

Specification & Construction Details

Consequential Improvements

If the existing dwelling has uninsulated walls or partially insulated cavity walls, fill with insulation where suitable.

If there is no loft insulation or less than 200mm thick of insulation, then increase to 250mm.

If the existing property has a hot water tank then ensure the tank has adequate insulation, to be confirmed on site.

Foundations

Foundations to cavity walls to be 600mm wide x 225mm thick concrete strip foundations. Foundations to load bearing blockwork partition walls to be 450mm wide x 225mm thick concrete strip foundations. Depth of foundations to formation level are to be a minimum of 750mm in clay soils. A Suitable depth as agreed and approved by building inspector on site.

Ground Floor

Ground floor construction to comprise 50mm thick sand/cement screed on 100mm thick concrete oversite on 120mm thick Celotex insulation board on Visqueen 1200 gauge damp proof membrane on sand blinding layer on minimum 150mm thick well compacted clean hardcore. Provide 25mm thick PIR insulation board to floor slab perimeter to prevent cold bridging. U-value of floor to achieve minimum value of 0.18W/m²k.

Additional measures if required

Radon gas protection measures to include Radon cavity barrier and Radon slab edge barrier (Glidevale or similar) and Monarflex Radon damp proof membrane (or 2000 gauge high performance damp proof membrane suitably lapped with gas tight joists).

External Walls Internal Walls

Cavity wall construction to be 325mm wide cavity wall construction consisting of external skin of 100mm dense concrete block with white spa rendered finish/ face brick, 50mm wide cavity and 75mm wide Celotex Tuff R (ref: CW2048) rigid insulation board clipped to outer face of inner block with proprietary wall tie disk clips. Internal skin to be 100mm thick dense concrete block with 37.5mm PIR insulated plasterboard lining.

Wall ties to be stainless steel type BS 1243 spaced at 750mm centres horizontally and 450mm vertically, staggered in alternative rows. Provide additional ties around openings at 225mm vertical centres and 150mm max from openings with un-bonded jambs. No ties to be laid on dpc. Cavities to be closed either in concrete block on flat or proprietary plastic closers.

Horizontal dpc to be "Hyload" pitch polymer 100mm wide or similar approved dpc at min height of 150mm above adjacent finished ground level. Dpc to have min. 150mm lap at joints and with damp proof membrane to ensure a continuous watertight seal.

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Brickwork/Blockwork Sundries

All cavities to be closed at reveals, sills and verges using 100mm blockwork return and insulated "Hyload" dpc at junction with outer leaf or proprietary "Thermobate" or similar approved cavity closers.

Lintels to cavity wall openings to be galvanised steel lintels, I.G or similar, insulated to prevent thermal bridging with dpc tray over all window and door openings.

Internal Walls

Ground floor Internal partition wall to be 100mm thick dense concrete block built on independent foundations as previously described. Horizontal dpc to be provided. Lintels to internal walls to be r.c lintels or galvanised steel box type lintels as appropriate with min end bearing of 150mm. Where masonry walls abut, they should be fully bonded. Structural design of internal walls to be BS5628 with blocks having compressive strength of 2.8N/mm², bricks to have compressive strength of 10.0N/mm². Provide lateral restraint at floor and ceiling.

First floor internal wall to be 75 x 50mm stud frame with 12.5mm plasterboard both sides and skim finish. 50mm dense mineral wool slab to void.

First Floor

Softwood timber joists size and spacing as shown on drawing, 22mm weyroc decking and 100mm thick mineral wool quilt to floor void. Provide mild steel lateral restraint straps at maximum 2.00m c.c

Roof Covering and Construction

New roof to be concrete interlocking roofing tiles with min 100mm lap and gauge as approved by manufactures fixing details, fixed in accordance with BS5534: Pt 1:1990 and BS8000: Pt 6:1990. Battens should be at least 1.2m in length and should be of sufficient length supported at each end and intermediately by at least three rafters. Butt joints over intermediate supports should be staggered and ends must be sawn. The underlay to be breathable felt, lapped a minimum of 150mm horizontally and fixed with aluminium clout head nails, felt to be carried well into gutters. Lead flashings at abutment of new roof with existing wall be in accordance with BS 1178 (Code 4 for flashings, code 3 for soakers to provide a fully watertight seal). Cavity trays will also be provided at abutment.

Roof construction to be softwood rafters and ceiling joists at 400 centres, sizes as shown on drawing, or pre-fabricated roof trusses, fixed to 50 x 100mm treated soft wood wall plate fixed to wall using 1200 x 30 x 5mm galvanised m.s straps bent over wall at max. 2m centres. End rafters to be similarly strapped to gable wall at max. 1800mm centres with noggins incorporated between trusses for strap fixing.

