DETAIL 09

LOFT ROOM - DORMER WINDOW CONSTRUCTION
FACE BRICKWORK - ATTIC TRUSS ROOF - 40° GABLED DORMER - PLAIN TILES - CAVITY WALL

MC - P ROOF - DORMER #32

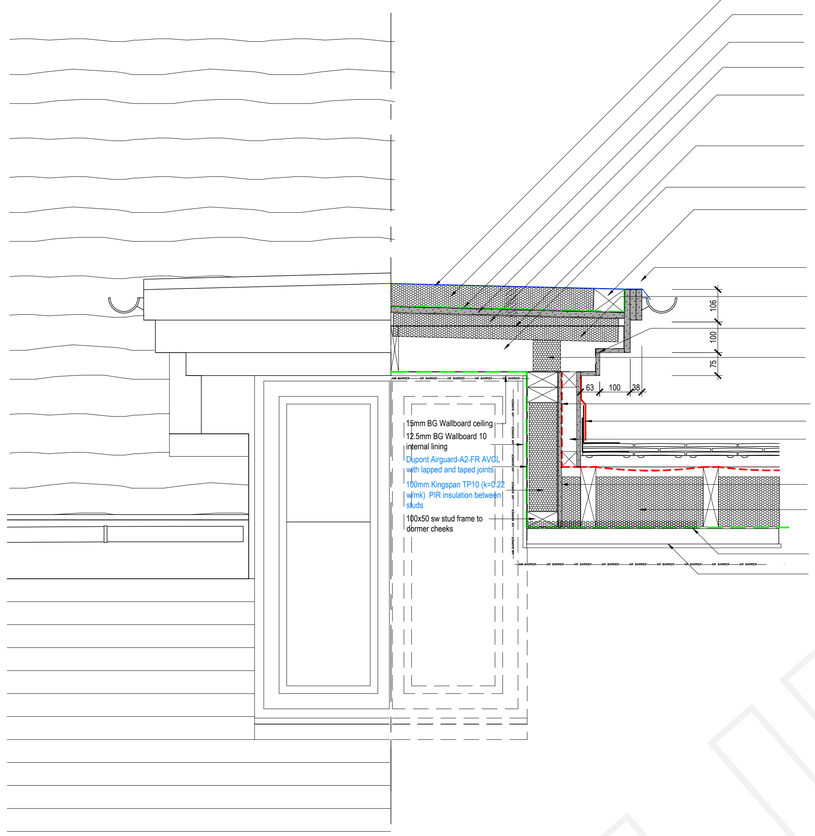
Main roof eaves construction accords with LABC Construction Detail Reg : E11MCFF2
Ψ_{eaves} = 0.007 W/mk

Nominal Roof U value = 0.1 W/m²K - flat ceilings
= 0.1 W/m²K - sloping ceilings

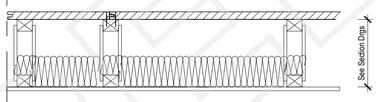
Nominal Wall U value in the range = 0.18-0.28 W/m²K

Dormer Roof Spec - RP-D-1
Main Roof Spec - RP-BU-5a

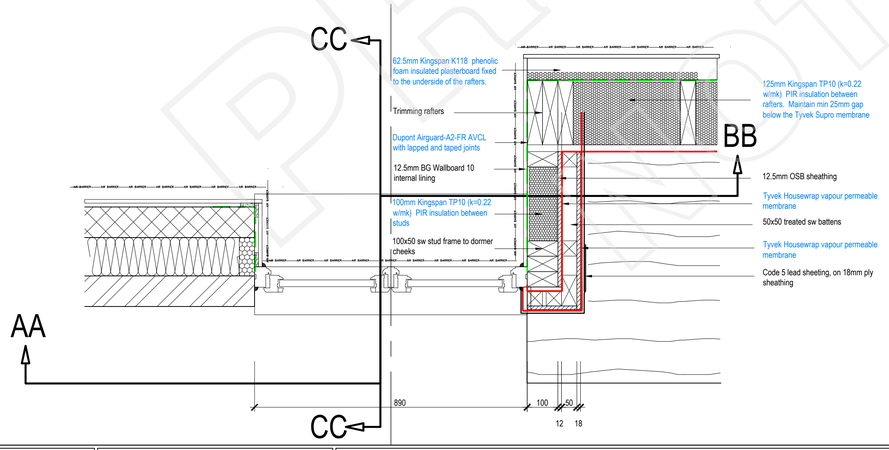
Photographic evidence will be required for this construction

