

# GENERAL SPECIFICATION

320240079P

## INTERNAL STUD PARTITIONS

100mm x 50mm softwood treated timbers studs at 400mm ctrs with 50 x 100mm head and sole plates and solid intermediate horizontal noggins at 1/3 height or 450mm c/cs. Provide min 10kg/m³ density acoustic soundproof quilt tightly packed (e.g.100mm Rockwool or Isowool mineral fibre sound insulation) in all voids the full depth of the stud. Partitions to be built off doubled up joists where partitions run parallel or provide noggins where at right angles, or to be built off DPC on thickened concrete slab if solid ground floor. Walls faced throughout with 12.5mm plasterboard with skim plaster finish. Plasterboard to be taped and jointed complete with beads and stops.

## INTERMEDIATE FLOORS

Intermediate floor to be 25mm t&g flooring grade chipboard or floorboards laid on C24 joists at 400mm ctrs (see Engineer's calculation for sizes and details). Lay 100mm Rockwool mineral fibre quilt insulation min 10kg/m³ or equivalent between floor joists. Ceiling to be 12.5 Fire-Line plasterboard with skim plaster set and finish. Joist spans over 2.5m to be strutted at mid span using 38 x 38mm herringbone strutting or 38mm solid strutting (at least 2/3 of joist depth). In areas such as kitchens, utility rooms and bathrooms, flooring to be moisture resistant grade in accordance with BS EN 312. Identification marking must be laid upper most to allow easy identification. Provide lateral restraint where joists run parallel to walls, floors are to be strapped to walls with 1000mm x 30mm x 5mm galvanised mild steel straps or other approved in compliance with BS EN 845-1 at max 2.0m centres, straps to be taken across minimum 3 no. joists. Straps to be built into walls. Provide 38mm wide x ½ depth solid noggins between joists at strap positions.

## ELECTRICAL

All electrical work required to meet the requirements of Part P (electrical safety) must be designed, installed, inspected and tested by a Competent Person registered under a Competent Person Self Certification Scheme such as BRE certification Ltd, BSI, NICEIC Certification Services or Zurich Ltd. An appropriate BS7671 Electrical Installation Certificate is to be issued for the work by a person competent to do so. A copy of a certificate will be given to Building Control on completion.

## INTERNAL LIGHTING

Install low energy light fittings that only take lamps having a luminous efficiency better than 80 lumens per circuit watt. All fixed to have lighting capacity (lm) 185 x total floor area, to comply with Part L of the current Building Regulations and the Domestic Building Services Compliance Guide.

## HEATING

Extend all heating and hot water services from existing and provide new TRVs to radiators. Heating system to be designed, installed, tested and fully certified by a GAS SAFE registered specialist. All work to be in accordance with the Local Water Authorities bye laws, the Gas Safety (Installation and Use) Regulations 1998 and IEE Regulations. The energy performance of the new components to be assessed. The results should be recorded and given to the building owner. All accessible pipes to be insulated to the standards in Table 4.4 Approved Document L.

## NEW GAS BOILER

Heating and hot water will be supplied via a wall mounted condensing vertical balanced flue pressurised boiler with a minimum efficiency of 91% (as defined in ErP(1)) The energy performance of the new components to be assessed. The results should be recorded and given to the building owner. All accessible pipes to be insulated to the standards in Table 4.4 Approved Document L. All parts of the system including pipework and emitters to be sized to allow the space heating system to operate effectively and in a manner that meets the heating needs of the dwelling, at a maximum flow temperature of 55°C or lower.

No combustible materials within 50mm of the flue. Rooms to be fitted with thermostatic radiator valves and all necessary zone controls and boiler control interlocks. The system will be installed, commissioned and tested by a GAS SAFE Registered Specialist and a certificate issued that demonstrates that the installation complies with the requirements of PART L. All work to be in accordance with the Local Water Authorities bye laws, the Gas Safety (Installation and Use) Regulations 1998 and IEE Regulations. Gas-fired combination boilers installed in existing dwellings, to have at least one of the following energy efficiency measures, appropriate to the system:

- Flue gas heat recovery.
- Weather compensation.
- Load compensation.
- Smart thermostat with automation and optimisation.

Battery operated or mains-wired Carbon monoxide alarm to be fitted between 1m and 3m of the boiler in compliance with Approved Document J.

