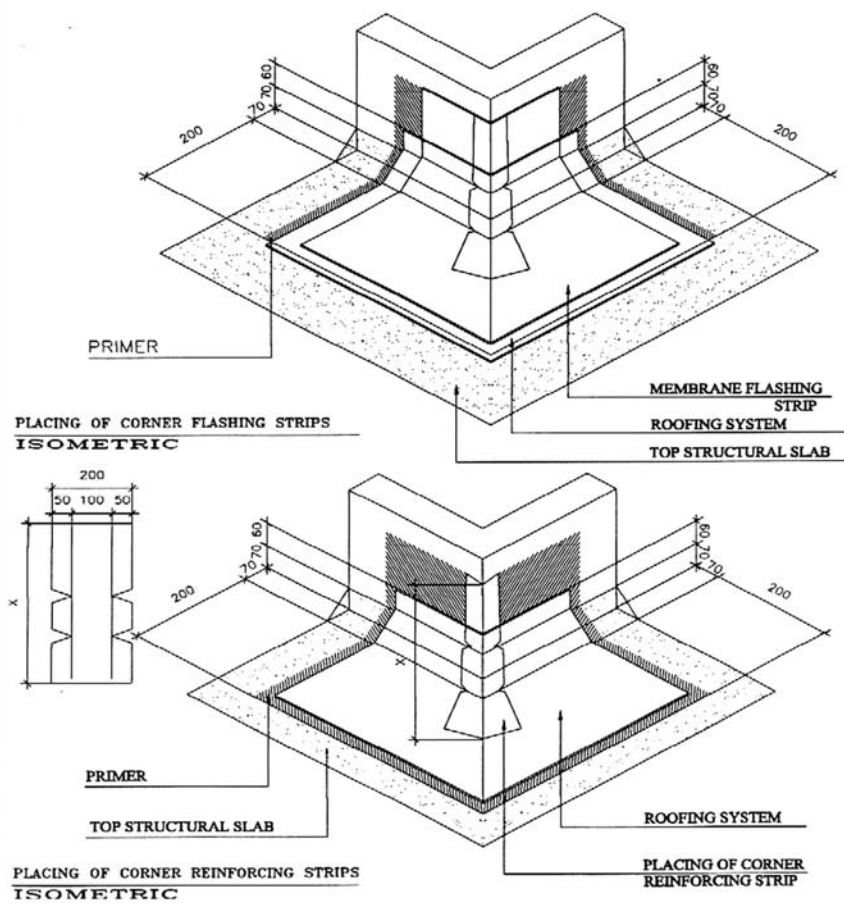
BITUMAT  **بيتومات**

**ROOFING OVER CONCRETE DECK
(BITUMAT TECHNICAL DRAWING)**



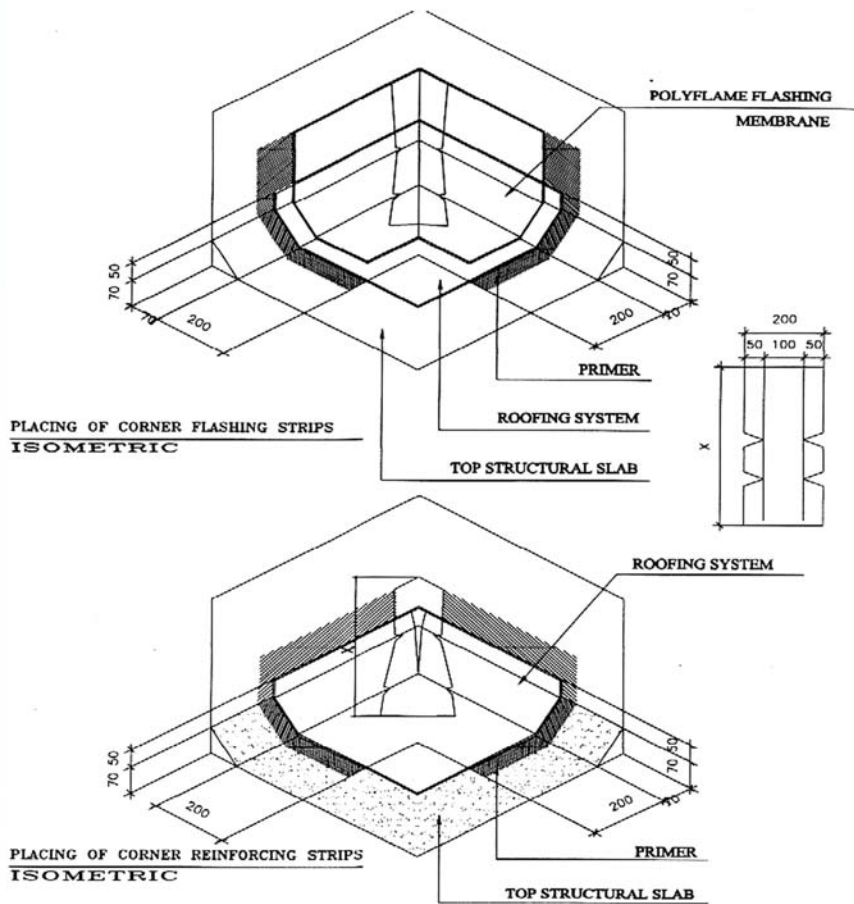
TWO LAYER SYSTEMS OVERLAPPING

**ROOFING OVER CONCRETE DECK
(BITUMAT TECHNICAL DRAWING)**



EXTERNAL CONCRETE TREATMENT

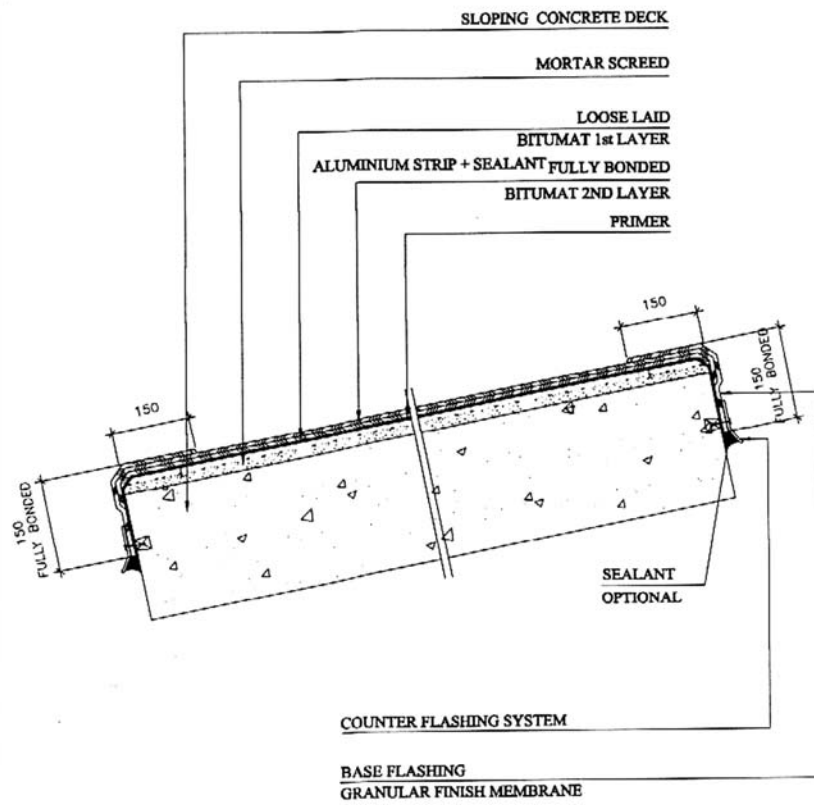
**ROOFING OVER CONCRETE DECK
(BITUMAT TECHNICAL DRAWING)**



INTERNAL CONCRETE TREATMENT

BITUMAT بیتومات

ROOFING OVER CONCRETE DECK (BITUMAT TECHNICAL DRAWING)



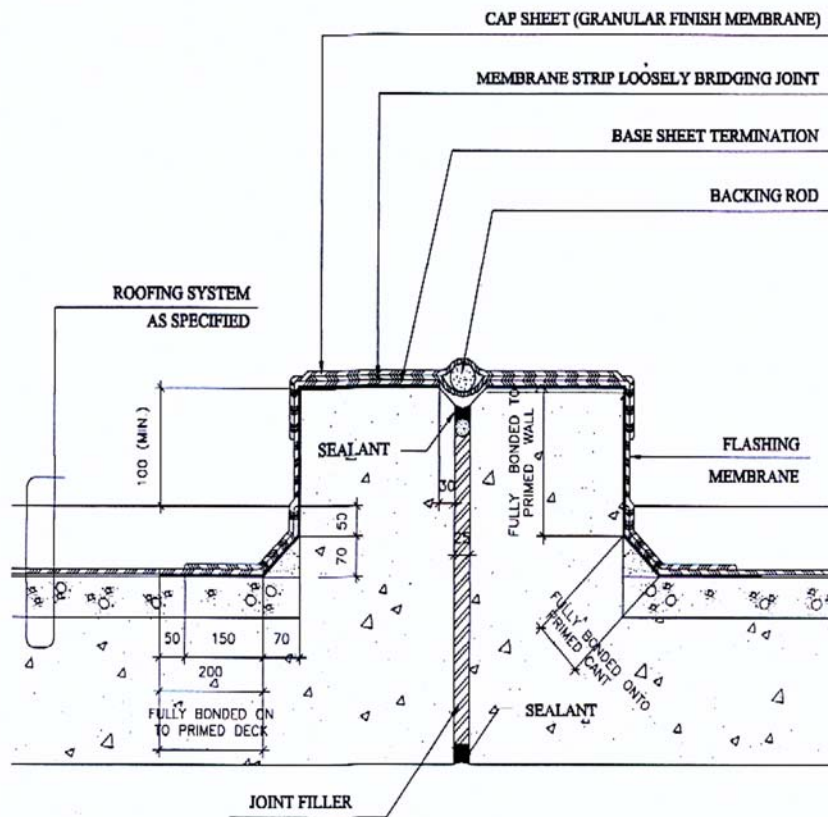
EDGE FLASHING

BITUMAT



بيتومات

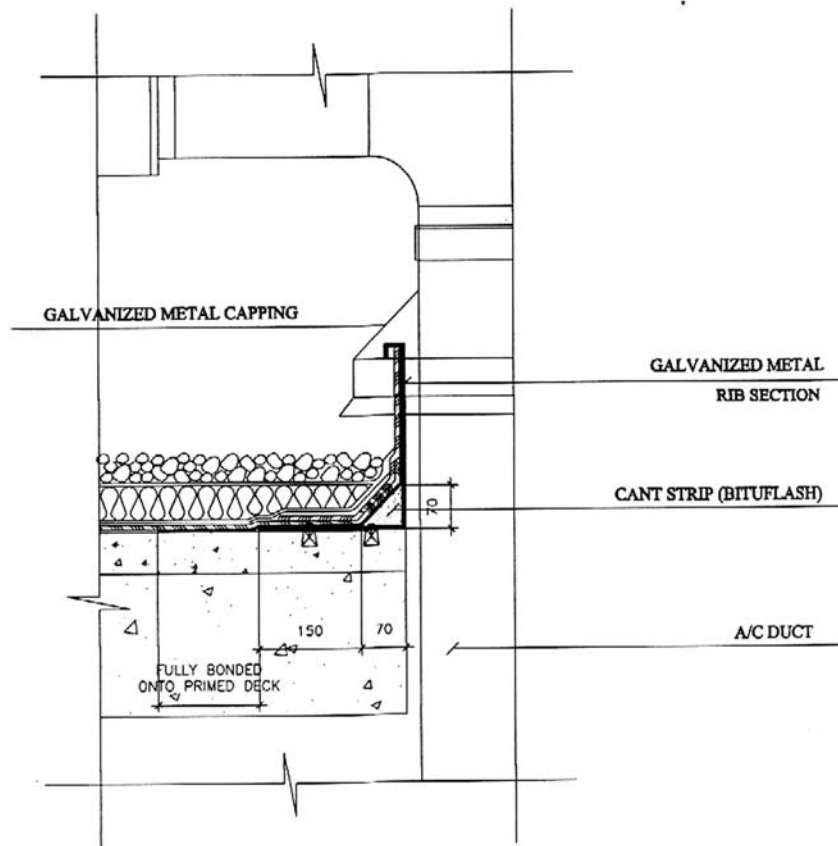
**ROOFING OVER CONCRETE DECK
(BITUMAT TECHNICAL DRAWING)**



EXPANSION JOINTS ON RIBS - 2

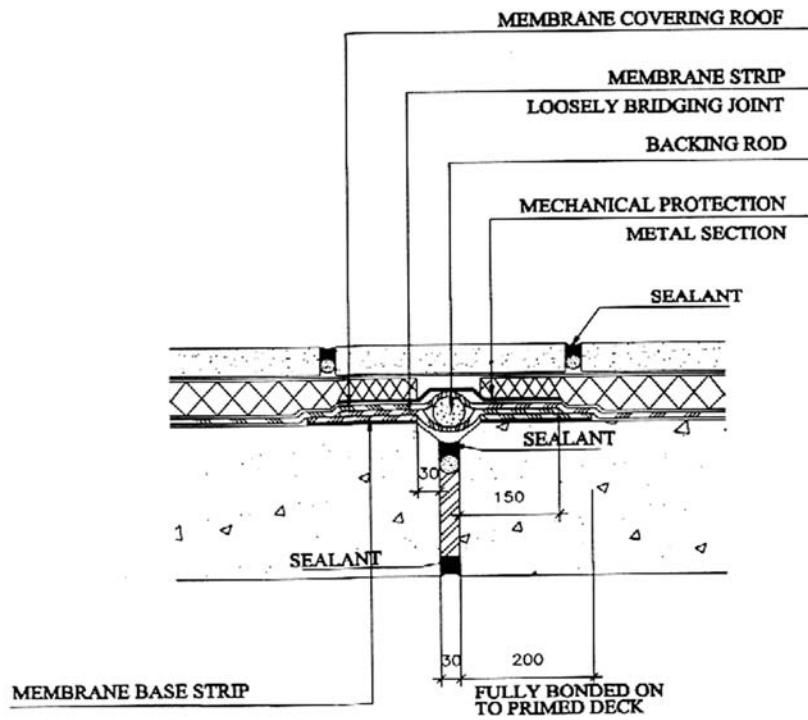
BITUMAT بیتومات

**ROOFING OVER CONCRETE DECK
(BITUMAT TECHNICAL DRAWING)**



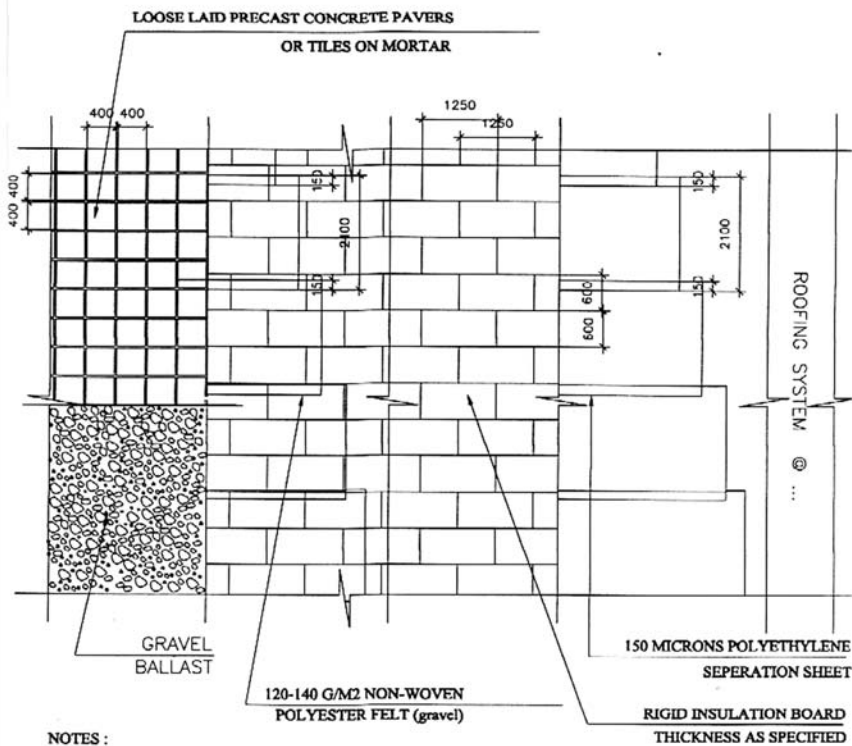
A/C DUCT PENETRATION

**ROOFING OVER CONCRETE DECK
(BITUMAT TECHNICAL DRAWING)**



FLAT EXPANSION JOINT

**ROOFING OVER CONCRETE DECK
(BITUMAT TECHNICAL DRAWING)**



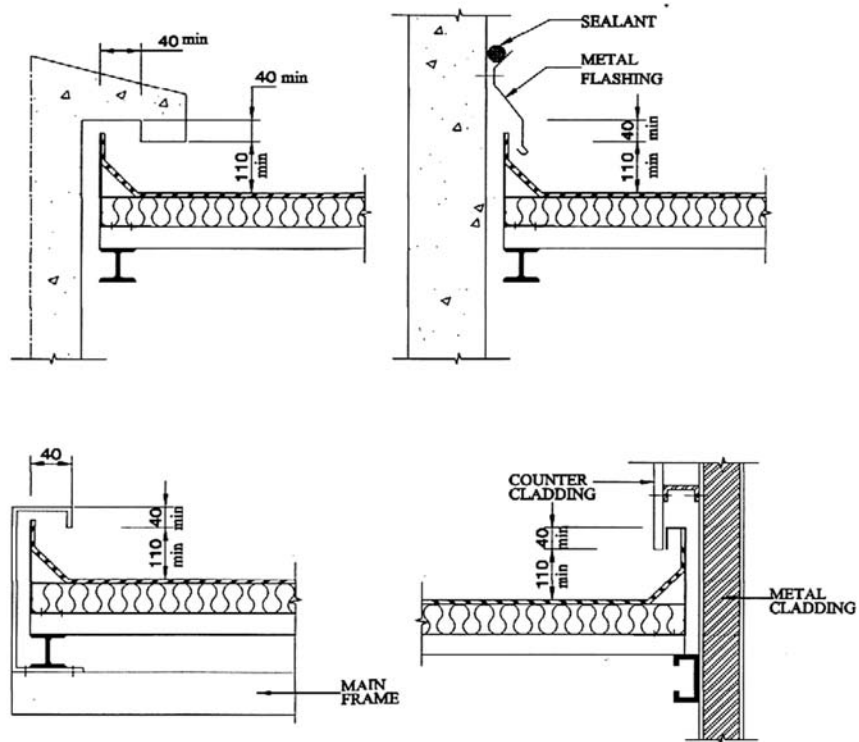
NOTES :

1. GIVEN DIMENSIONS ARE ONLY INDICATIVE OTHER DIMENSIONS ARE AVAILABLE.
2. THICKNESS OF TOP COVERING IS FUNCTION OF THICKNESS OF INSULATION BOARDS SEE MNFR'S RECOMMENDATIONS.

(TOP VIEW) TYPICAL ROOF COVERING

BITUMAT بیتومات

ROOFING OVER STEEL DECK (BITUMAT TECHNICAL DRAWING)

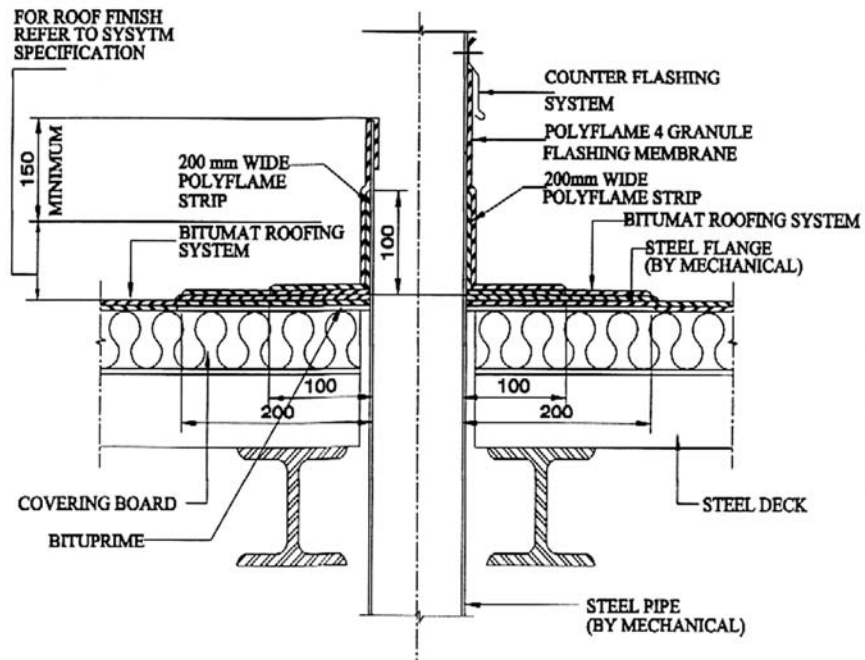


NOTE : TYPICAL DETAILS FOR STRUCTURE ONLY
FOR MEMBRANES DETAILING, REFER TO
SPECIFICATION.