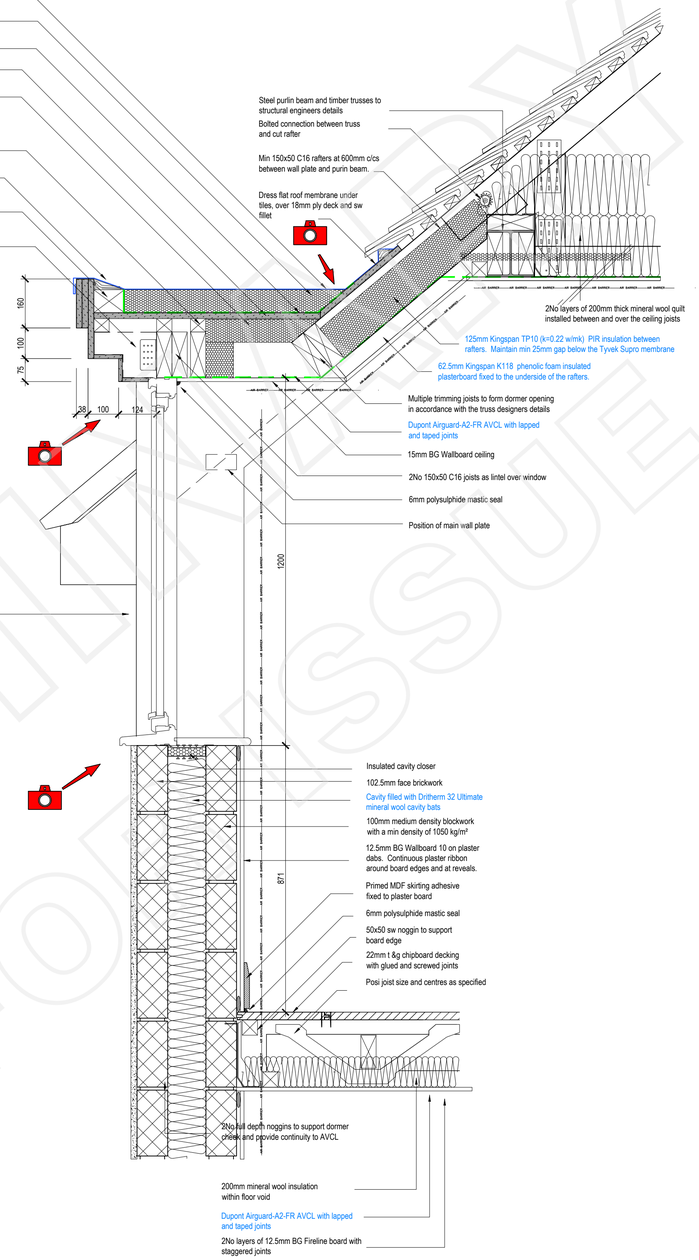


SECTION AA



SECTION BB





SECTION CC

Dormer Flat Roof (RF-D-1) - Reduced Depth *(warm roof - U=0.15 w/m2k)*

The flat roof is to be covered with mechanically fixed Sarnafil or similar EPDM roofing membrane, on mechanically fixed 75mm Kingspan TR 26 insulation board (suitable for mechanically fixed single ply membranes), installed in accordance with the manufacturers specifications, on 300um polythene vapour barrier with lapped and taped seems, on 19mm sterling board deck, on sw firrings to provide a minimum 1:40 fall, nailed to flat roof joists as plan. The underside of joints are to be fully supported on joists and noggins and sealed using foil tape and acrylic adhesive. Joists are to be supported on 100 x 50 wall plate at external walls strapped vertically at max 1800mm c/c. New external walls to be built up to the underside of the insulated deck and sealed.

