

BUILDING SPECIFICATION PASSIVE HOUSE

1.0 GENERAL: All drainage to be laid and tested to Building Control approval. Contractor to check all dimensions on site prior to any fabrication/execution of any works and further check with DIAL BEFORE YOU DIG to determine layout routes of all existing services (ie gas, electricity, water, drainage) All timber treatment in accordance with BS 5268. Ensure any punctures to floor, walls and ceilings are sealed to eliminate air infiltration- all to BR265:1994 including fully seal all dry linings. Contractor to ensure stability of existing structure during down takings and also ensure site is fully sealed off with Heras fencing having appropriate Health and Safety signage in place. Contractor to keep immediately adjoining owner/occupier advised in advance of all programme of works where same may be affected

2.0 FOUNDATIONS: Refer to Beattie Passive/Engineers' details for foundation design.

3.0 GROUND FLOOR: To achieve U-value 0.09W/m²K Fix 22mm chipboard on slip membrane over 25mm Platinum Floorshield EPS insulation on vapour check (vertically lapped at edge) all on 18mm ply/OSB flooring on 147mm concrete beams with 47mm sw wall plates (Platinum Ecobead insulation between members). 100mm Ecobead insulation under beams on Platinum EcoSlab void former over Reflex Super DPM

4.0 EXTERNAL WALLS: All to achieve maximum U-value 0.11W/m²K. 100mm brick face work fix with proprietary timber frame fixings at 600 centres all as Beattie Passive Details. to 25x25mm treated sw timber battens, screw fixed through 50mm Kooltherm insulation with breather membrane to timber kit comprising 219mm sw timber and ply framing with 12mm Versapanel sheathing either side and Platinum Ecobead infil. Inner face strapped with 25x25mm sw framing and lined with 12.5mm Gyproc wallboard on 1000g Polythene vapour check

5.0 STAIR: Minimum unobstructed width of 900mm (or 800mm where continuous handrails are fitted to both sides) with 200mm risers and 225mm minimum goings (ensures $2r+g=625\text{mm}$), 41.6° pitch. Minimum 16mm nosings and minimum 2000mm finished headroom measured vertically off nosing line. Ensure landing depth is minimum 900 mm. Handrail up stair flight minimum 840mm vertically above nosing line with no gap in either to exceed 99mm.

6.0 FIRST FLOOR: Fix 22mm V313 P5 moisture resistant chipboard to Easi-joists fixed to riving beam with vapour check at first floor level as Manufacturer's/Engineers' details. Underside lined with 22mm clayboard by EBB and installed in accordance with manufacturers written requirements, to give short duration fire resistance and 52db airbourne acoustic insulation. Acoustic performance to be verified by sound test. Ensure timber framed panels directly above and below are securely fixed at head and base.

7.0 To achieve U-value 0.11W/m²K Insulation at ceiling level as per Beattie Passive system, build up as follows: 9.5mm chipboard on breather membrane over 70mm Platinum EPS 70E insulation board to timber kit (214mm sw timber and ply framing with 12mm versapanel sheathing either side, Ecobead infil), Gyproc Duplex wallboard lining on 25x25mm sw strapping with 1000g polythene vapour check.

7.1 PITCHED ROOFS: Open vented cold roof with concrete interlocking tile fixed to 25mm treated sw timber battens and counterbattens with proprietary breather membrane . Type 5U felt at gutter perimeter tucked under breather membrane. Where proprietary trusses are used, Contractor to provide client with a manufactures Design Certificate from nominated supplier. Proprietary uPVC eaves system with perimeter ventilation.

8.0 INTERNAL PARTITIONS: All in 75 x 45mm timber studs at maximum 600mm centres with 1 row dwangs and lined both sides 12.5mm plasterboard taped and filled. Ensure green (moisture resistant) board used at shower perimeter for full height ceramic wall tiling. Studs at bathroom, wc and bedrooms lined with 12.5mm 10kg/m² density plasterboard and filled with min 50mm mineral insulation quilt and to achieve 45dB airbourne sound insulation.

10.0 DOORS/WINDOWS: High performance triple glazed by Munster UPVC, without ventilator, . Ensure all are fitted with perimeter draught strips to eliminate air infiltration and meet a maximum "U" value of 0.7 W/m²k. All windows and door glazing less than 800mm above floor level, shower screens and internal glazed doors (including sliding mirrors) to have toughened glass resistant to human impact in accordance with BS 6262. Windows with EW alongside denote escape type and must have a minimum of 0.33 sq.m. opening area with at least 450mm unobstructed in both width and depth and a height between 800 and 1100mm from floor level to opening part. All first floor windows to be fitted with easy clean hinges. Ensure robust fixing and installation for security in accordance with section 8 of BS 8213-4: 2007; either internal or external pane to be laminated to prevent forced entry and meet the requirements of Secure by Design.

Internal doors - panel door sets to give a minimum clear unobstructed opening width from door face in 90 degrees open position to adjoining stop of 775mm at first floor level and 800mm clear at ground floor level.

11.0 VENTILATION: Install electrical extracts ducted to HVHR to kitchen (60 litres/sec extraction rate), utility (30 litres/sec extraction rate), wc and en-suite (15 litres/sec extraction rate). Genvex Combi 185 LSEC exhaust heat pump with 185 lts hot water supply unit. And intake and exhaust ducts to feed all rooms.

12.0 ELECTRICAL: All to current IEE Regulations, designed, constructed, installed and tested in accordance with BS 7671:2008, as amended submitted only by a person or company having membership to S.E.L.E.C.T. or N.I.C.E.I.C. or similar electrical schemes recognised by the Scottish Building Standards to comply with Safety 4.5.0. Smoke detectors wired direct to electric mains

supply with battery back up, minimum 300mm from any light fitting and wall face and 3000mm maximum from any bedroom door and all to be interconnected. Ensure all new electrical boxes on external walls are sealed to limit air infiltration by screw fixing boxes to dwang behind through vapour barrier and also fire resistant silicone seal where passing through barrier.

13.0 PLUMBING/DRAINAGE: hot water supply to baths fitted with anti-scald thermostatic mixing valves and have continuous trap access. Ensure unobstructed activity space maintained directly in front of ground floor wc as shown at minimum 800mm wide and 1100mm deep. All appliances connected separately to 100mm diameter uPVC foul pipe within skirting ducts on ground and first floor. All connections to be made separately to SWVP as shown (wc 100mm dia and all remainder 40mm dia). All gutters in 100mm to 68mm dia rainwater pipes with hand holes at base connected into underground drainage as site plan. Externally foul and storm in 100mm dia uPVC to fall between 1:40 and 1:80 with all pipes in pea gravel surround or encased in concrete if cover less than 600mm.

14.0 ENERGY: All the light fittings are to be a low energy type. An energy performance certificate will be provided prior to completion of construction achieving an "A" rating.

15.0 MISCELLANEOUS: External steps to be 1000mm minimum clear width and have 170mm maximum risers with minimum 16mm nosings and 250mm minimum goings (ensures $2r+g= 550-700$ mm). Ensure minimum 1200mm square platt provided at doors as detailed flush with floor level (no step down) with drainage channel. Provide 1200 x 1800mm area at rear for wheelie bin stance.

16.0 **Air Tightness** Air tightness details to be as to Beattie Passive details to achieve $0.6m^3/hm^2 (@50pa)$

17.0 **PHPP** All works to align with PHPP and Passive Certification form PHI