## WET UNDERFLOOR FLOOR HEATING

Underfloor heating installation to be designed and specified as an integrated package by the system manufacturer to ensure compatibility of all the components. Pipework loops design, layout and sizing of the system to be in accordance with BS EN 1264[1-5]. The most appropriate layout for a particular application should be confirmed by the system manufacturer. Maximum floor temperature to be 29°C, or 27°C where floor tiling or resilient floor is proposed in compliance with BS EN1264-2[1]. Insulation to be applied to the floor slab, the insulation type and thickness to be confirmed by calculations, taking into account the specific shape and size of the floor.

The resistance value of the insulation layer to be at least 10 times the resistance value of the floor finish. Intermediate floors should have a layer of insulation to reduce downwards heat transmission with a thermal resistance of not less than 0.75(m² K)/W.

Joints between insulation boards to be properly taped to prevent seepage of screed.

Pipework to installed directly to rigid insulation using proprietary clip rails and clips. spaced in accordance with pipe layout design. Pipework loops leading to and from the manifolds to be kept free of any sharp bends that could restrict the free flow of water. Where 90° bends are required, metal formers to be used to prevent twisting and constriction. All joints between the manifold and pipework loops are to be accommodated above the level of screed. No joints to be embedded in the screed. Pipework loops should not extend right to the edge of the floors and under the skirting boards. Pipework fixings to be maintain the integrity of the insulation and other materials.

Manifolds to be securely fastened on a wall at a reasonable height from the floor. Manifolds to be insulated or placed inside an insulated enclosure. Min 85mm sand/cement screed to be provided over insulation and underfloor heating pipework, 75mm to be provided if required by building control and/or manufacture. Prior to pouring the screed, 25mm edge insulation must be installed along the perimeter of the floor.

Movement joints to be provided to the floor screed and/or tiles in the following locations:

- Across door thresholds
- Where bay sizes exceed 40m² with a maximum of 8m on any one side
- Where sub floor construction joints exist or change of span occurs e.g. beam and block floors
- Between independently controlled heating zones
- Between heated and unheated areas of screed
- Additional joints should be considered in areas of high thermal gain e.g. large conservatories or glass atria

Screeds to be isolated at all edges, abutments and columns to allow for movement due to thermal loadings. Joints to be filled with a suitable flexible filte. Grout must not be used. The manufacturers' guidance for both the floor screed and the tiling must be followed to determine the minimum thickness of edge strip required to allow for expansion. Primary pipework and distribution pipework which does not provide useful heat to a room to be insulated to the standards detailed in paragraph 4.26 Approved Document L. Heat loss to be minimised by following the guidance in paragraphs 6.29 to 6.32 and table 4.4 Approved Document L. Each room should be provided with thermostatic room controls, capable of being used to separately adapt the heating output in each room served by the heating appliance.

Dwellings with a floor area of 150m² or greater to have a minimum of two independently controlled heating circuits. Pipework loops to be charged with water and pressure tested prior before screed is poured.

Labelling to be provided to enable effective inspection, commissioning, maintenance and repairs of the underfloor heating installation and to identify the rooms to which individual ports of the manifold are connected. All installed equipment in underfloor heating systems to be commissioned in accordance with BS EN 1264-4. before floor finish is applied. At completion commissioning certificate to be given to the building control body confirming that the commissioning plan has been followed and that all systems have been inspected and conform with the design requirements. On completion of the works the owner of the dwelling shall be provided with: Information about the fixed building services and their operating and maintenance instructions, including timing and temperature control settings. Guidance material and handover procedures should be clear and easy to understand for a non-technical audience.

## SMOKE DETECTION

Mains operated linked smoke alarm detection system to BS EN 14804 and BS 5839-6:2019 to at least a Grade D category LD3 standard. System to be mains powered with battery back up. Smoke alarms should be sited so that there is a smoke alarm in the circulation space on all levels/storays and within 7.5m of the door to every habitable room. If ceiling mounted they should be 300mm from the walls and light fittings. Where the kitchen area is not separated from the stairway or circulation space by a door, there should be an interlinked heat detector in the kitchen.

## ESCAPE WINDOWS

Provide emergency egress windows to any newly created first floor habitable rooms and ground floor inner rooms. The window should have an unobstructed clear openable area that is at least 0.33m² and have no clear dimension less than 450mm high or 450mm wide. The bottom of the openable area should be not more than 1100mm above the floor. The window should enable the person to reach a place free from danger from fire.