Provide and lay 300mm thick insulation quilt to roof space in 2-layers, 150mm between joists, with 150mm cross laid over at ceiling level. Eaves ventilators not to be obstructed. Roof ventilation to be continuous eaves ventilation by Glidevale or similar approved supplier of over fascia ventilation to BS 5250:1989 comprising strip vents, eaves vent ducts, underfelt support trays and eaves vent clips. All fixed in accordance with manufactures instructions. System to provide 10,000mm²/m free area of ventilation. Provide high level ventilation to lean-to roof in the form of 2 no. vent tiles spaced equidistantly.

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FLAT ROOF

Single membrane roof covering with protection to allow traffic 18mm plywood decking on firrings, fixed to timber joists. 150mm Celotex fixed in-between joists. Fix 500 gauge vapour barrier to underside and 52.5mm insulated plasterboards, skim finish. Ensure 25mm vent gap maintained at perimeter of roof with fly mesh protection.

Rainwater fittings

Rainwater fittings to be white upvc section to match existing property with 100mm gutters and 63mm diameter downpipes discharging into new back inlet gullies as indicated on plan, all fixed in accordance with manufacturer's instructions.

Windows and Doors

Windows and doors to be purpose made high performance white upvc low E double glazed units with 12mm argon filled air gap, giving U-value of 1.60W/m² and incorporating sills. Windows to be fixed with Tapcon or similar fixing screws all in accordance with the Glass & Glazing Federation code of practice. Allow for all necessary cover trims and point around windows internally and externally using mastic.

All windows to have a minimum openable area of 1/20th of floor area to provide rapid ventilation and to have night vents fitted to provide background ventilation not less than 8000mm² to habitable rooms and 4000mm² to all other rooms. Include for upvc window boards to match frame fixed to internal sill. Obscure glazing to en-suite shower room. Thermal insulation of windows to achieve 1.60W/m²k.

Windows to bedrooms to comply with means of escape requirements of Part B.

Finishes

Ceiling finishes: 12.5mm plasterboard fixed to soft wood ceiling joists using galvanised clout head nails @ 150mm centres. Boards to have staggered joints, all joints to be filled using Gyproc joint filler and taped using 53mm wide jute scrim cloth, apply 3mm Thistle Skim finish to ceiling. Noggins are to be provided between trussed rafters. Internal wall finish to be 12mm render base coat with 3mm Gypsum plaster skim finish.

Drainage below Ground

Foul & Surface Water drainage to be 100mm diameter upvc pipe laid to falls of 1 in 60 max. All drainage runs to be located at min of 1 from external edge of concrete foundations. Drainage runs to pass through foundation walls above concrete foundations and protected using r.c lintels over pipes and openings masked both sides with rigid material to prevent entry of vermin. Pipes passing through substructure walls should accommodate movement by 50mm clearance all round or by a sleeve; walls above pipework to be fully supported against collapse with reinforced concrete lintels. Construct new inspection chambers as indicated on proposed plan either in proprietary plastic units or constructed using engineering brickwork and concrete slab with medium duty cover. All connections to I.C.'s to be with all necessary bends and channels and turned into flow of sewer. Bedding to be in accordance with upvc manufactures recommendations and Building Regulations AD H1 Para. 2.17 diagram 9 for flexible pipes. Granular fill and

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bedding to BS882: 1983, Table 4 of BS 8301 and is to be 100mm below pipe & too sides level with top of pipe.

Connect new drainage with existing manhole as indicated on plan. Make good to existing manhole on completion of connection.

Surface water drainage to be as foul drainage and connected into existing combined drainage system. Provide and install back inlet type plastic gullies where indicated bedded and surrounded in lean mix concrete.

Drainage above Ground

Provide 40mm diameter to wash hand basin and shower, all fitted with 75mm deep seal traps and suitable cleaning eyes. All drainage to have min. 1 in 40 fall. External soil and vent pipe to terminate 900mm above any adjacent ventilated opening and terminated with a wire balloon cage.

Mechanical Ventilation

Provide mechanical extract fan to bathroom/shower room having a capacity of not less than 15 litres/second. Fan to be wired to operate through light switch with delayed action cut off.

Provide mechanical extract ventilation to kitchen having a capacity of not less than 60 litres/second reduced to 30 litres / second if via cooker hood.

Provide mechanical extract ventilation to utility room having a capacity of not less than 30 litres / second.

Natural Ventilation

Habitable rooms to have rapid ventilation via openable windows with min. ventilation representing 1/20th of the floor area.

Electrical Installations

All light switches to be located not greater than 1200mm above FPL and power sockets not to be lower than 450mm above FPL. All electrical work to be in accordance with the latest IEE Regulations, British Standards Specification and codes of practise for electrical installations.

Provide an electrical test certificate on completion of works.

Heating Installation

Extend existing heating system to provide 1 no. double panel radiator to each new room. Radiators to have thermostatic radiator valve controls.

Smoke Detection

Provide mains operated interconnected smoke detectors to the hallway and first floor landing if the works include the addition of a bedroom. Smoke alarms should be sited so as to be within 7.50m of a bedroom.