COUNTER FLASHING / COUNTER CLADDING

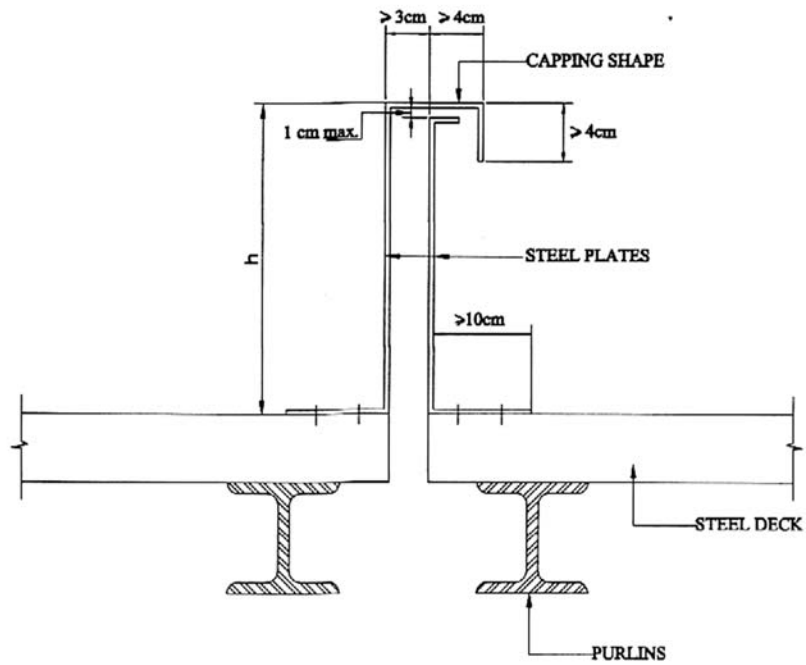
BITUMAT بیتومات

ROOFING OVER STEEL DECK (BITUMAT TECHNICAL DRAWING)



PIPE PENETRATION

**ROOFING OVER STEEL DECK
(BITUMAT TECHNICAL DRAWING)**



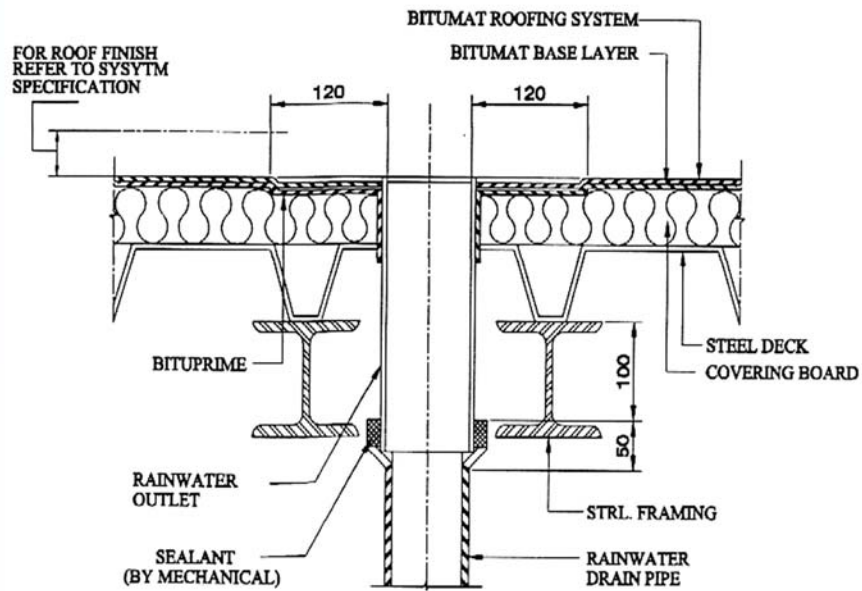
h: STEEL DETAIL R.O.S.D. -02

THICKNESS OF STEEL PLATE : SEE DET. R.O.S.D. -02

EXPANSION JOINTS

BITUMAT بیتومات

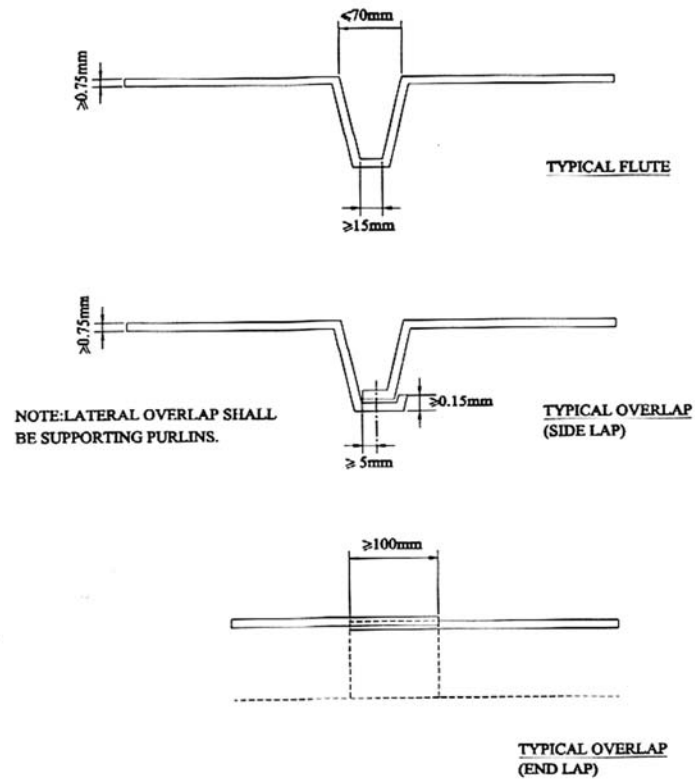
**ROOFING OVER STEEL DECK
(BITUMAT TECHNICAL DRAWING)**



RAINWATER OUTLET

BITUMAT  **بيتومات**

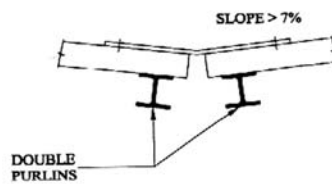
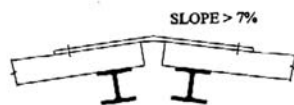
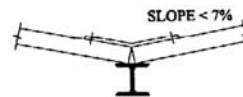
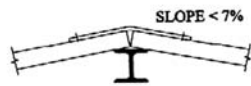
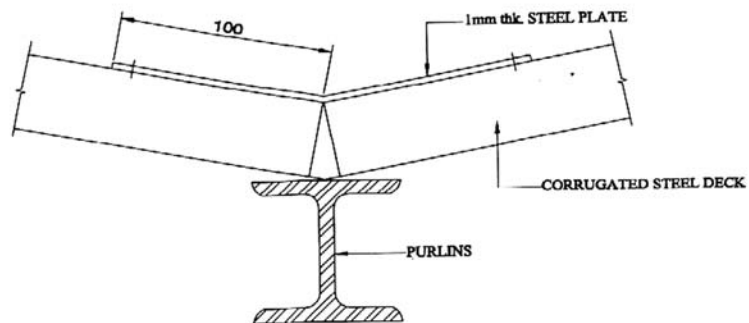
**ROOFING OVER STEEL DECK
(BITUMAT TECHNICAL DRAWING)**



CORRUGATED STEEL DECK DESIGNS

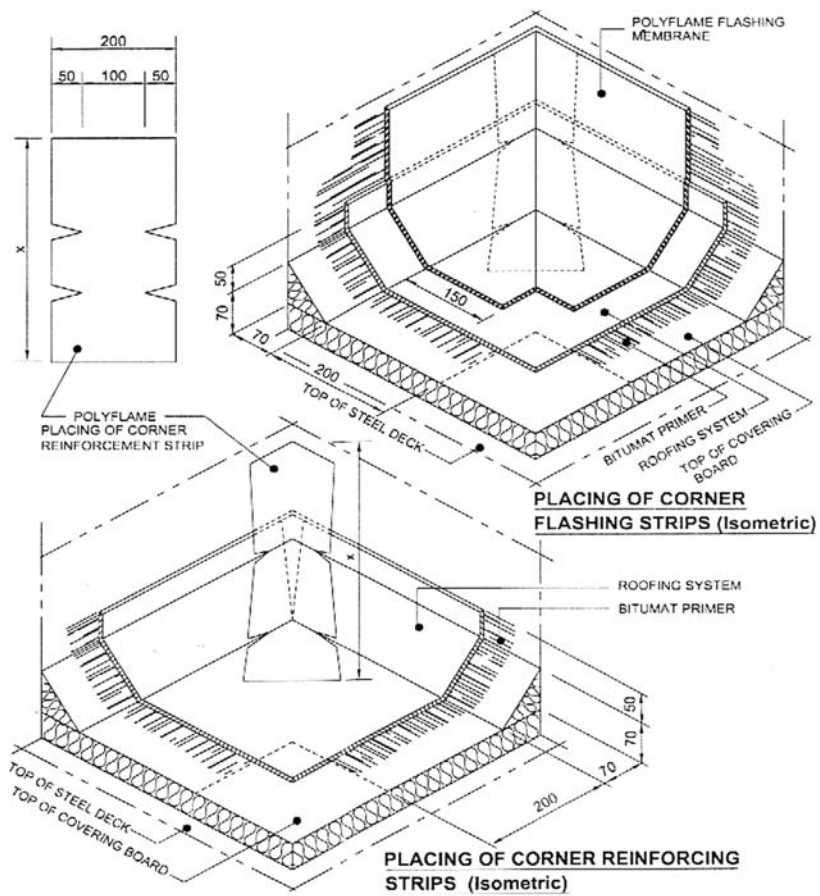
BITUMAT بیتومات

ROOFING OVER STEEL DECK (BITUMAT TECHNICAL DRAWING)



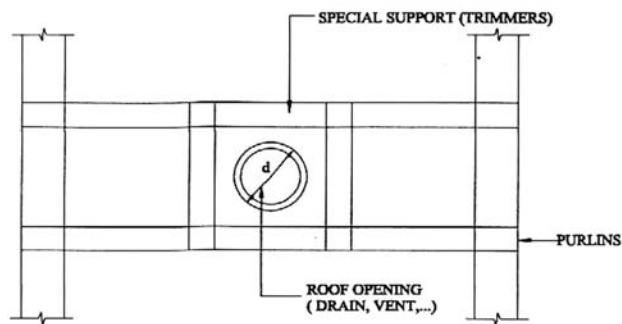
BRIDGES & VALLEYS

**ROOFING OVER STEEL DECK
(BITUMAT TECHNICAL DRAWING)**



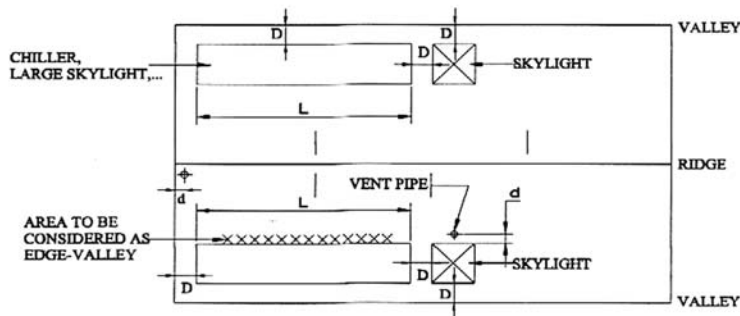
INTERNAL CORNER

**ROOFING OVER STEEL DECK
(BITUMAT TECHNICAL DRAWING)**



$d > 25 \text{ cm}$ FOR DRAINS
OR $d > 15 \text{ cm}$ FOR OTHER OPENINGS

① TOP VIEW - FRAMING AT OPENINGS



$L < 10 \text{ m}$
 $D > 1 \text{ m}$
 $d \geq 0.5 \text{ m}$

② TOP VIEW - TYPICAL OPENING LOCATION

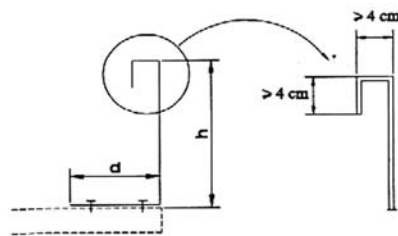
ROOF OPENINGS

**ROOFING OVER STEEL DECK
(BITUMAT TECHNICAL DRAWING)**

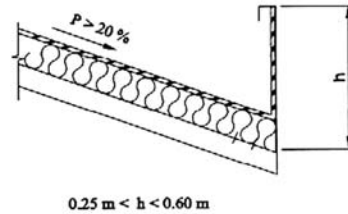
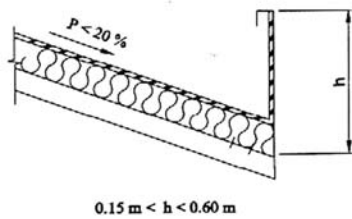
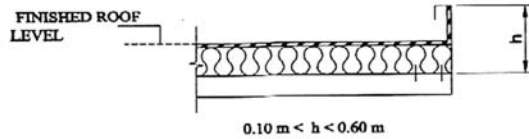
t: THICKNESS OF STEEL CURB
h: HEIGHT OF VERTICAL FLANGE

t = 0.75 mm h < 0.25 m
t = 1 mm h < 0.40 m
t = 1.20 mm h < 0.60 m

d > 0.10 m



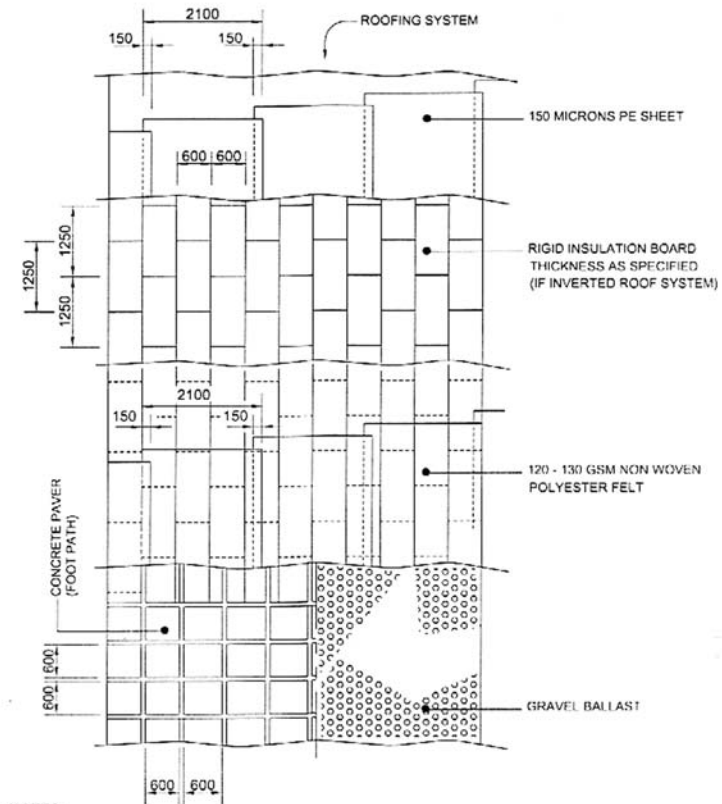
DESIGN OF HEIGHT h



DESIGN OF UPSTAND STEEL CURB

BITUMAT بیتومات

**ROOFING OVER STEEL DECK
(BITUMAT TECHNICAL DRAWING)**

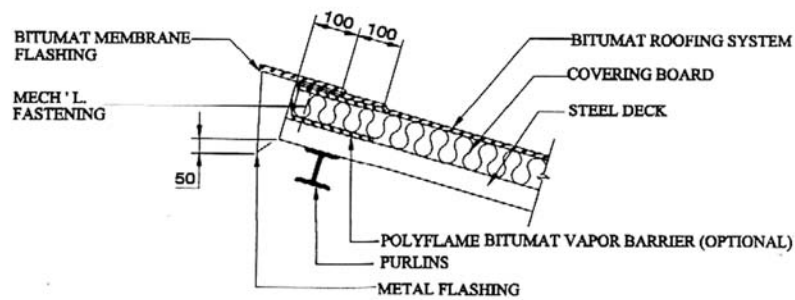
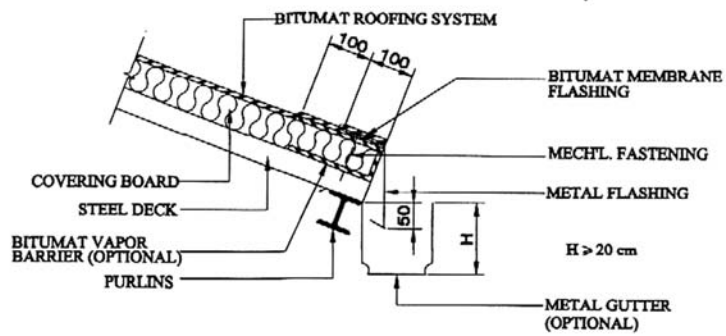


- NOTES:-**
1. GIVEN SEP. LAYERS ROLLS WIDTH ARE ONLY INDICATIVE. OTHER DIMENSIONS ARE AVAILABLE.
 2. THICKNESS OF TOP COVERING IS FUNCTION OF THICKNESS OF INSULATION BOARDS. SEE MNFR'S RECOMMENDATIONS.

TOP VIEW: TYPICAL COVERING

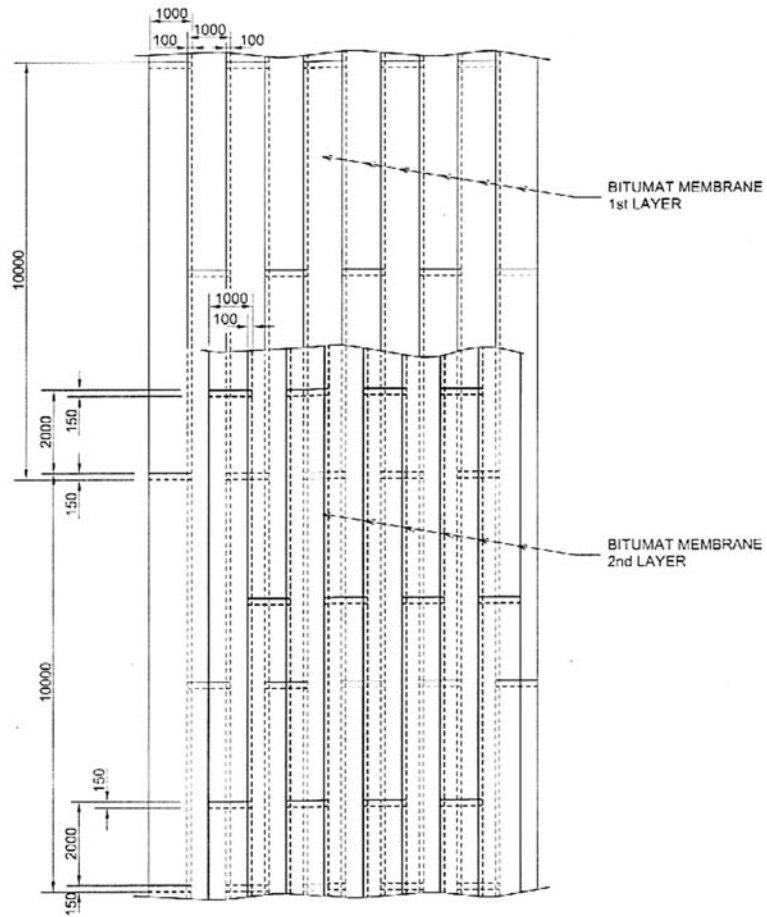
BITUMAT بیتومات

ROOFING OVER STEEL DECK (BITUMAT TECHNICAL DRAWING)



EDGE FLASHING

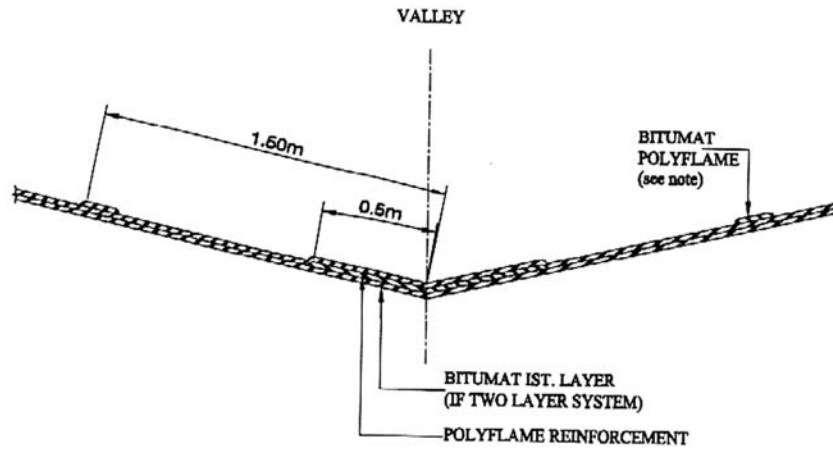
**ROOFING OVER STEEL DECK
(BITUMAT TECHNICAL DRAWING)**



TOP VIEW: TWO LAYER SYSTEMS OVERLAPPING

BITUMAT بیتومات

ROOFING OVER STEEL DECK (BITUMAT TECHNICAL DRAWING)

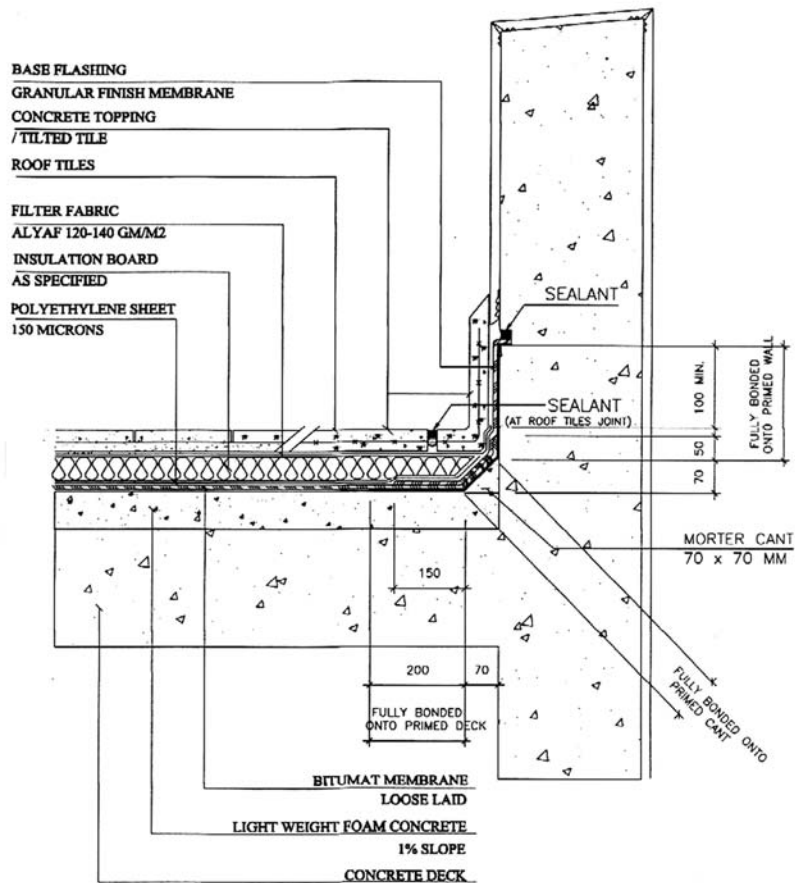


NOTE : EXPOSED SYSTEMS : POLYFLAME 4 GRANULE FINISH
COVERED SYSTEM : POLYFLAME BLACK
SAME DETAIL ON RIDGES, EDGE VALLEYS,....