Cut and fit an additional layer of 75mm Kingspan TP10 insulation between the joists, pushed into contact with the underside of the deck. Line the underside of the joists with 12.5 mm plasterboard and plaster skim coat on Dupont Airguard A2-FR air/vapour control layer (AVCL). Roof voids must **not** be ventilated with this construction.

THIS ROOF CONSTRUCTION MAY BE SUBJECT TO AIR LEAKAGE TESTING ON COMPLETION.

Dormer Cheeks - Lead cladding

Form the dormer cheeks with 100x50 C16 studwork, built off of multiple rafters/trusses in accordance with the engineers details. Clad externally with Code 5 lead sheeting as described below, on 50x50 vertical battens at 400mm c/cs, on Tyvek Housewrap membrane, on 12mm OSB or ply sheething, on the stud frame. Finish internally with 12.5mm BG wall board 10, with tapped joints, on Dupont Airguard A2-FR AVCL. Insulate between the studs with 100mm Kingspan TP10 PIR insulation

Vertical lead cladding shall be formed with min Code 5 lead sheet with a max vertical joint spacing of 600mm c/cs and 75mm vertical laps at 2000mm c/cs. Vertical joints shall be formed with welts in the direction of fall incorporating 100mm wide soft copper clips within the welt spaced not more than 500mm apart. The lead sheets shall be fixed to the substrate at the top(as well as within the welts) with 2No staggered rows of copper clout nails at 75mm c/cs. The 1st row shall be 25mm from the top edge, with the 2nd 25mm lower. The lead shall be laid on an underlay of Typve Supro membrane over an 18mm marine ply sheething substrate fixed to the vertical battens.

Pitched Roof (RP-BU-5a) *(Partial Fill Between and Under - un ventilated cold roof) U=0.14*

Roof to be constructed strictly in accordance with Approved Junction Details:- LABC E10 MCFF1 (Ψ_{eaves} = 0.115 W/mk), E12 MCFF2 (Ψ_{gable} = 0.055 W/mk), E11 MCFF1 (Ψ_{eaves} = 0.007 W/mk), E13 MCFF2 (Ψ_{gable} = 0.058 W/mk).

The pitched roof is to consist of tiles to suit pitch and in accordance with the Planning Permission, on tanalised 50 x 25 s.w. battens at the appropriate centres, on Tyvek Supro vapour permeable membrane, laps sealed with Tyvek Acrylic tape, on prefabricated trussed rafters manufactured and braced to BS 5268-3: 1998. Suitable wind bracing shall be provided in accordance with the truss manufacturer instructions. Trusses to be fixed to 100 x 50 tanalised wall plate using galvanized mild steel truss clips.

Where sloping ceilings occur, increase the rafter depth to 150mm and insulate between the rafters using 125mm Kingspan TP10 (k=0.022w/mK), maintaining a min 25mm void below the breather membrane.
Fix Dupont Airguard A2 FR air/vapour control layer (AVCL) to the underside of rafters forming sloping ceilings and clad with 62.5mm Kingspan K118 insulated plasterboard with taped and filled joints and plaster skim.

To the upper flat ceilings, fix Dupont Airguard Control air/vapour control layer (AVCL) to the underside of joists and clad with 12.5mm Gyproc Wallboard 10 with taped and filled joints and plaster skim. Ensure adequate linkage between the vapour control layers in the flat and sloping ceilings and ashlar walls. Insulate using 400mm Rockwool quilt (k=0.04w/mK) in 2No layers of 200mm quilt, 1No layer between and 1No layer over the joists. Ensure continuity of insulation with the wall insulation.

Use a Tyvek Eaves Carrier. Stop the membrane short of the fascia and lap it onto the Eaves Carrier.

N.B. This is a vapour permeable roof construction, but cross ventilation of the roof void is provided to allow for adverse winter climate conditions. Soffit ventilation rated at 25000mm²/m and ridge level ventilation at 5000mm²/m should be provided as shown.
It is important that all potential air paths through the ceiling are effectively sealed to prevent warm moist air entering the roof space. Particular attention should be given to penetrations by services and light fittings. Loft hatches should be insulated and fitted with compressible draught strips. The installation generally must be in accordance with the manufacturers details.