## EXTRACT FOR SHOWER ROOM

Provide mechanical extract ventilation to shower room ducted to external air capable of extracting at a rate of not less than 15 l/s. Vent to be connected to light switch and to have 15 minute over run if no window in the room. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

## EXTRACT TO BATHROOM

Bathroom to have mechanical vent ducted to external air to provide min 15 l/s. Vent to be connected to light switch and to have 15 minute over run if no window in room. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

## EXTRACT TO UTILITY ROOM

To utility room provide mechanical ventilation ducted to external air capable of extracting at a rate of 30 l/s. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

## EXTRACT TO KITCHEN

Kitchen to have mechanical ventilation with an extract rating of 60 l/s, or 30 l/s if adjacent to hob to external air. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. Cooker hoods to BS EN 13141-3. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

## FIXED EXTERNAL LIGHTING

Install low energy light fittings that only take lamps having a luminous efficiency better than 80 lumens per circuit watt. External light fittings to have both the following:

- Automatic controls which switch luminaires off in response to daylight.
- If luminous efficacy is 75 light source lumens or less, provide automatic controls which switch luminaires off after the lit area becomes unoccupied, if luminous efficacy is greater than 75 light source lumens, manual control can be installed.

## UNDERGROUND FOUL DRAINAGE

Underground drainage to consist of 100mm diameter UPVC proprietary pipework to give a 1:40 fall. Surround pipes in 100mm pea shingle. Provide 600mm suitable cover (900mm under drives). Shallow pipes to be covered with 100mm reinforced concrete slab over compressible material. Provide rodding access at all changes of direction and junctions. All below ground drainage to comply with BS EN 1401-1.

## INSPECTION CHAMBERS

Underground quality proprietary UPVC 450mm diameter inspection chambers to be provided at all connections, changes of level, changes in direction, and every 45m in straight runs. Inspection chambers to have bolt down double sealed covers in buildings and be adequate for vehicle loads in driveways.

## ABOVE GROUND DRAINAGE

All new above ground drainage and plumbing to comply with BS EN 12056-2 for sanitary pipework. All drainage to be in accordance with Part H of the Building Regulations. Wastes to have 75mm deep anti-vac bottle traps and rodding eyes to be provided at changes of direction.

Size of wastes pipes and max length of branch connections (if max length is exceeded then anti-vac traps to be used)

Wash basin – 1.7m for 32mm pipe 3m for 40mm pipe

Bath/shower – 3m for 40mm pipe 4m for 50mm pipe

W/c – 6m for 100mm pipe for single WC

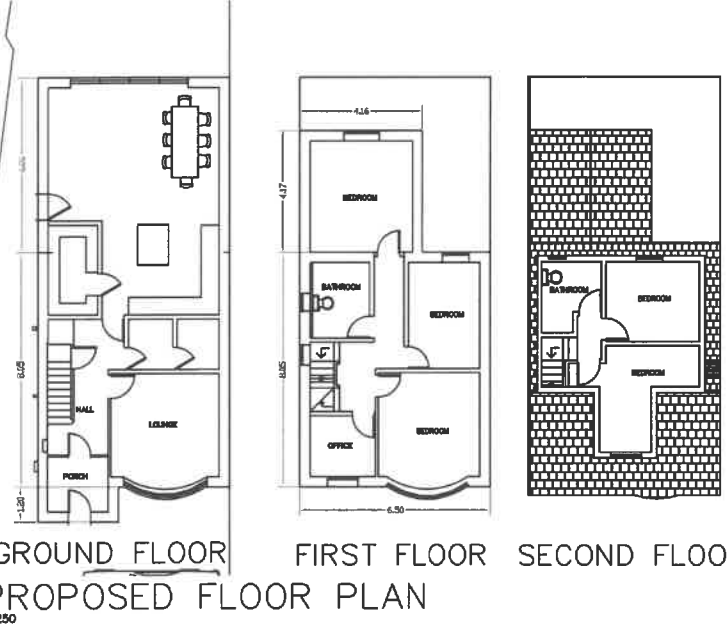
All branch pipes to connect to 110mm soil and vent pipe terminating min 900mm above any openings within 3m.

Or to 110mm upvc soil pipe with accessible internal air admittance valve complying with BS EN 12380, placed at a height so that the outlet is above the trap of the highest fitting.

Waste pipes not to connect on to SVP within 200mm of the WC connection. Supply hot and cold water to all fittings as appropriate.

## SOIL AND VENT PIPE

Svp to be extended up in 110mm dia UPVC and to terminate min 900mm above any openings within 3m. Provide a long radius bend at foot of SVP.



### Revision notes:

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