VALLEYS

BITUMAT بیتومات

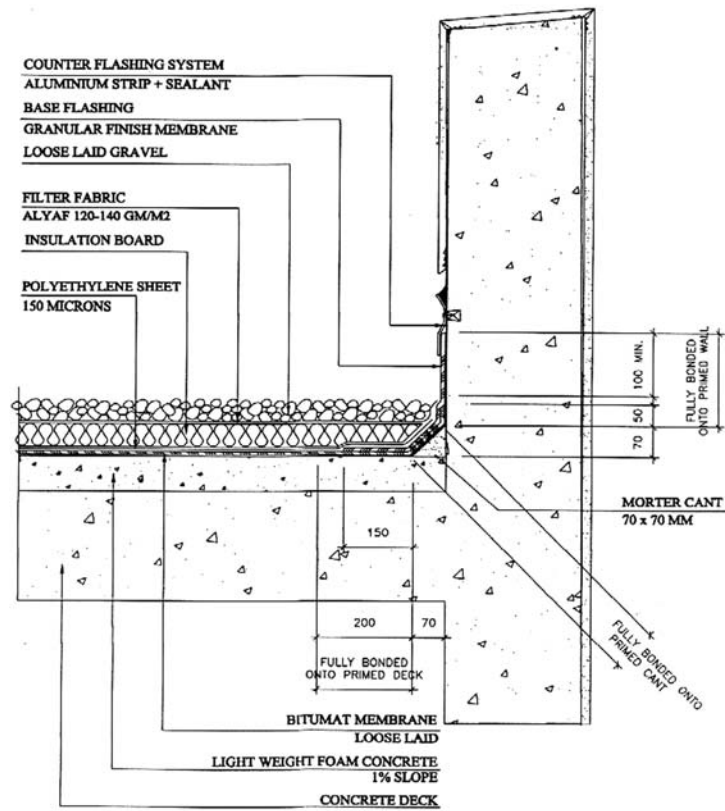
SINGLE LAYER COVERED SYSTEM (BITUMAT TECHNICAL DRAWING)



CONCRETE DECK / ACCESSIBLE ROOF

BITUMAT بیتومات

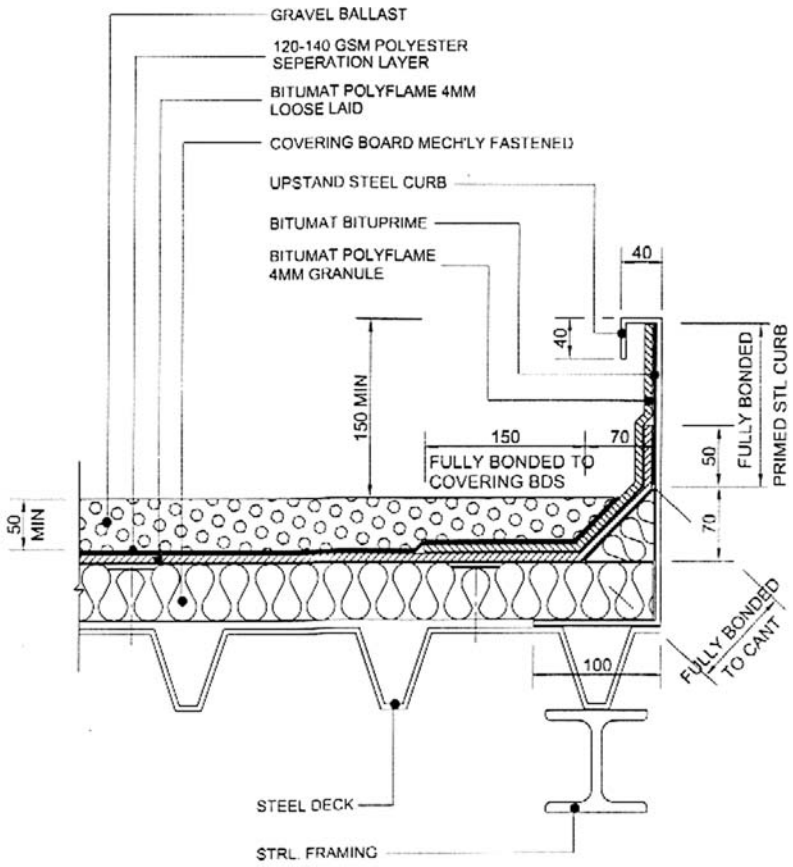
SINGLE LAYER COVERED SYSTEM (BITUMAT TECHNICAL DRAWING)



CONCRETE DECK / NON ACCESSIBLE ROOF

BITUMAT بیتومات

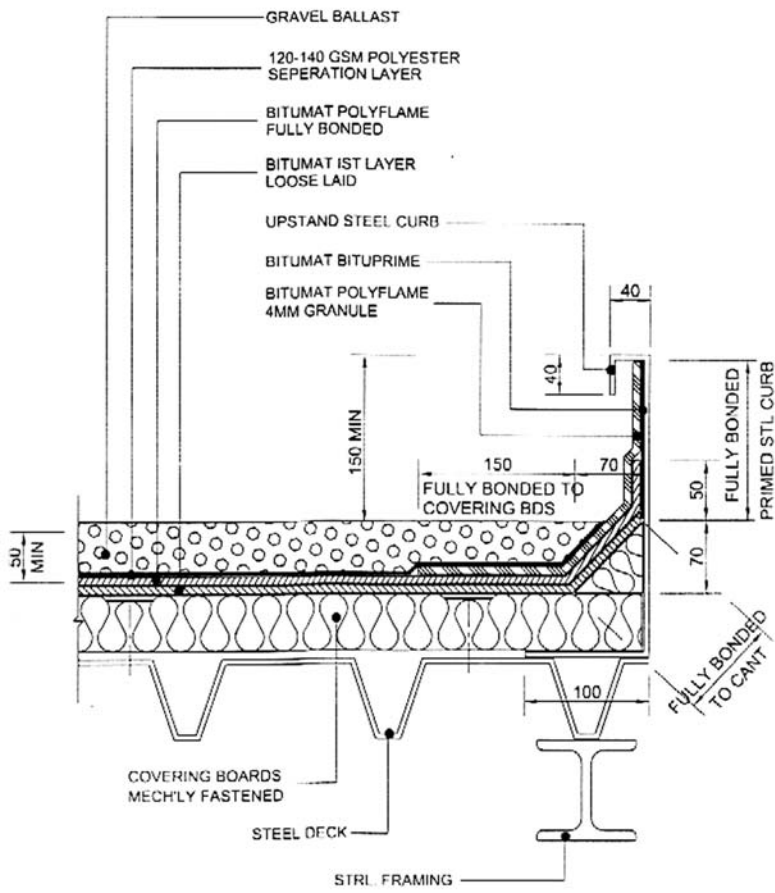
**SINGLE LAYER COVERED SYSTEM
(BITUMAT TECHNICAL DRAWING)**



STEEL DECK

BITUMAT  **بيتومات**

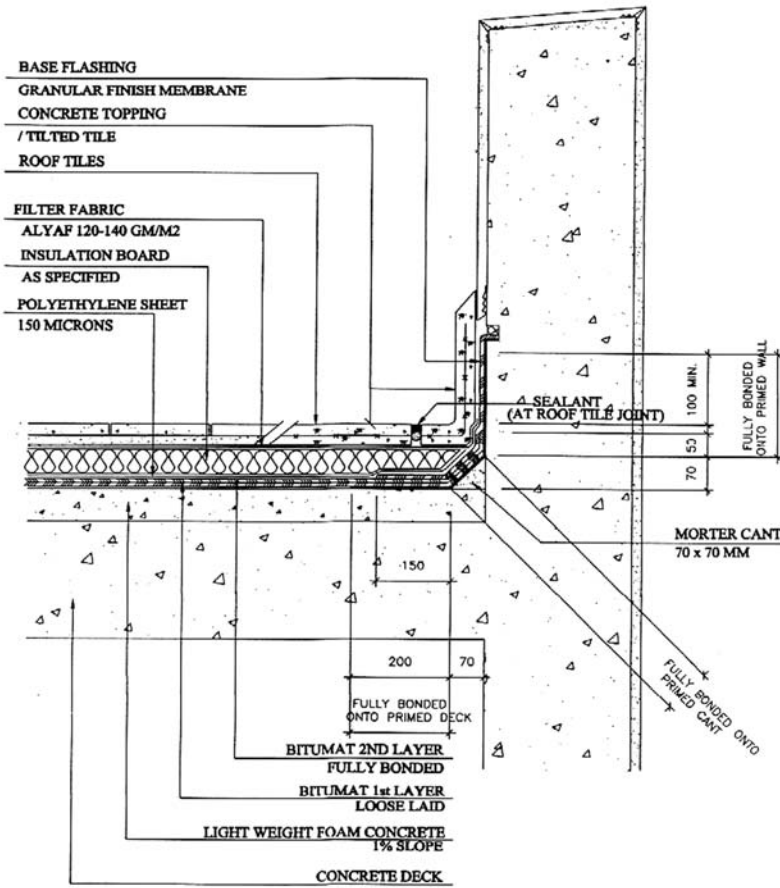
**TWO LAYERS COVERED SYSTEM
(BITUMAT TECHNICAL DRAWING)**



OVER STEEL DECK

BITUMAT بیتومات

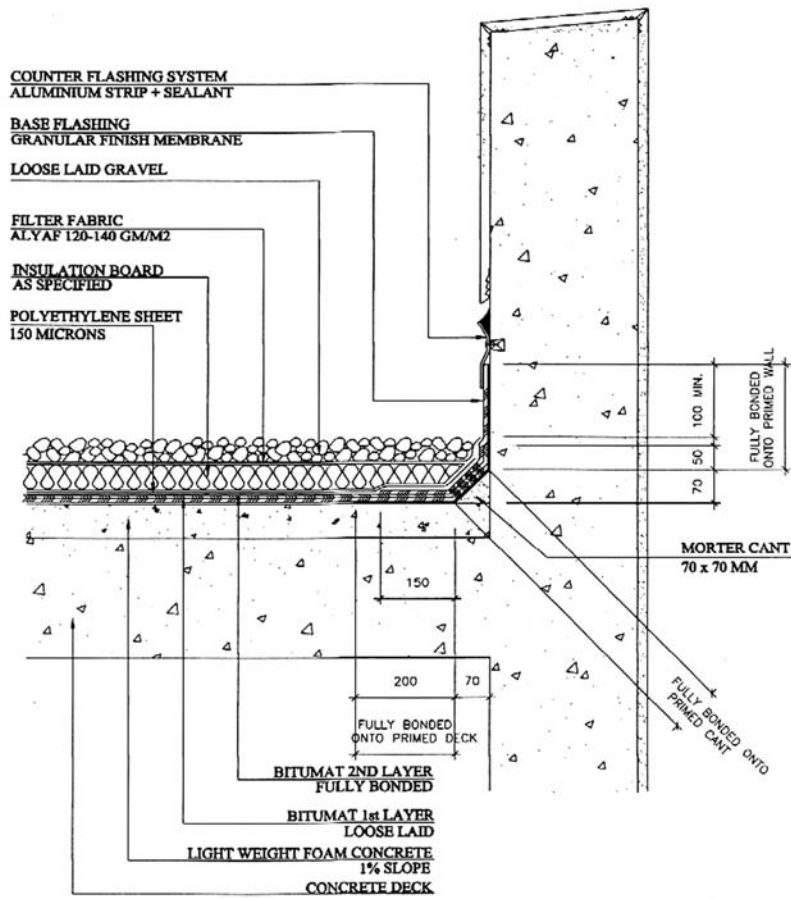
TWO LAYERS COVERED SYSTEM (BITUMAT TECHNICAL DRAWING)



CONCRETE DECK / ACCESSIBLE ROOF

BITUMAT  **بيتومات**

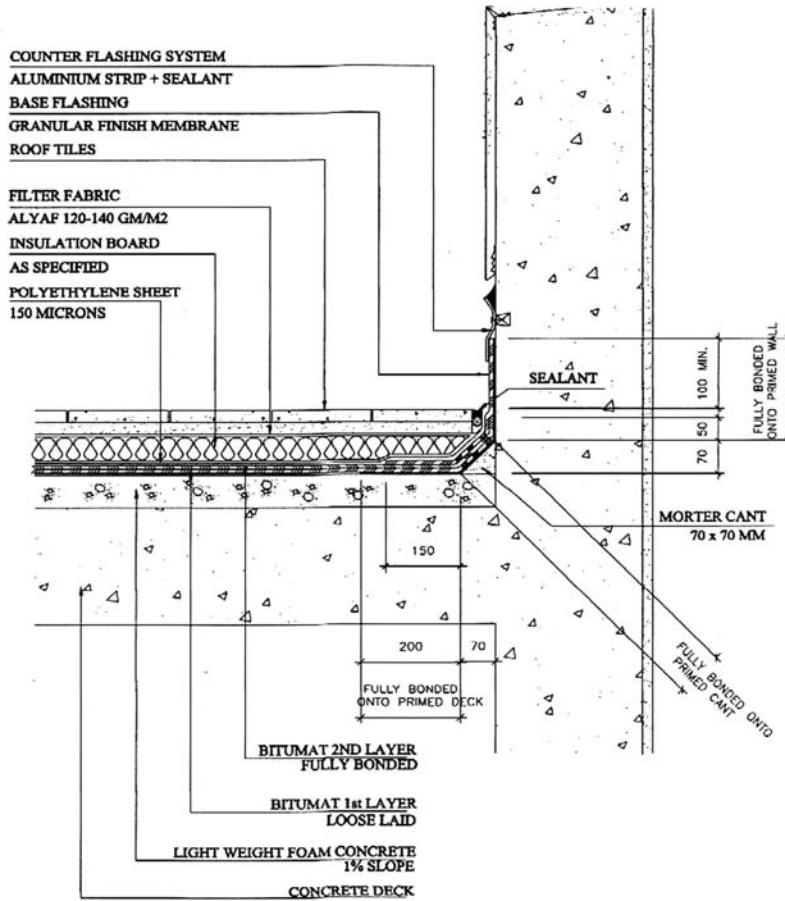
**TWO LAYERS COVERED SYSTEM
(BITUMAT TECHNICAL DRAWING)**



CONCRETE DECK / NON ACCESSIBLE ROOF

BITUMAT بیتومات

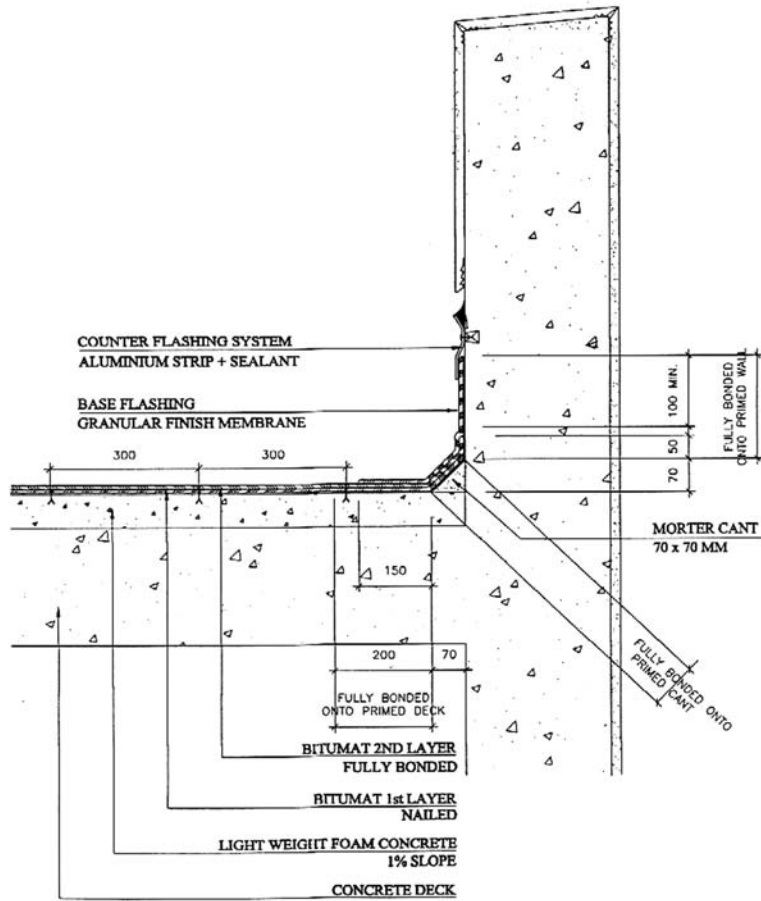
TWO LAYERS COVERED SYSTEM (BITUMAT TECHNICAL DRAWING)



CONCRETE DECK / SERVICE ROOF

BITUMAT بیتومات

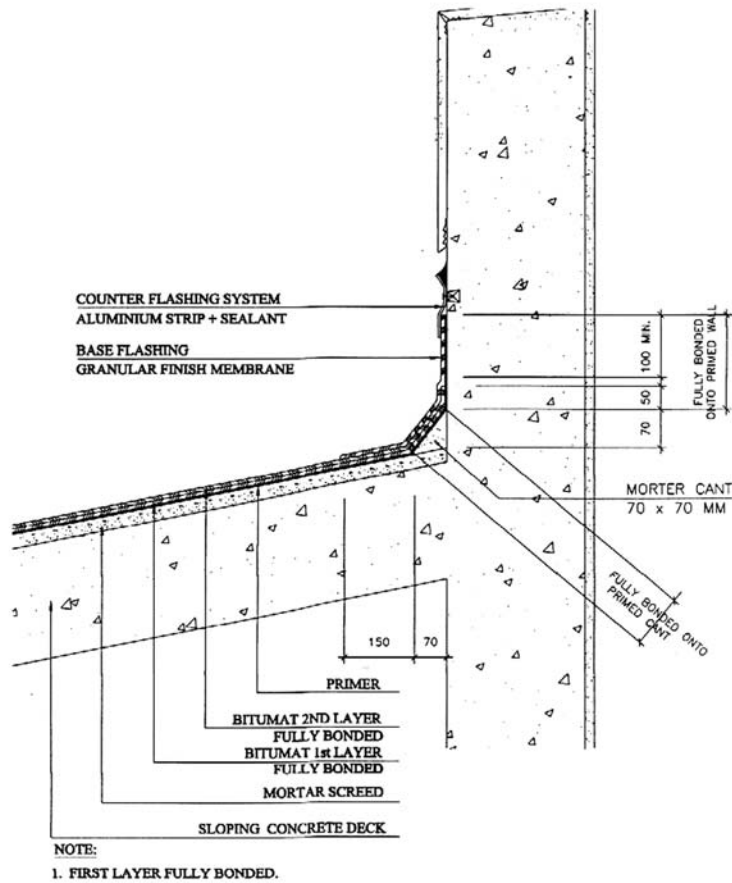
TWO LAYER EXPOSED SYSTEM (BITUMAT TECHNICAL DRAWING)



LIGHTWEIGHT FOAM CONCRETE SCREED

BITUMAT بیتومات

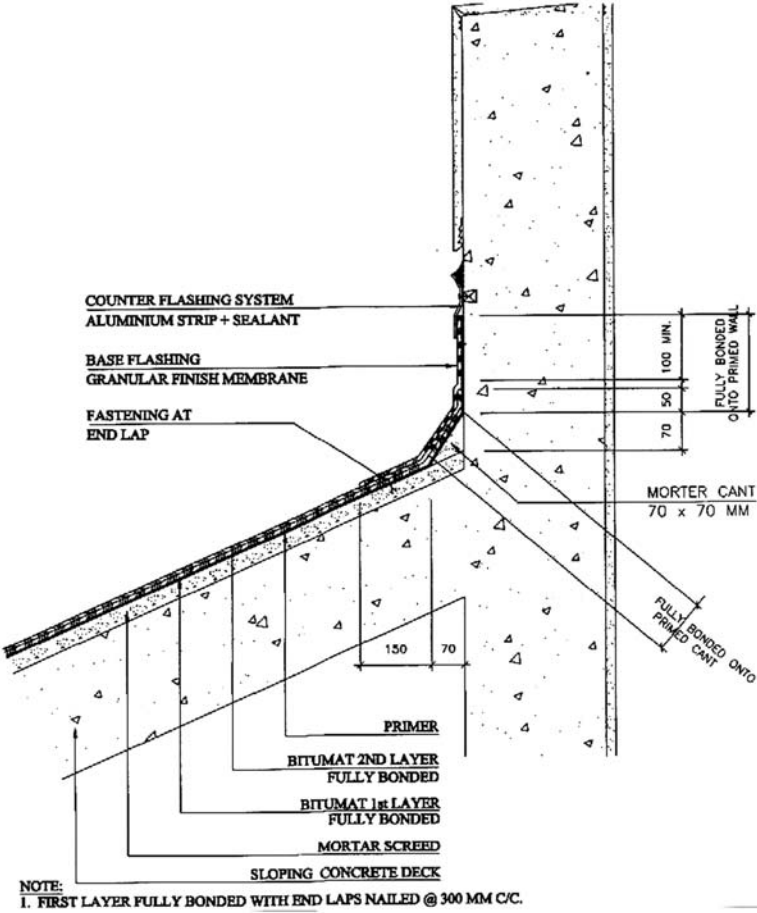
TWO LAYER EXPOSED SYSTEM (BITUMAT TECHNICAL DRAWING)