This specification should be read in conjunction with the relevant detail drawings.

THIS ROOF CONSTRUCTION MAY BE SUBJECT TO AIR LEAKAGE TESTING ON COMPLETION AND ASSESSMENT OF THE ACCREDITED CONSTRUCTION DETAILS USED.

Restraint Strapping

Restraint strapping as detailed by Engineer and/or specialist, with: Ceiling ties and gable rafters to be strapped to walls with Expamet M305 150x1350mm galvanised steel lateral restraint straps at 1200mm c/cs. Attach to minimum three ceiling joists/rafters and provide noggins between. Wall plates to be strapped to walls with Expamet M305 150 x 1050mm galvanised steel lateral restrain straps at 1200mm c/cs. Straps to be plugged and screwed to minimum 4no. blocks with minimum 6 no. screws.

Walls

For cavities up to 100mm wide, 225mm wide stainless steel double triangle or vertical twist ties to BS EN 845-1:2003 are to be provided between leaves at max 750mm horizontal centres and max 450mm vertical centres, staggered. At reveals, wall ties are to be provided at 225mm vertical centres. Cavites of 150mm wide, shall be provided with 275mm wide suitable ties such as Anchon ST1 or Teplo 2 low thermal conductivity ties at the above vertical and horizontal centres, unless otherwise specified by the Structural Engineer. Where low thermal conductivity ties are specified they should not be substituted without reference to BRD Tech Ltd, as this may adversely affect the U value of the wall construction.

Close cavities at reveals using Thermabate or similar insulated cavity closers fitted in accordance with the manufacturer's instructions.

Lintels, generally to be from the Catnic range and to be of the thermally broken type, depending on cavity type. A cavity tray DPC with stop ends is to be provided over lintels, with associated weep vents to the outer leaf at 450mm c/cs. Lintels are to be provided with minimum 150mm bearing unless otherwise stated.

To avoid cold bridging no brickwork is to be built into the inner leaf. Where coursing is necessary, coursing blocks are to be used.

First Floor (Metal Web Engineered Joists - 30 mins FR)
FT-I-1

Install open web joists sized spaced and braced as shown specialist suppliers design details. Joists to be supported from hangers on external walls and party walls and built into internal walls as required unless otherwise noted on the plans.

Floors decking to be 22mm tongue and groove P5 grade chipboard. Ceilings finished with 15mm British Gypsum Wallboard and skim. Lay 100mm mineral wool quilt (10kg/m³) in voids for acoustic insulation.Lateral restraint provided to external walls by 30x5 galvanised metal straps at max 1.8m c/cThe joists should not be cut or modified in any way unless specifically authorised by the manufacturer.

Where steel beams project below the ceiling line, they shall be clad with 2No layers of 12.5mmm BG Fireline board.

The first floor over the garage shall be lined with 2 No layers of 12.5 BG Fireline board with staggered joists to achieve 30 minutes fire resistance. This floor shall also be insulated with 200mm thick mineral wool to achieve a U value of 0.20 W/m²k.

Kingspan Thermaroof TR26	
Kingspan TP10 PIR roof insulation board	Dupont Airguard A2 FR AVCL
Tyvek-Supro roof membrane	Marley Dry Ridge System

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE OTHER BUILDING REGULATIONS DRAWINGS

Corporate Building Engineers
ACCREDITED
CIAT GROUP MEMBERSHIP SCHEME MEMBER

Metres 1:50
0 0.5 1 1.5 2 2.5 3 3.5 4
0 1 2 3 4 5 6 7 8
Metres 1:100

REVISIONS

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-	-	-
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Project
NEW DWELLING
SITE ADJACENT LITTLE PENTON,
ONSLOW GREEN,
BARNSTON, CM6 3PP

Status
BUILDING REGS

Title
CONSTRUCTION DETAILS 2OF2

Drn By **SCS**
Scale @ A1 **1:10**
Date **JAN 24**

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SUSTAINABLE ARCHITECTURE

Ref **BRD/24/004/401**