CONCRETE DECK SLOPE 15 TO 30%

BITUMAT بیتومات

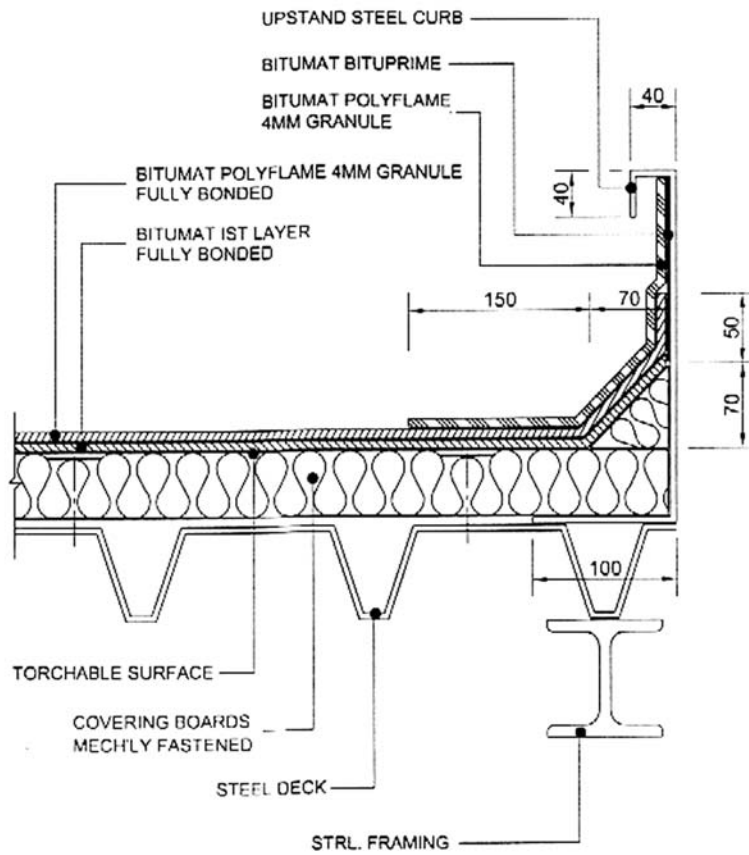
**TWO LAYER EXPOSED SYSTEM
(BITUMAT TECHNICAL DRAWING)**



CONCRETE DECK SLOPE 30%

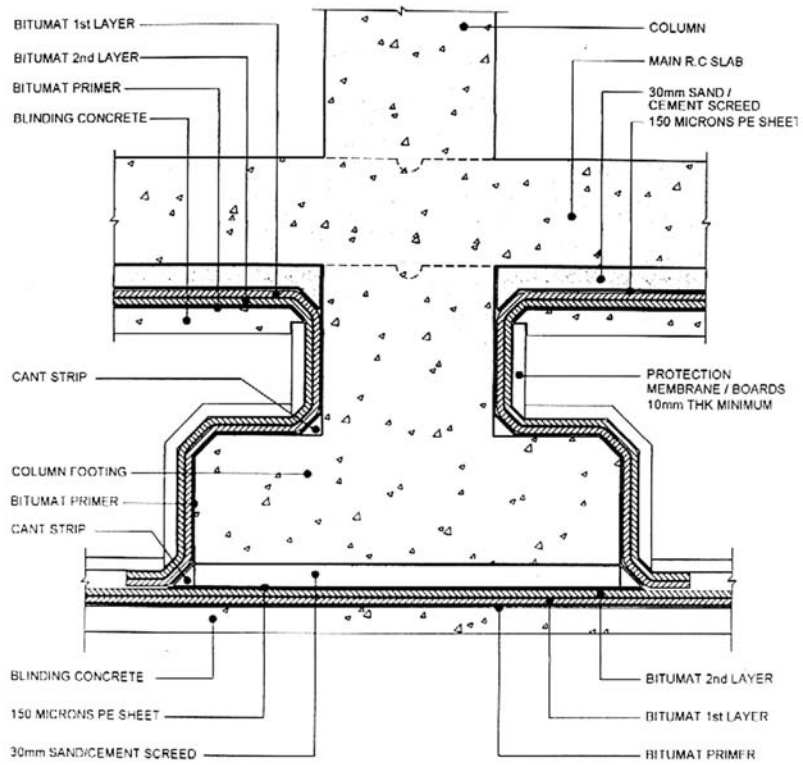
BITUMAT بیتومات

TWO LAYER EXPOSED SYSTEM (BITUMAT TECHNICAL DRAWING)



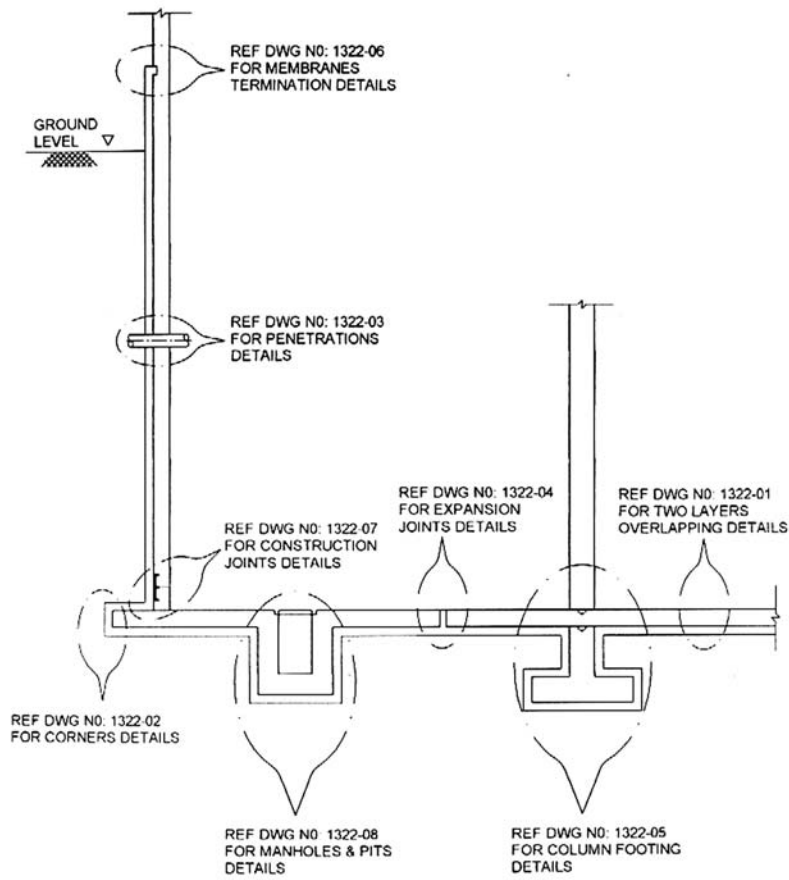
OVER STEEL DECK

**UNDERGROUND TANKING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



UNDERGROUND BASEMENT

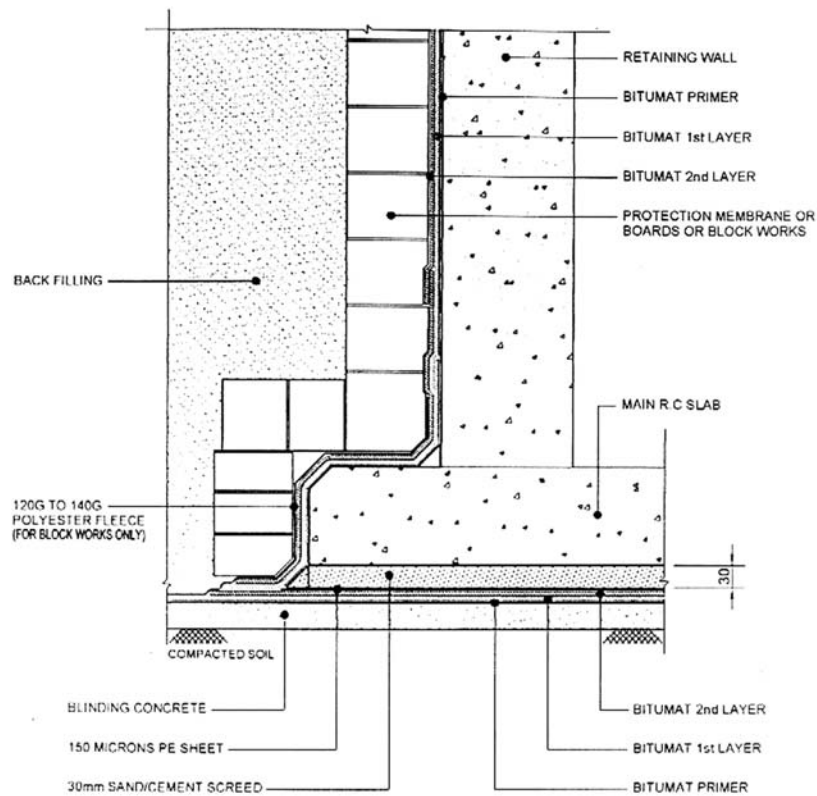
**UNDERGROUND TANKING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



KEY TO DETAILS

BITUMAT بیتومات

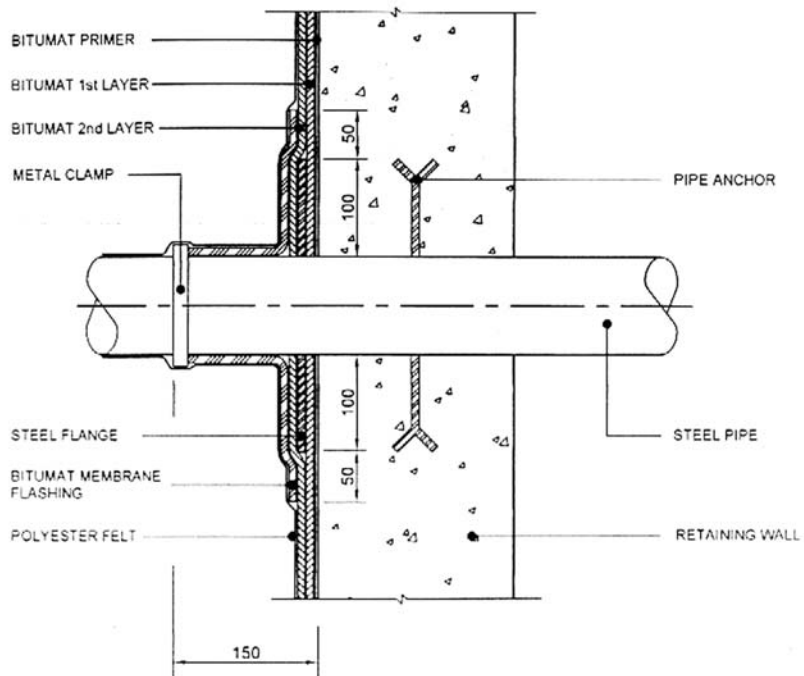
UNDERGROUND TANKING SYSTEM (BITUMAT TECHNICAL DRAWING)



UNDERGROUND BASEMENT 2

BITUMAT بیتومات

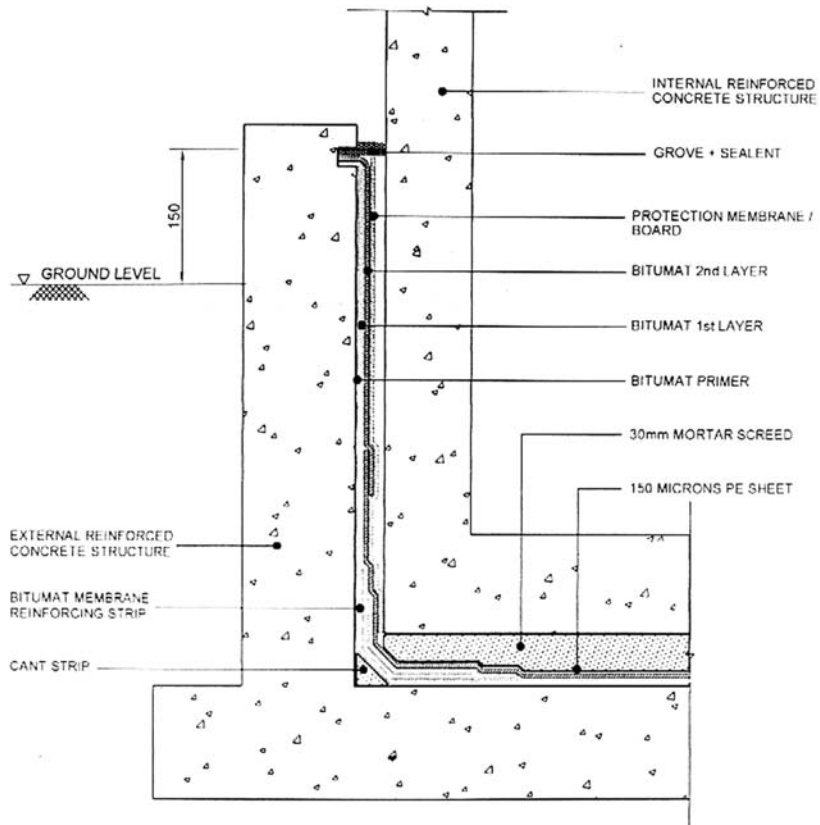
UNDERGROUND TANKING SYSTEM (BITUMAT TECHNICAL DRAWING)



PENETRATIONS

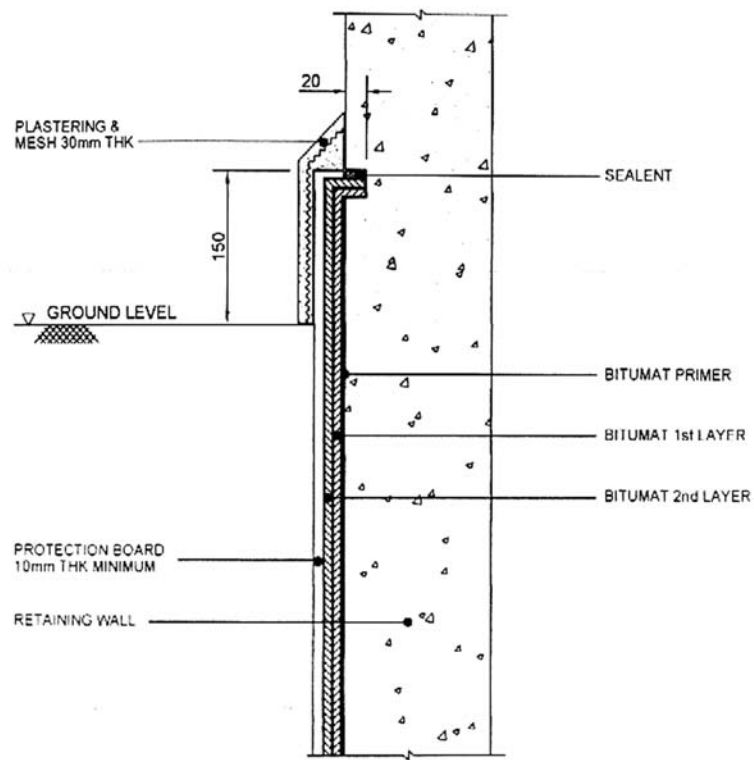
BITUMAT بیتومات

UNDERGROUND TANKING SYSTEM (BITUMAT TECHNICAL DRAWING)



TYPICAL SECTION

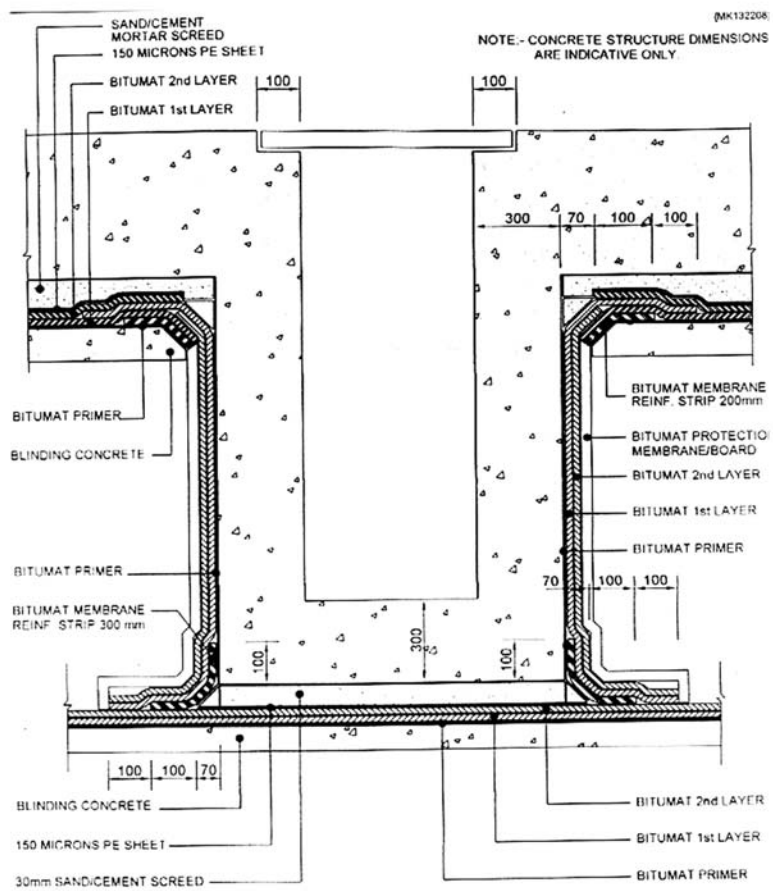
**UNDERGROUND TANKING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



MEMBRANES VERTICAL TERMINATION

BITUMAT بیتومات

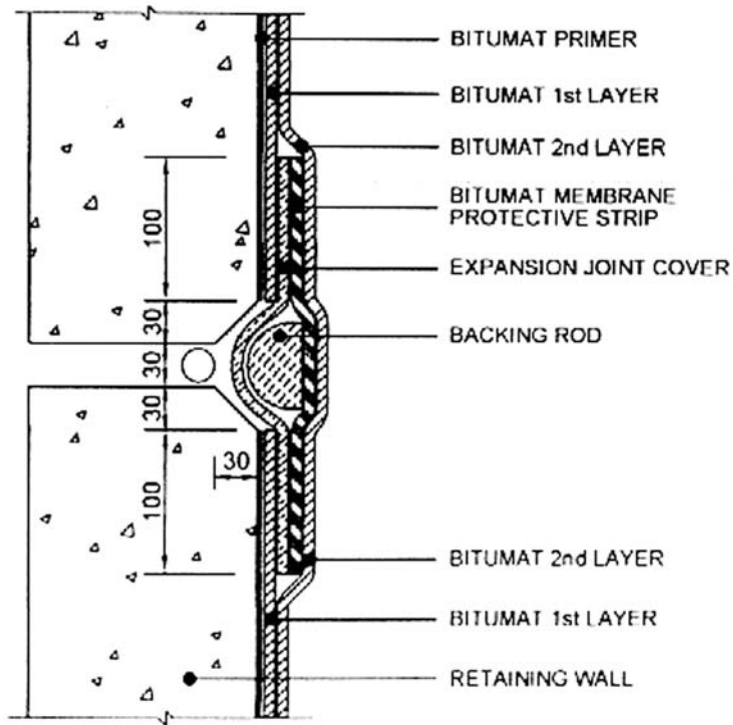
UNDERGROUND TANKING SYSTEM (BITUMAT TECHNICAL DRAWING)



TYPICAL MANHOLE SECTION

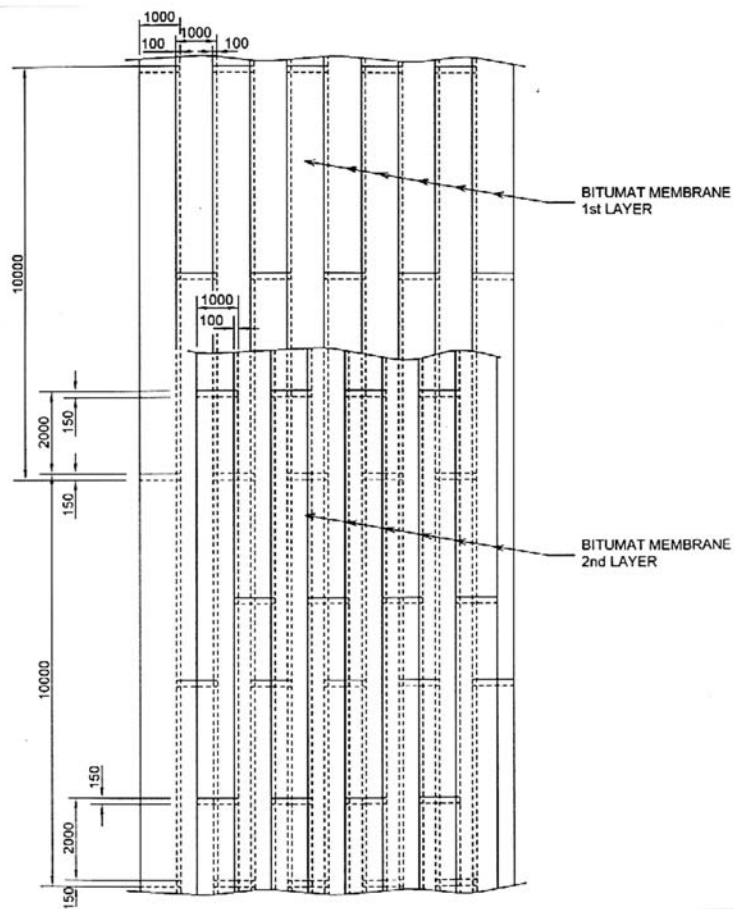
BITUMAT بیتومات

UNDERGROUND TANKING SYSTEM (BITUMAT TECHNICAL DRAWING)



EXPANSION JOINTS

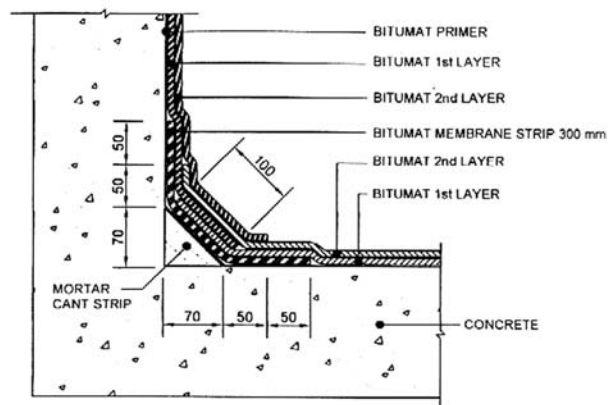
**UNDERGROUND TANKING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



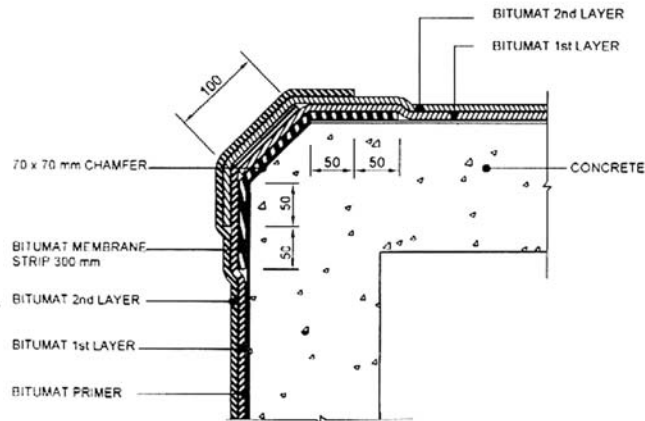
TOP VIEW: OVERLAPPING METHOD

BITUMAT بیتومات

UNDERGROUND TANKING SYSTEM (BITUMAT TECHNICAL DRAWING)



INTERNAL CORNER

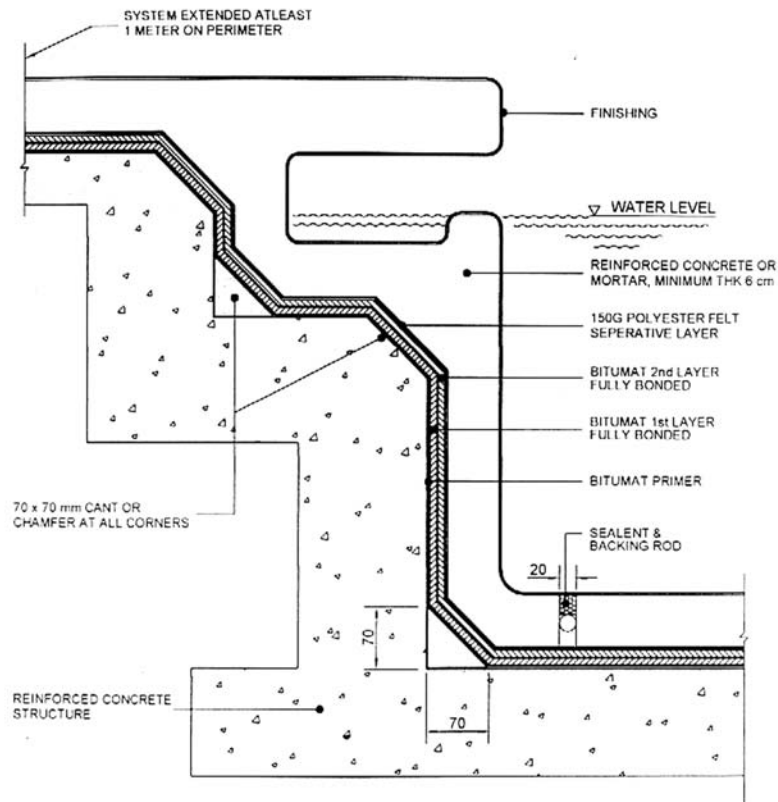


EXTERNAL CORNER

CORNER DETAILS (INTERNAL & EXTERNAL)

BITUMAT بیتومات

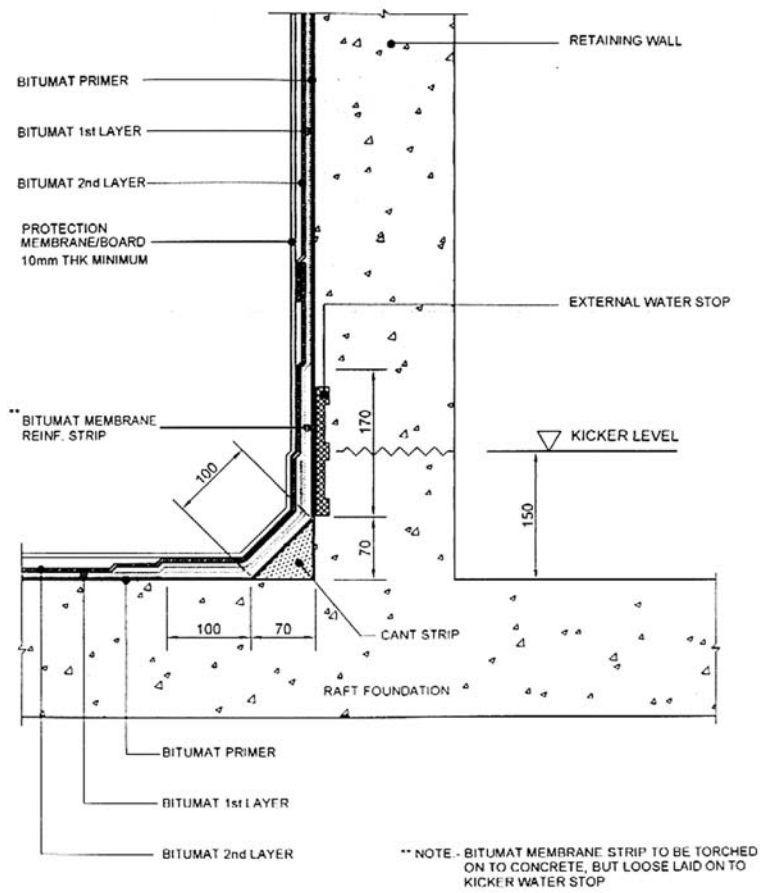
UNDERGROUND TANKING SYSTEM (BITUMAT TECHNICAL DRAWING)



SWIMMING POOL WATERPROOFING

BITUMAT بیتومات

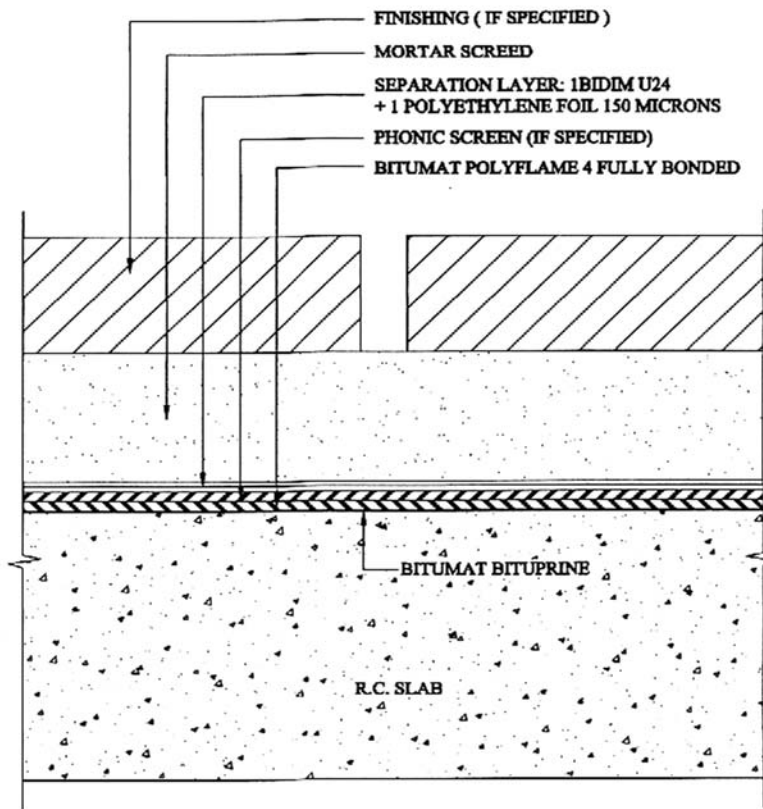
UNDERGROUND TANKING SYSTEM (BITUMAT TECHNICAL DRAWING)



CONSTRUCTION JOINTS

BITUMAT  **بيتومات**

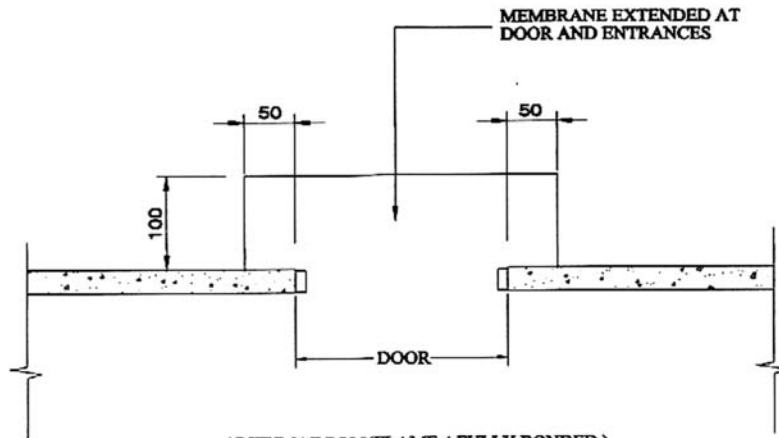
**WET ROOMS WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



TYPICAL SECTION

BITUMAT  **بيتومات**

**WET ROOMS WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



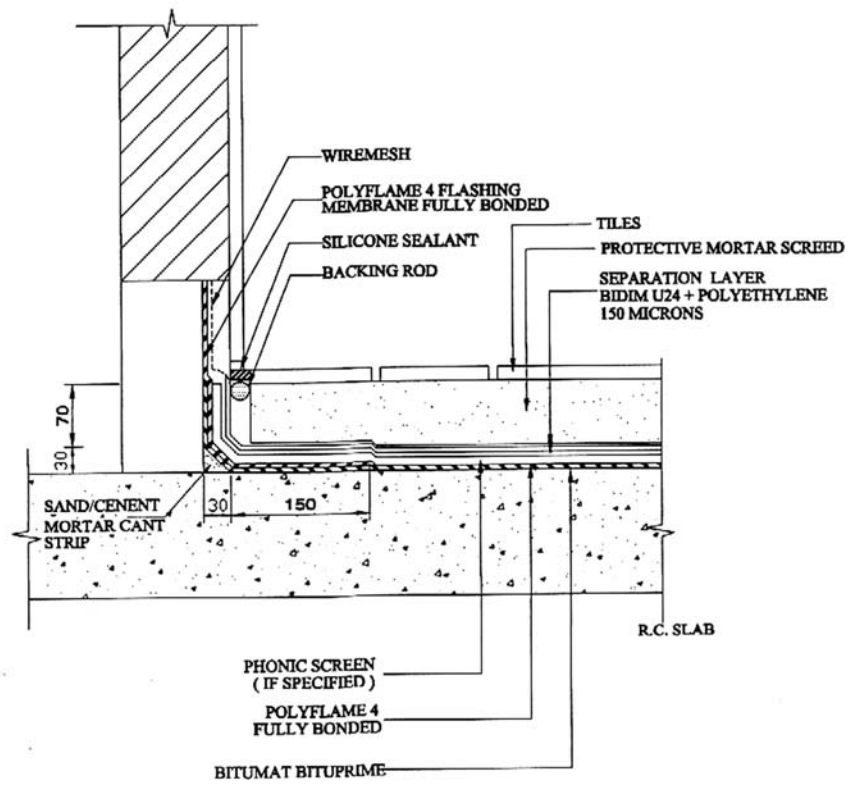
WET ROOM

TOP VIEW

MEMBRANE TERMINATION AT DOOR

BITUMAT بیتومات

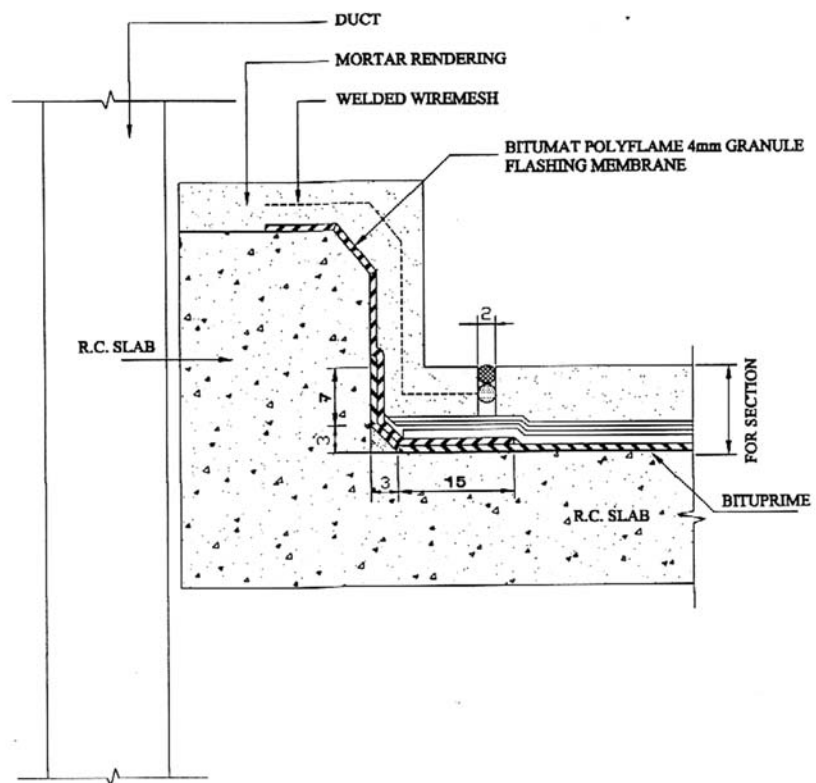
WET ROOMS WATERPROOFING SYSTEM (BITUMAT TECHNICAL DRAWING)



TYPICAL BATHROOM UPSTAND

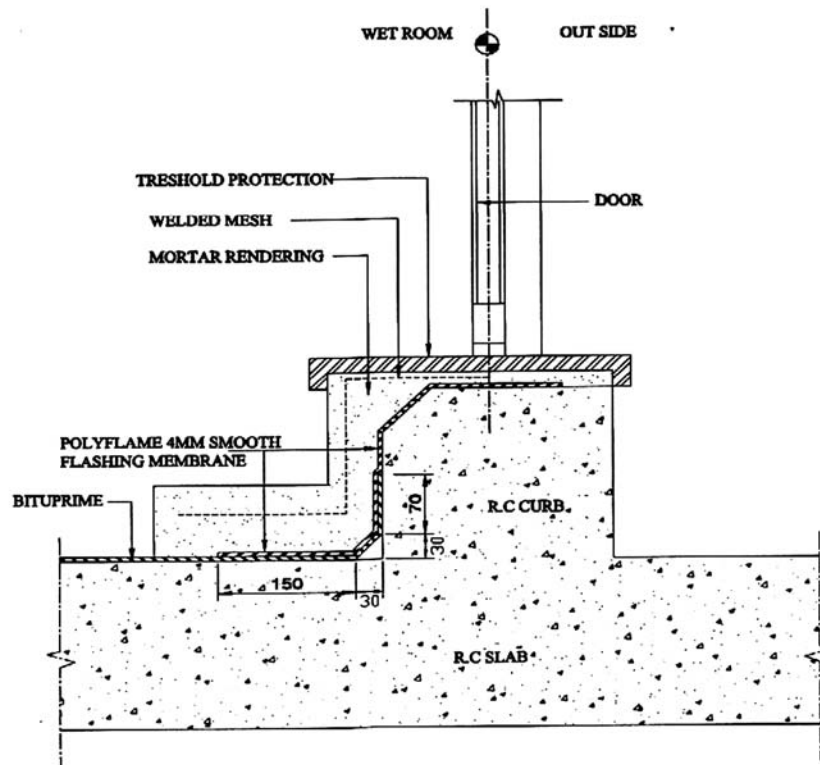
BITUMAT بیتومات

WET ROOMS WATERPROOFING SYSTEM (BITUMAT TECHNICAL DRAWING)



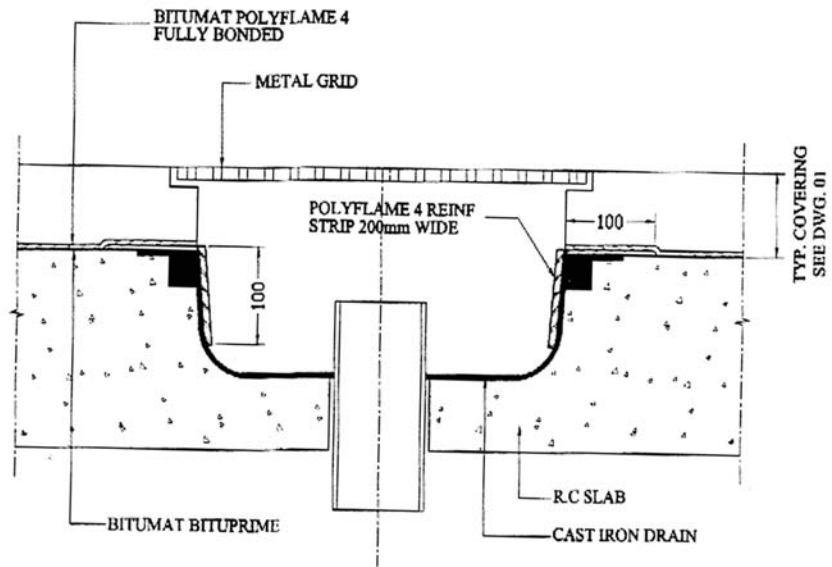
DUCT PENETRATION

**WET ROOMS WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



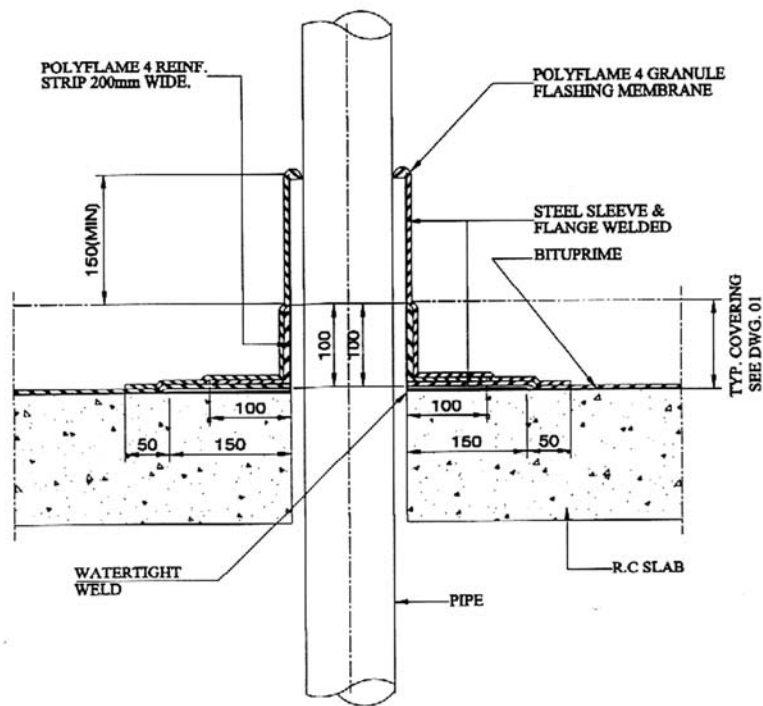
THRESHOLD

**WET ROOMS WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



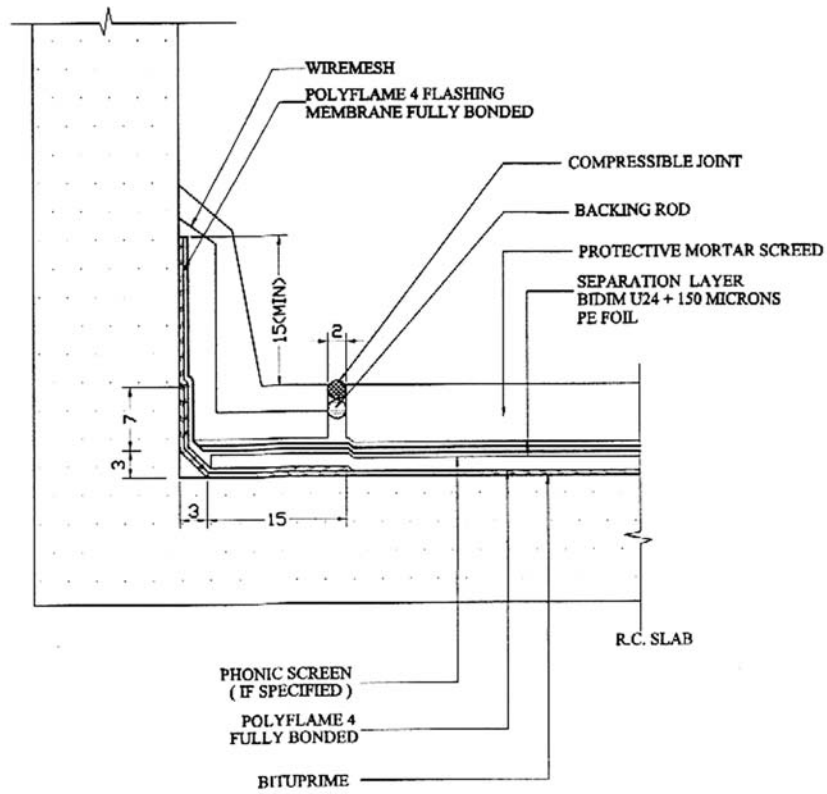
DRAIN

**WET ROOMS WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



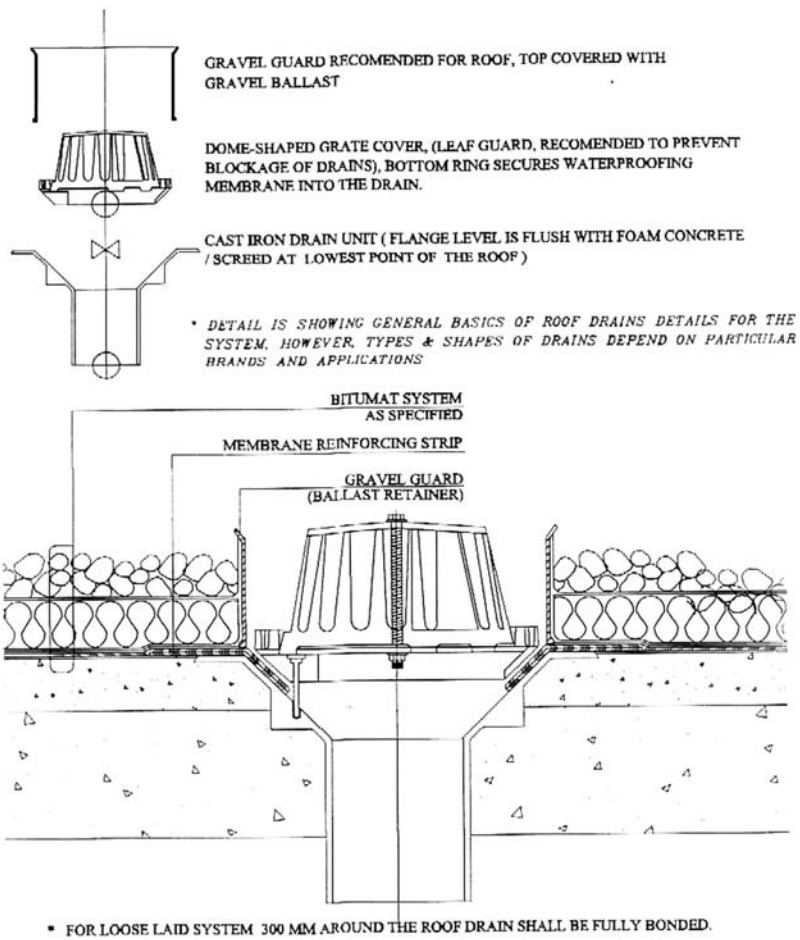
PIPE PENETRATION

**WET ROOMS WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



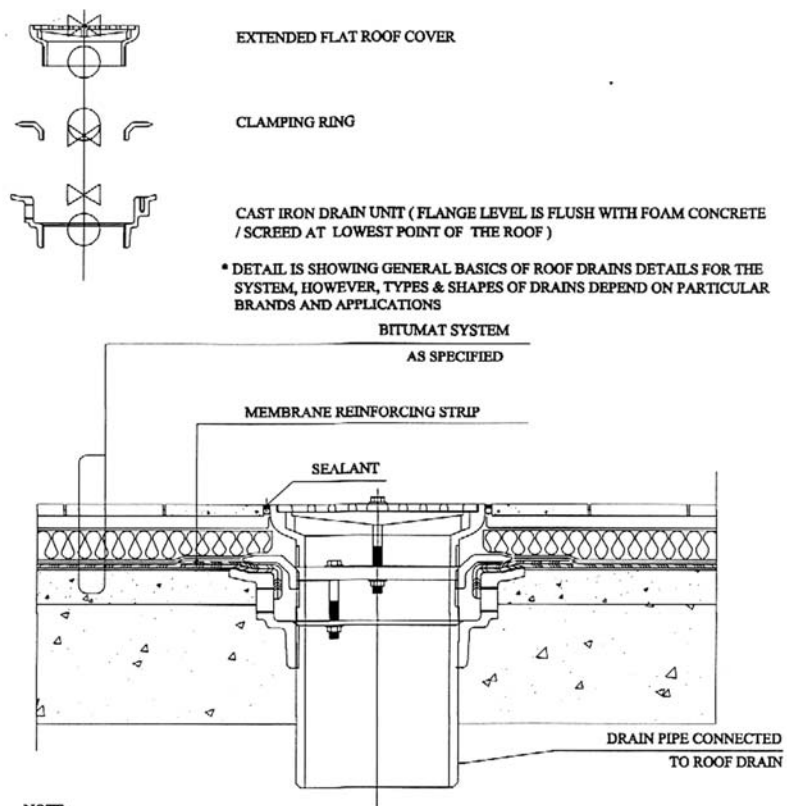
TYPICAL TECHNICAL ROOM UPSTAND

**DRAIN DETAIL
(BITUMAT TECHNICAL DRAWING)**



NON-ACCESSIBLE ROOF

**DRAIN DETAIL
(BITUMAT TECHNICAL DRAWING)**

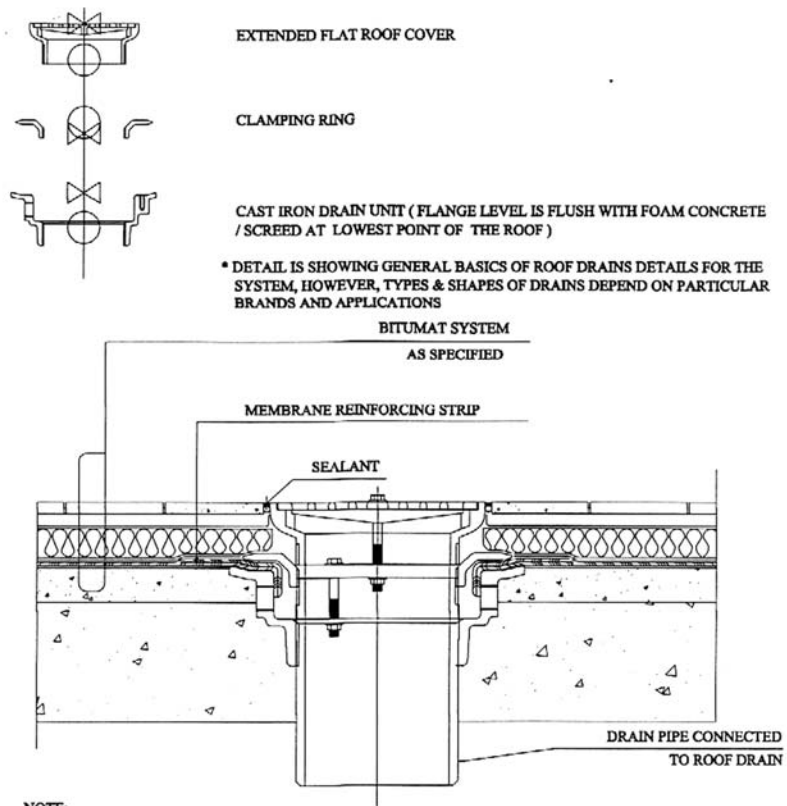


NOTE:

1. FOR LOOSE LAID SYSTEM 300 MM AROUND THE ROOF DRAIN SHALL BE FULLY BONDED.
2. CAST IRON DRAIN UNIT SHOULD ALLOW 100 MM MEMBRANE OVERLAP, SURFACE OF OUTLET IS TO BE PRIMED.

ACCESSIBLE / SERVICE ROOF

**DRAIN DETAIL
(BITUMAT TECHNICAL DRAWING)**

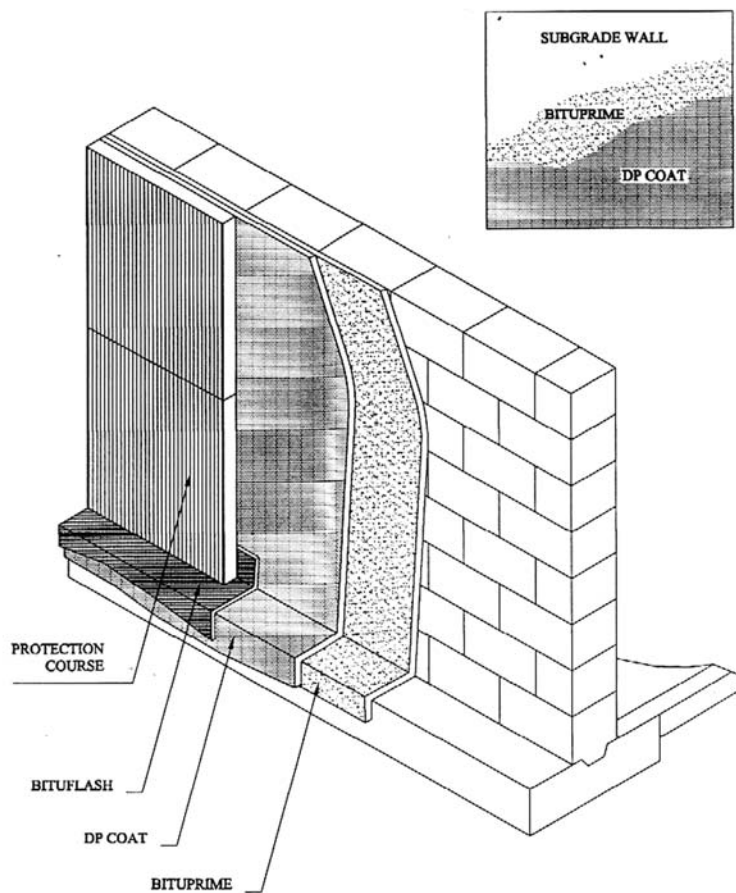


NOTE:

1. FOR LOOSE LAID SYSTEM 300 MM AROUND THE ROOF DRAIN SHALL BE FULLY BONDED.
2. CAST IRON DRAIN UNIT SHOULD ALLOW 100 MM MEMBRANE OVERLAP, SURFACE OF OUTLET IS TO BE PRIMED.

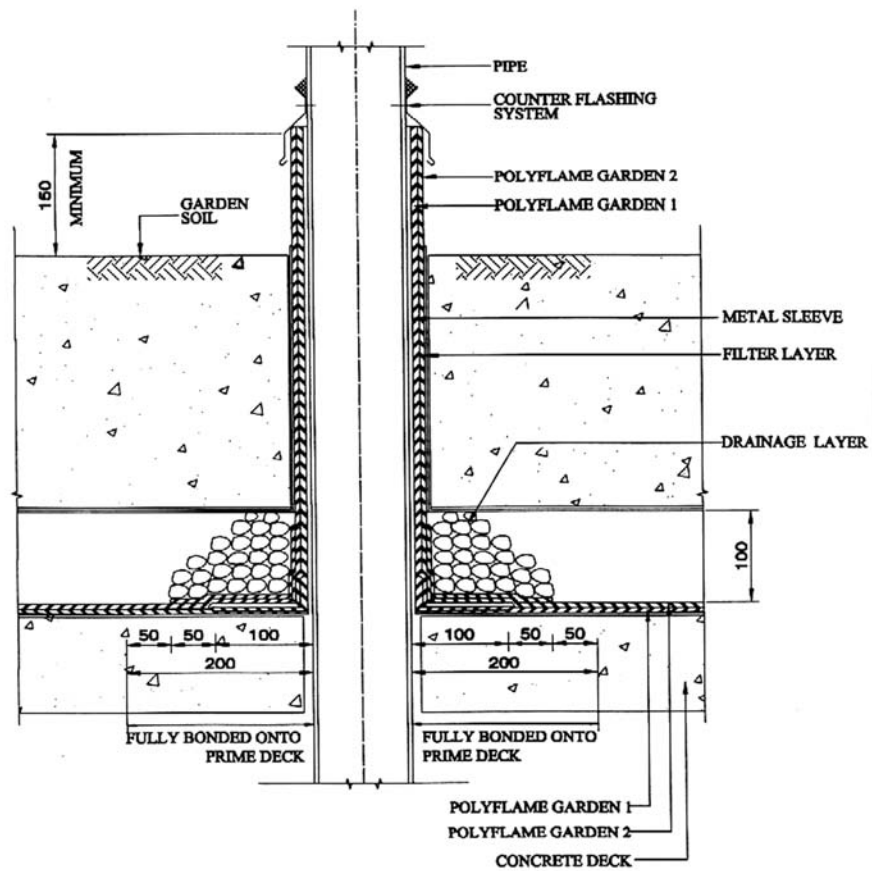
ACCESSIBLE / SERVICE ROOF

**DRAIN DETAIL
(BITUMAT TECHNICAL DRAWING)**



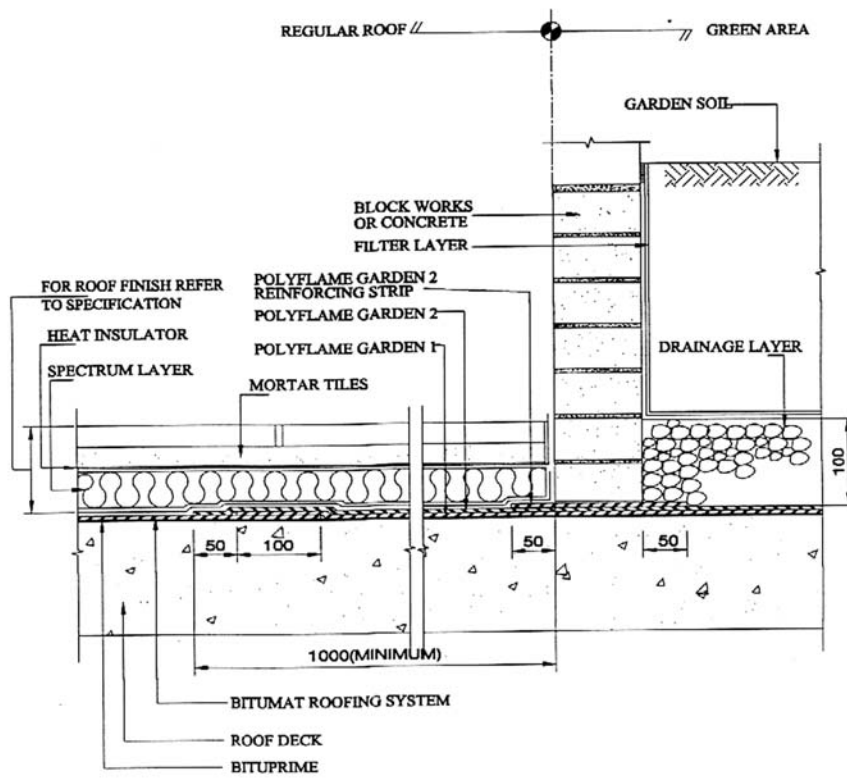
DAMP PROOFING-DP COAT SYSTEM

**ROOF GARDEN WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



PIPE PENETRATION

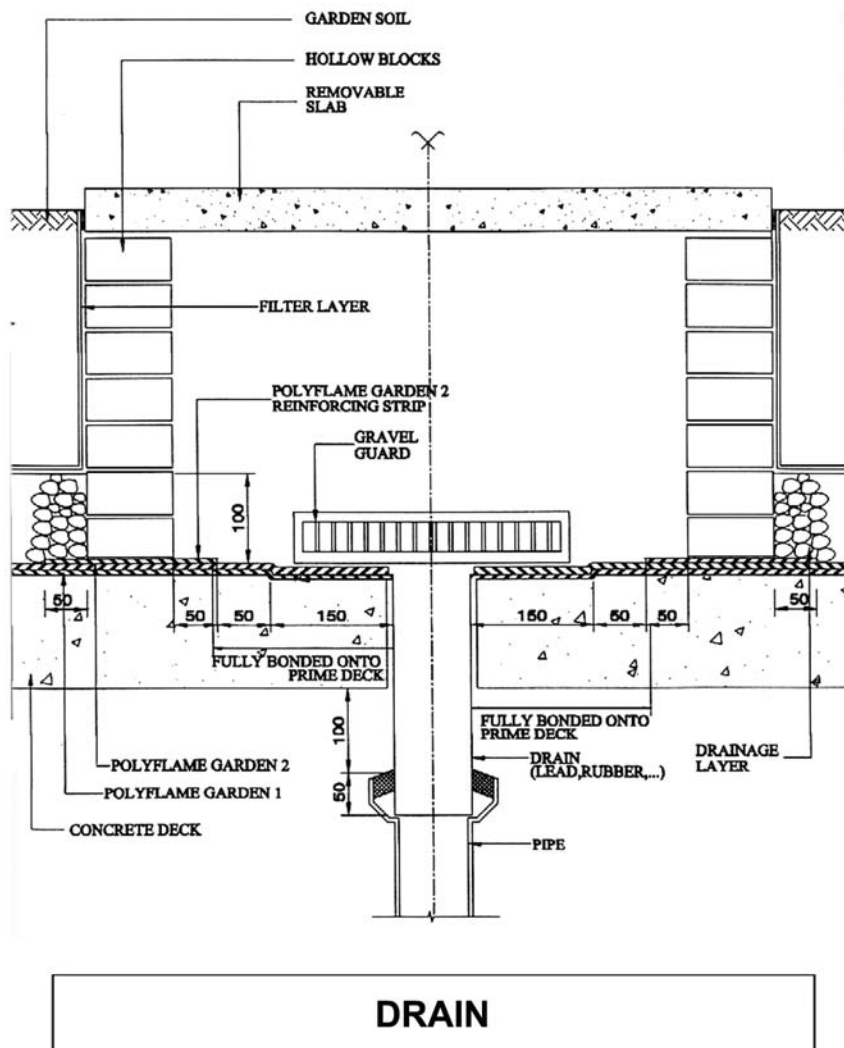
**ROOF GARDEN WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



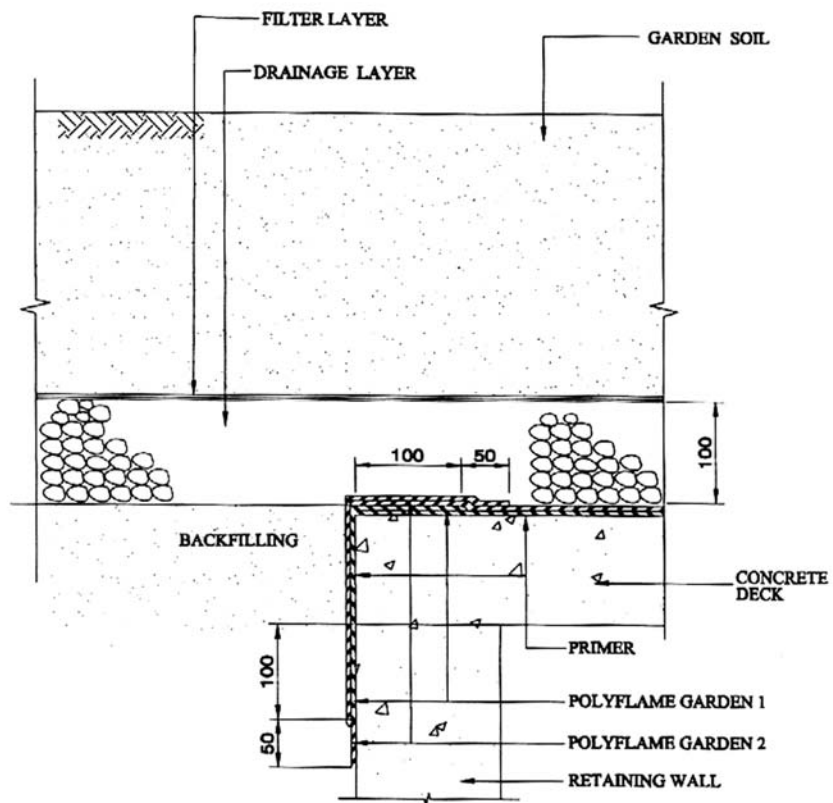
LOCALIZED GREEN AREA

BITUMAT بیتومات

**ROOF GARDEN WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



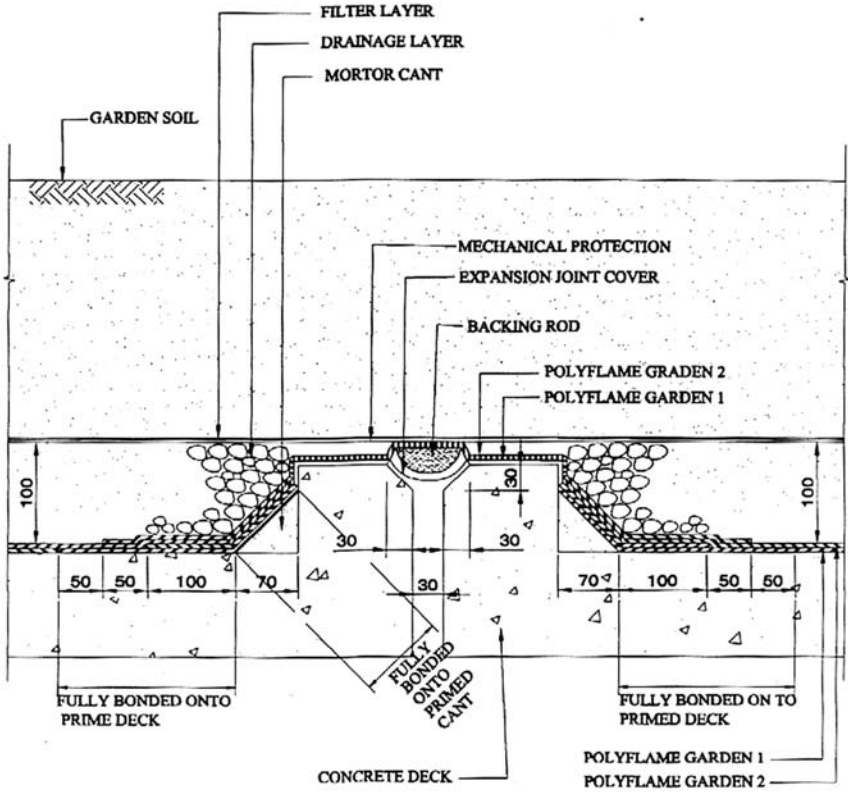
**ROOF GARDEN WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



EDGE FLASHING

BITUMAT  **بيتومات**

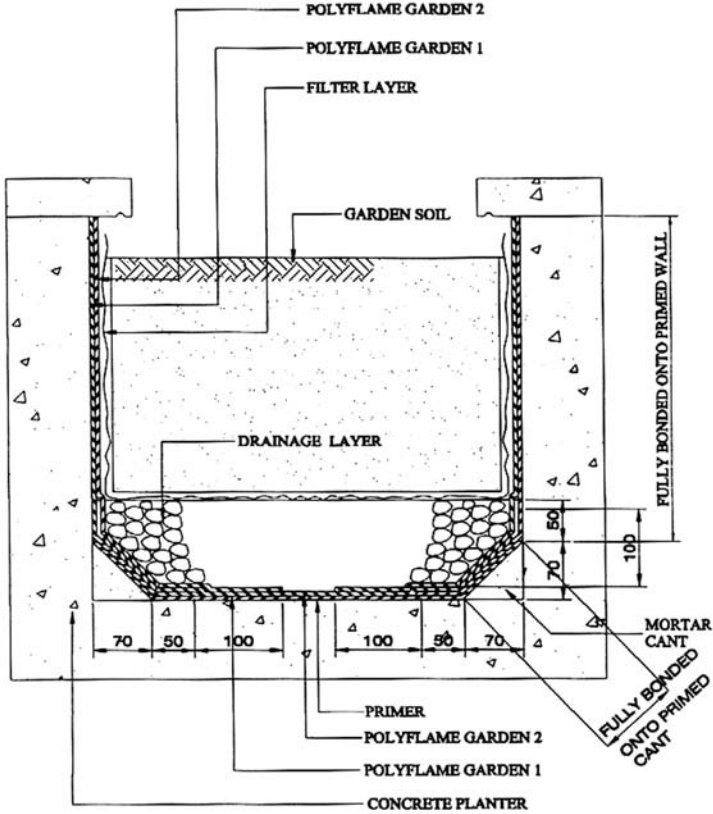
**ROOF GARDEN WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



EXPANSION JOINT

BITUMAT بیتومات

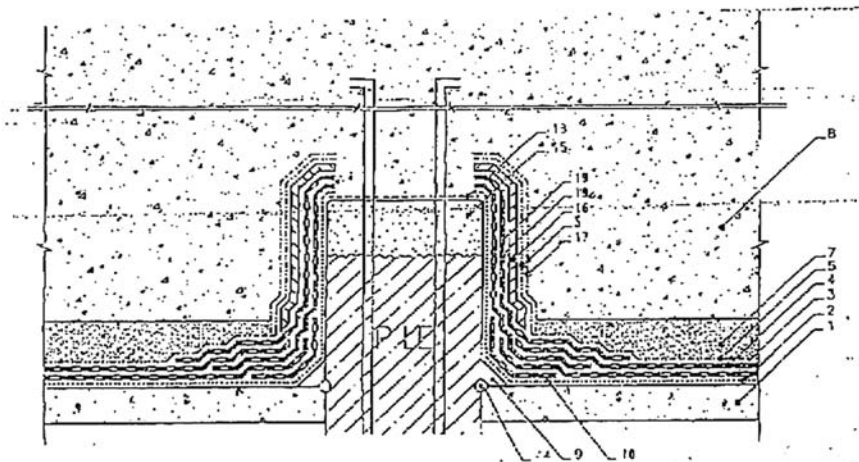
**ROOF GARDEN WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



NOTE: FOR EASE OF INSTALLATION, POLYFLAME GARDEN 1 MAY BE FULLY BONDED HORIZONTALLY.

SMALL PLANTER

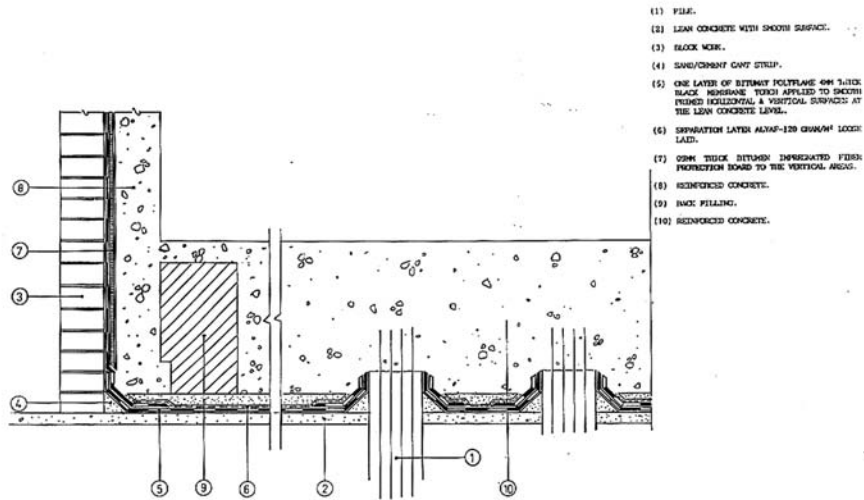
**PILE TREATMENT
(BITUMAT TECHNICAL DRAWING)**



1. CONCRETE BLINDING
2. SOLVENT BASE PRIMER, CONFORMING TO ASTM D-41
3. FIRST LAYER "POLYFLAME" 3 mm THICK, APP MODIFIED BITUMINOUS WATERPROOFING MEMBRANE, REINFORCED WITH POLYESTER, FULLY BONDED, TORCH APPLIED
4. SECOND LAYER "POLYFLAME" 4 mm THICK, APP MODIFIED BITUMINOUS WATERPROOFING MEMBRANE, DOUBLE REINFORCED WITH POLYESTER & FIBERGLASS, FULLY BONDED, TORCH APPLIED
5. PROTECTION LAYER OF NON-WOVEN GEOTEXTILE SHEET, "TYPAR" 136 g/sqm, LOOSE LAD
7. SCREED PROTECTION (BY OTHERS)
8. R.C. SLAB (BY OTHERS)
9. 50 x 50 mm MORTAR CANTSTRIP (BY OTHERS)
10. REINFORCING STRIP "POLYFLAME" 4 mm THICK, APP MODIFIED BITUMINOUS WATERPROOFING MEMBRANE, REINFORCED WITH POLYESTER, 300 mm GIRTH, AROUND PILE NECK, FULLY BONDED, TORCH APPLIED
14. HYDRAULIC CEMENT CANTSTRIP REINFORCEMENT
15. "MASTERFLOW 524 CP" OR "COMBOXTRA CP" NON-SHRINK CEMENTITIOUS GROUT TO LEVEL AND HARDEN THE TOP FACE OF PILE NECK, 40 mm AVERAGE THICKNESS
16. "SURE-BOARD" PROTECTION BOARD, 2.5 mm THICK, SPOT BONDED
17. PROTECTION LAYER OF POLYETHYLENE SHEET, 300 MICRON
18. TWO COATS OF "MULTI COAT" OR "BRUSH BOND"
19. DOUBLE LAYER "POLYFLAME" 4 mm THICK, APP MODIFIED BITUMINOUS WATERPROOFING MEMBRANE, REINFORCED WITH POLYESTER, FULLY BONDED, TORCH APPLIED

PILE TREATMENT 01

**PILE TREATMENT
(BITUMAT TECHNICAL DRAWING)**

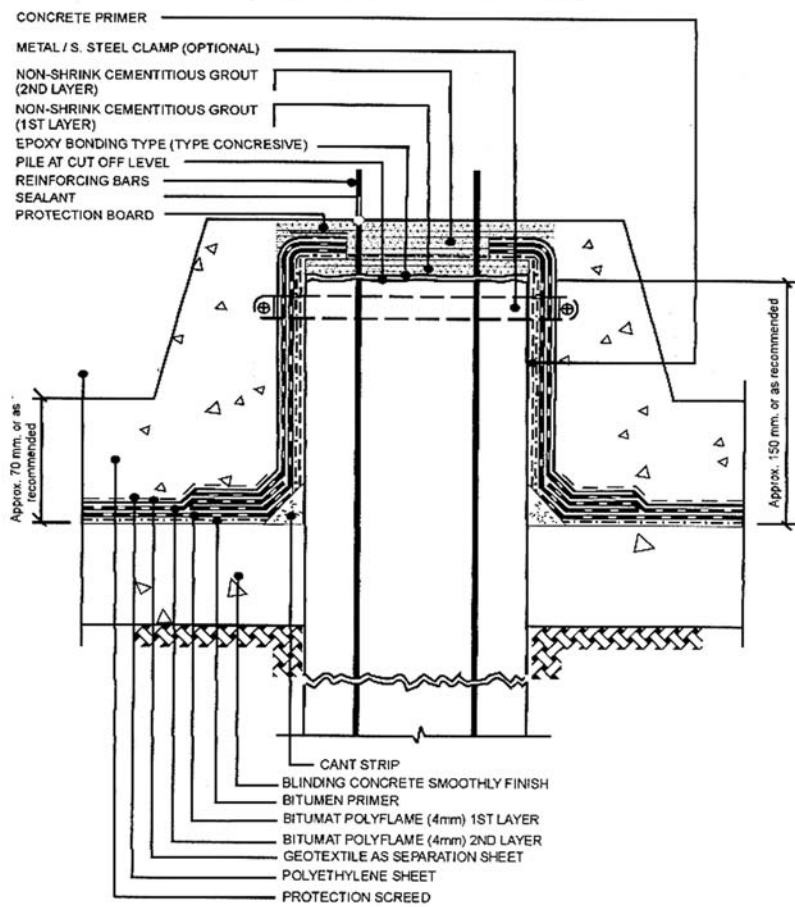


- (1) PILE.
- (2) LEAN CONCRETE WITH SMOOTH SURFACE.
- (3) BLOCK WORK.
- (4) SAND/CEMENT CANT STRIP.
- (5) ONE LAYER OF BITUMAT POLYFLAME 0.8mm THICK BLACK MEMBRANE TORSION APPLIED TO SMOOTH FINISH HORIZONTAL & VERTICAL SURFACES AT THE LEAN CONCRETE LEVEL.
- (6) SEPARATION LAYER ALKAF-120 GRAHAM LOTT LAIN.
- (7) 0.8mm THICK BITUMAT IMPREGATED FIBRE PROTECTION BOARD TO THE VERTICAL AREA.
- (8) REINFORCED CONCRETE.
- (9) BACK FILLING.
- (10) REINFORCED CONCRETE.

PILE TREATMENT 02

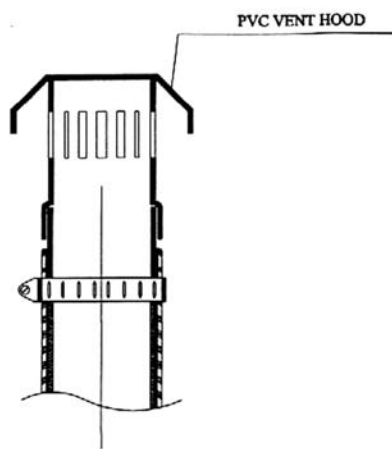
**PILE TREATMENT
(BITUMAT TECHNICAL DRAWING)**

(Treatment Over Pile Head)

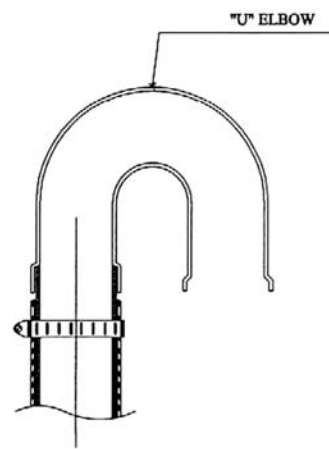


PILE TREATMENT 04

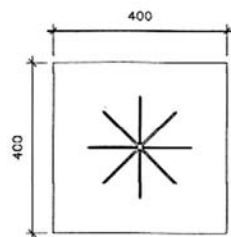
**PIPE PENETRATION
(BITUMAT TECHNICAL DRAWING)**



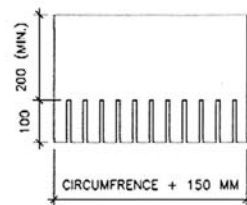
**VENT PIPE
TERMINATION**



**CABLE PENETRATION OR
A/C CONDUIT TERMINATION**



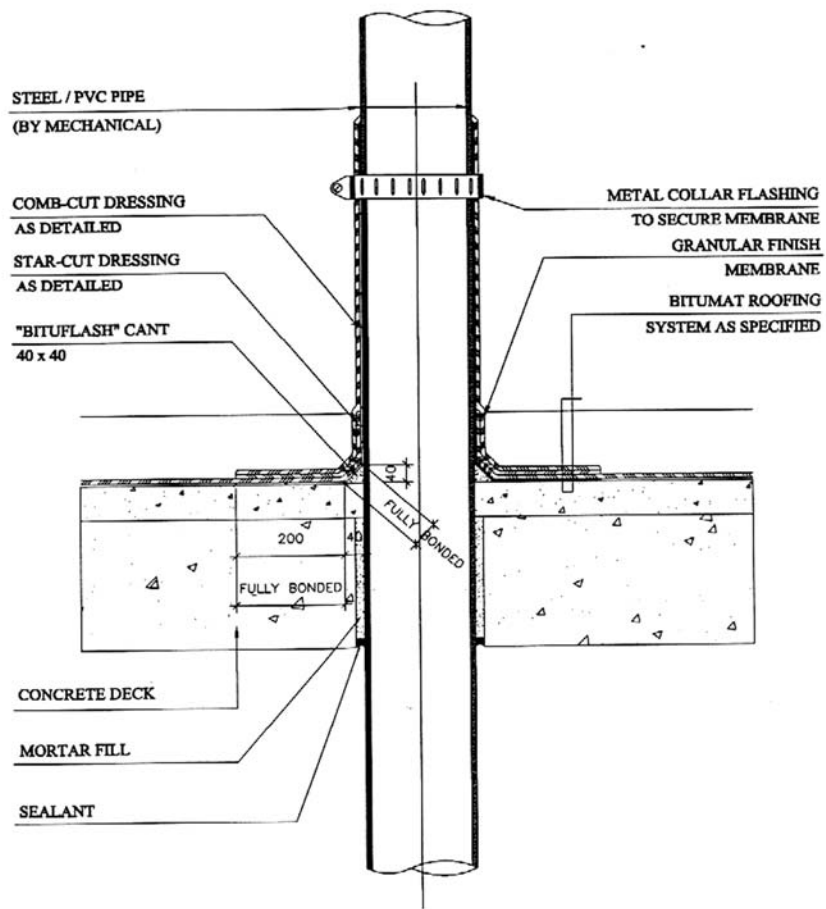
**STAR-CUT DETAIL
FOR PIPE DRESSING**



**COMB-CUT DETAIL
FOR PIPE DRESSING**

CONCRETE DECK-DETAILS

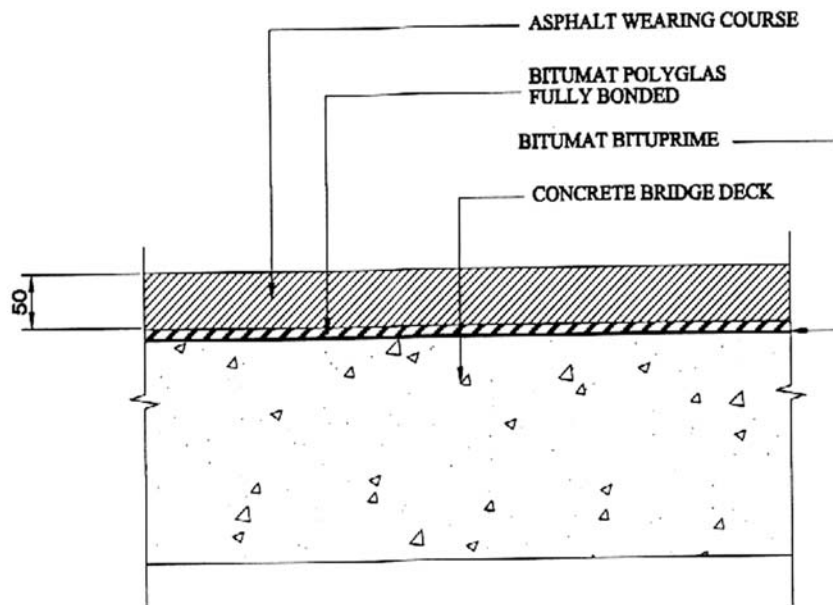
**PIPE PENETRATION
(BITUMAT TECHNICAL DRAWING)**



CONCRETE DECK-TYPICAL

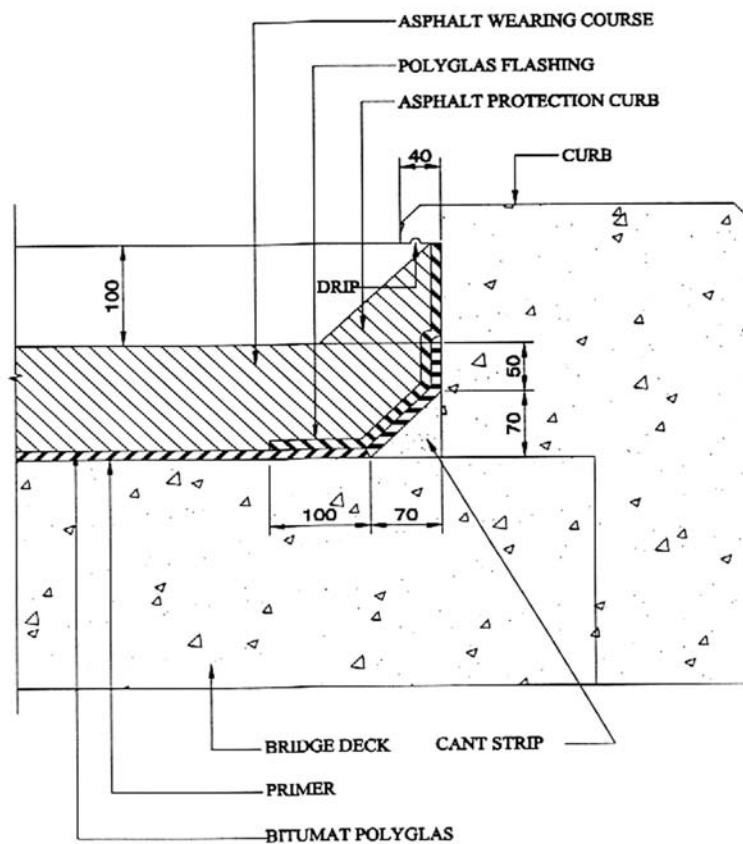
BITUMAT  **بيتومات**

**BRIDGE DECK WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



BRIDGE DECK WATERPROOFING SYSTEM

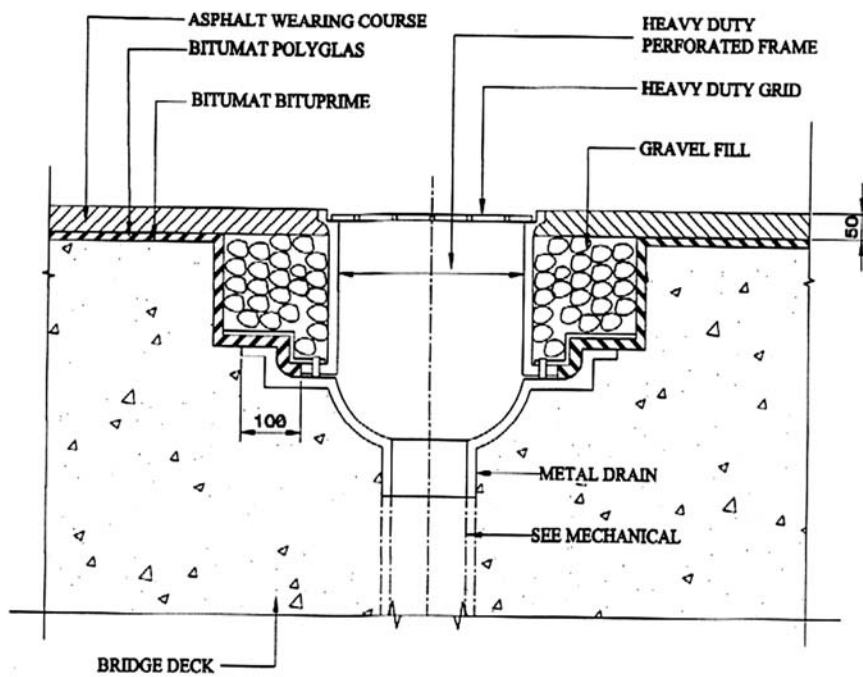
**BRIDGE DECK WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



TYPICAL FLASHING

BITUMAT بیتومات

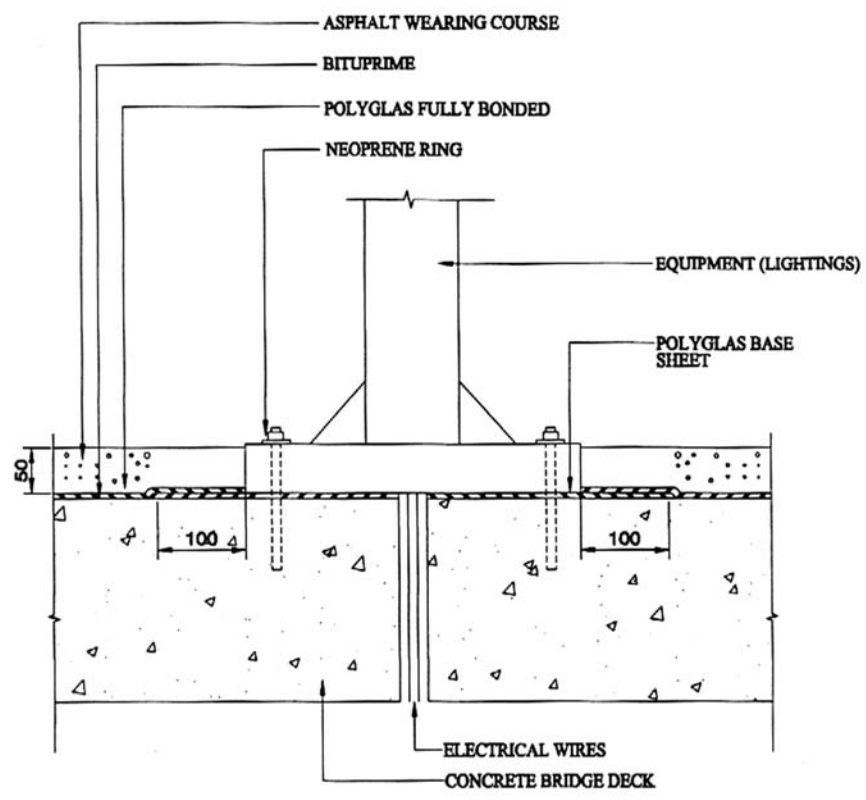
**BRIDGE DECK WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



DRAINS

BITUMAT  **بيتومات**

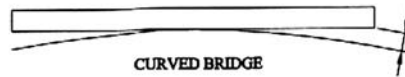
**BRIDGE DECK WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



PENETRATION

**BRIDGE DECK WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**

POLYGLAS LAID IN PARALLEL TO TRAFFIC



END LAPS STAGGERED



RESEAMED OVERLAPS



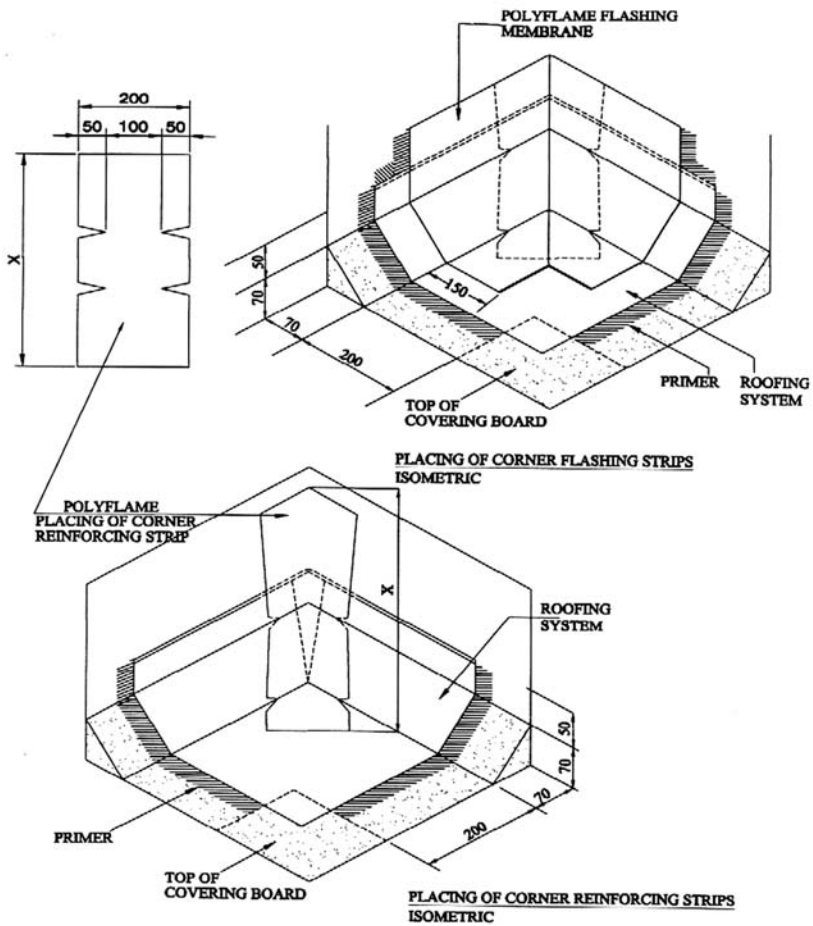
MEMBRANE LAYOUT

BITUMAT



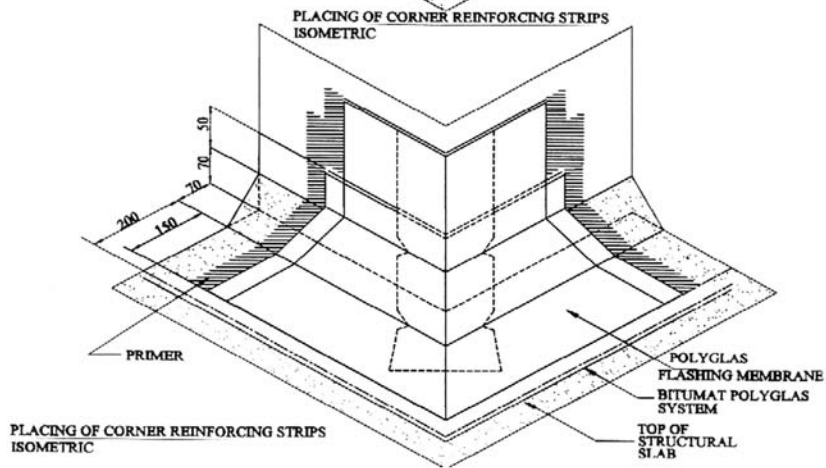
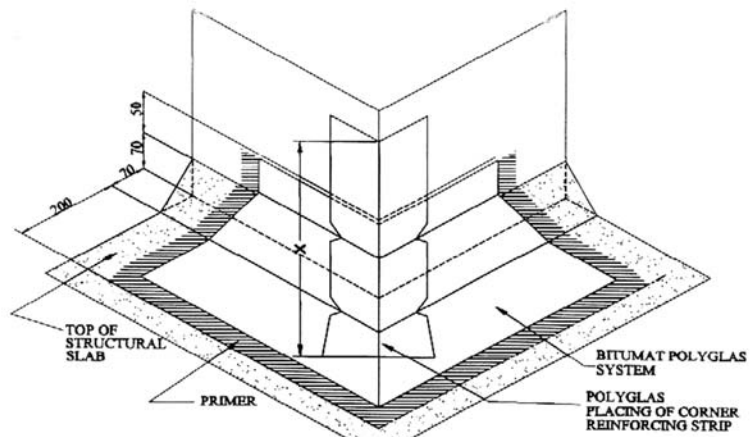
بيتومات

**BRIDGE DECK WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



INTERNAL CORNER

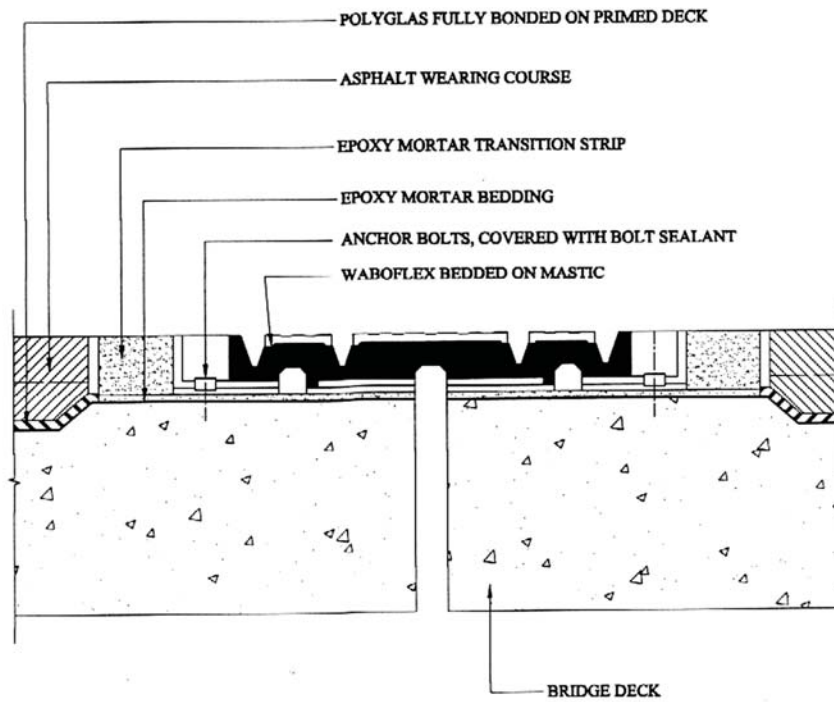
**BRIDGE DECK WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



EXTERNAL CORNER

BITUMAT  **بيتومات**

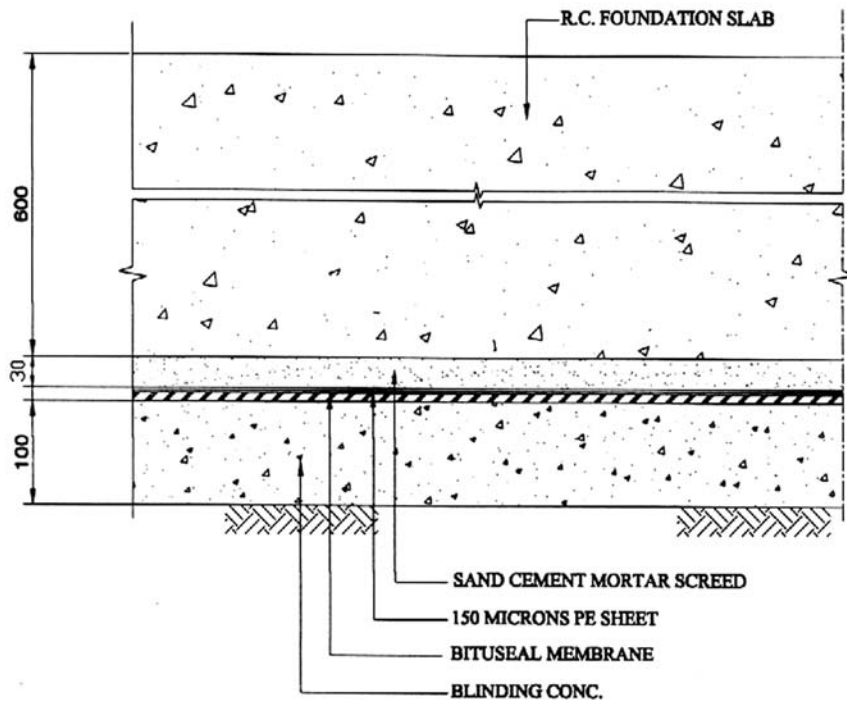
**BRIDGE DECK WATERPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



EXPANSION JOINTS

BITUMAT بیتومات

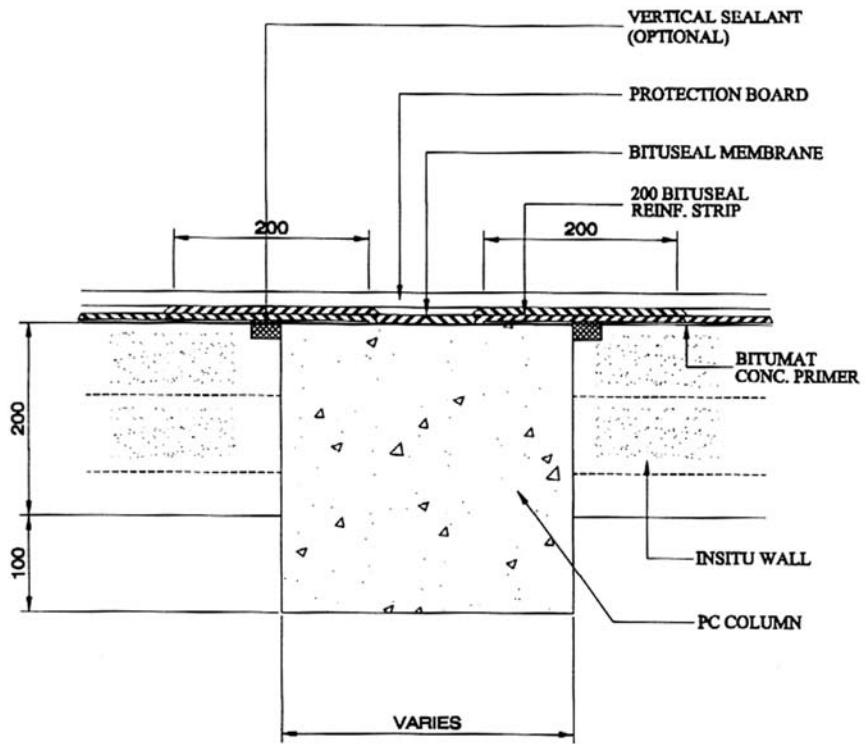
BITUSEAL DAMPPROOFING SYSTEM (BITUMAT TECHNICAL DRAWING)



TYPICAL SECTION

BITUMAT  **بيتومات**

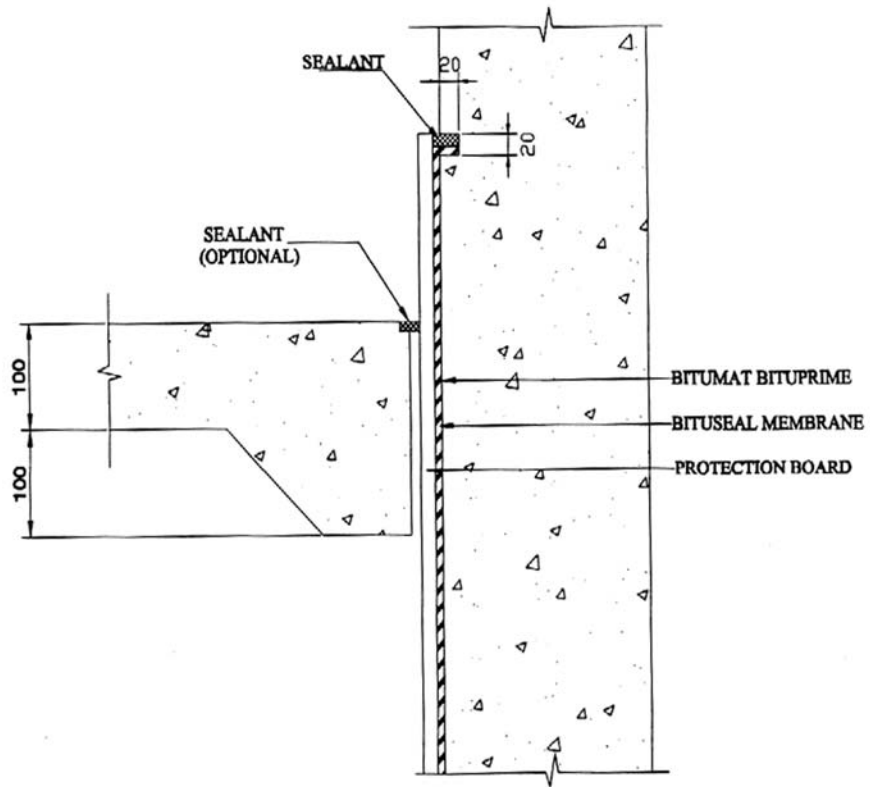
**BITUSEAL DAMPPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



WALL COLUMN / CONNECTION PLAN

BITUMAT بیتومات

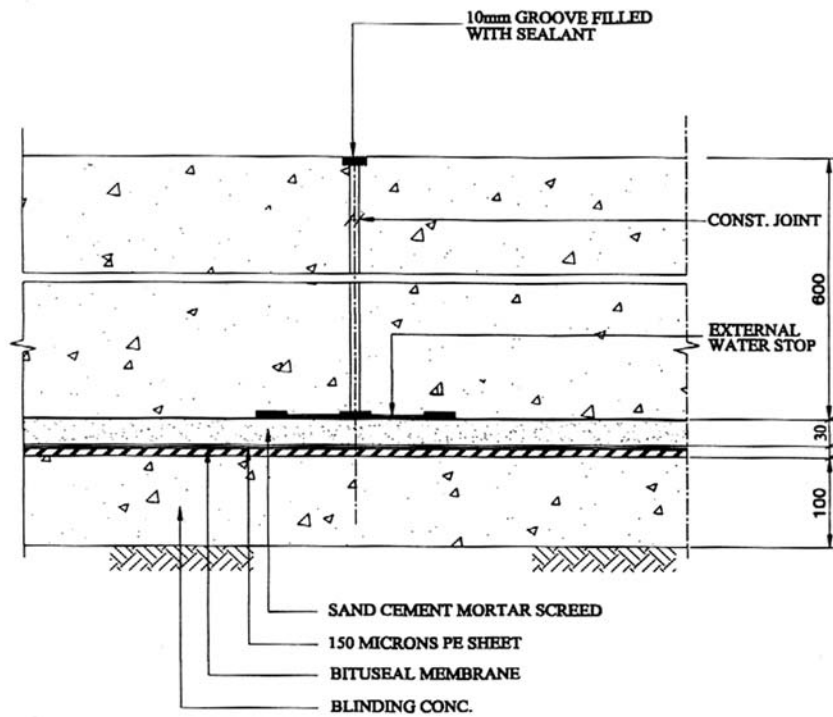
**BITUSEAL DAMPPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



MEMBRANE VERTICAL TERMINATION

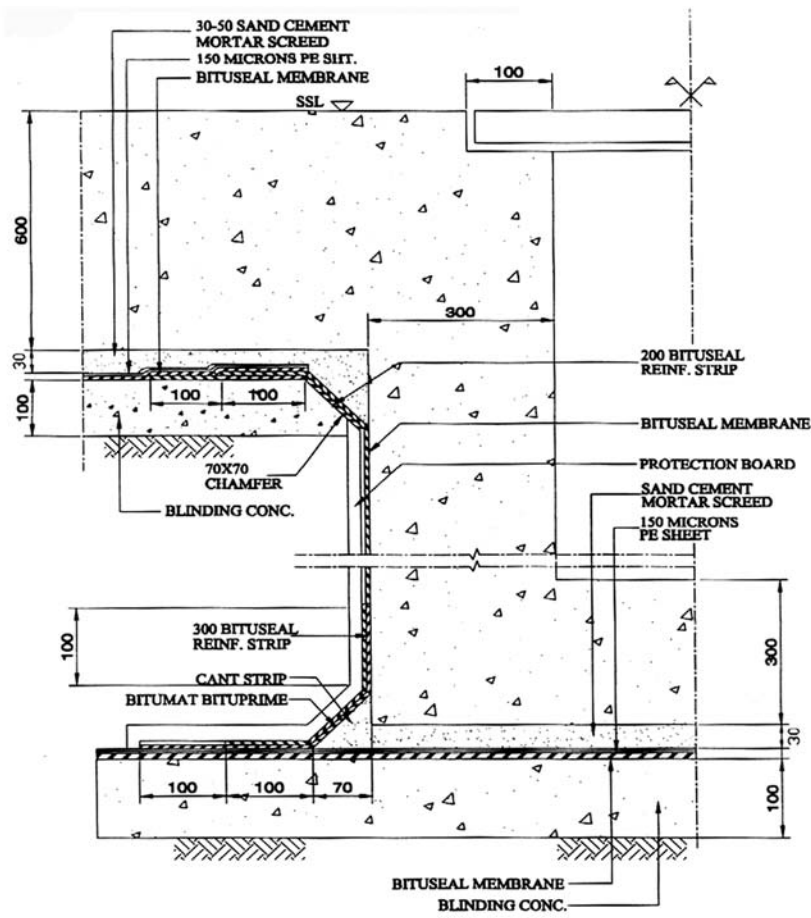
BITUMAT بیتومات

BITUSEAL DAMPPROOFING SYSTEM (BITUMAT TECHNICAL DRAWING)



TYPICAL CONSTRUCTION JOINT

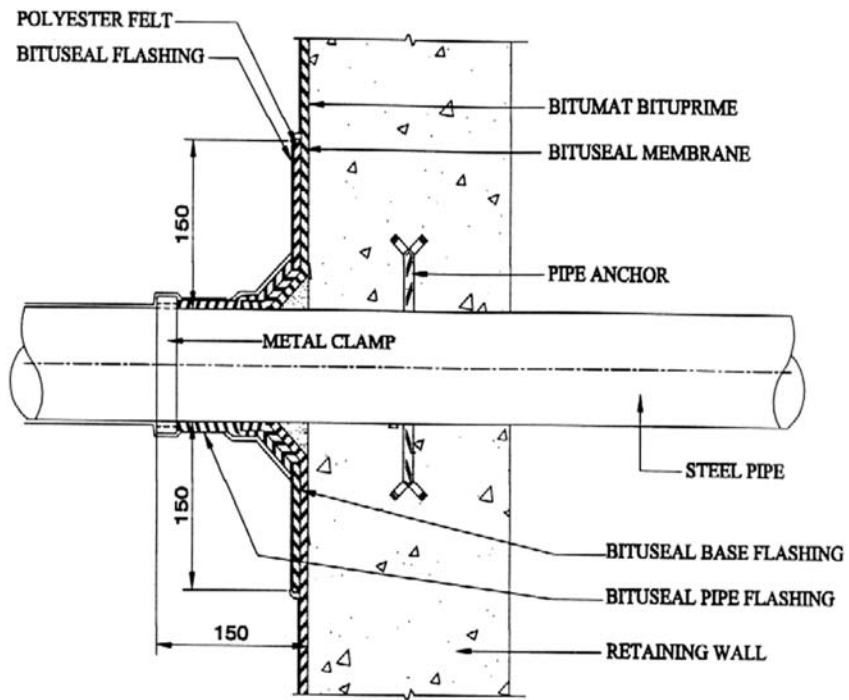
**BITUSEAL DAMPPROOFING SYSTEM
(BITUMAT TECHNICAL DRAWING)**



TYPICAL MANHOLE SECTION

BITUMAT بیتومات

BITUSEAL DAMPPROOFING SYSTEM (BITUMAT TECHNICAL DRAWING)



PENETRATION

