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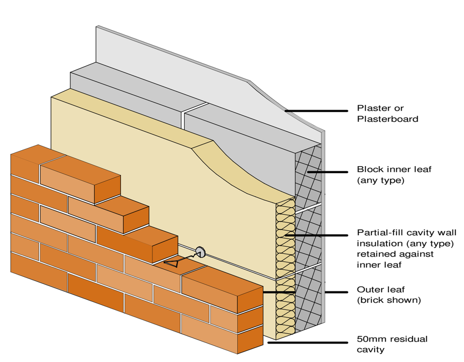
4.00 Introduction



The Robust Details shown here have been developed for a range of partially filled cavity wall constructions.

For this form of construction, details are given for the junctions with a range of roof, ground floor and internal floor types, in addition to details around window openings etc..

Details that apply to all wall types and guidance on air leakage are included in section 8 - 'General Arrangements'.

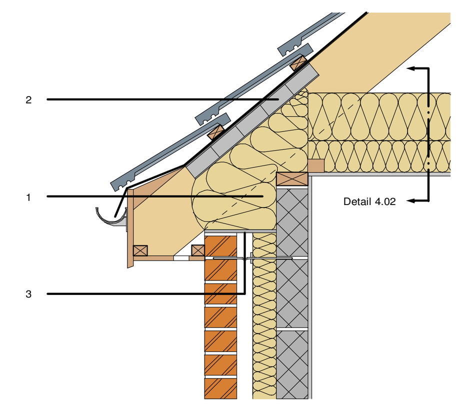
There are many types of insulating materials and masonry products and the details have, therefore, been assessed for any combination of insulation and masonry type which meet the calculated U-values given in section 1.2.3. Unless otherwise stated on the particular detail, any type of concrete block or thermal insulation material can be used providing they are suitable for their intended purpose.

Insulation thicknesses for main building elements have not generally been provided as these depend on the thermal properties of the materials chosen, together with the proposed U-value (which may vary if the Elemental Method of compliance is not used). For calculation of U-values, specifiers should refer to the Approved Document L1 or manufacturer's latest published figures and literature, or other authoritative guidance.

All details are shown with a brick outer leaf for simplification. However, other types of masonry materials may be used as a substitution, such as blockwork with render, tile hanging or weather boarding, without any loss of thermal performance or increased technical risk.

Masonry: Cavity Wall Insulation: Partial-Fill **robust** details

4.01 Pitched roof. Ventilated loft. Eaves.



Notes

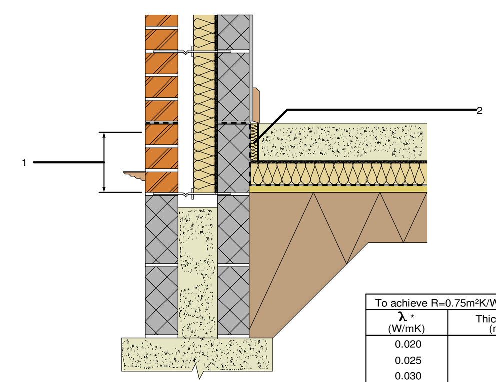
1. Apply 50mm (min) layer of compressible mineral wool or similar (R=1.2m²K/W) over wall and ensure loft insulation meets wall insulation.
2. Use proprietary crossflow ventilator or ensure 25mm (min) air gap.
3. Fully close cavity with mineral wool or calcium silicate board (shown).

This detail is also suitable for monopitch roofs subject to suitable ventilation provision.

This detail should be read in conjunction with detail 4.02.

Masonry: Cavity Wall Insulation: Partial-Fill **robust** details

4.14 Ground bearing floor. Insulation below slab.



To achieve R=0.75m²K/W (note 2)	
λ * (W/mK)	Thickness (mm)
0.020	15
0.025	19
0.030	23
0.035	26
0.040	30

Notes

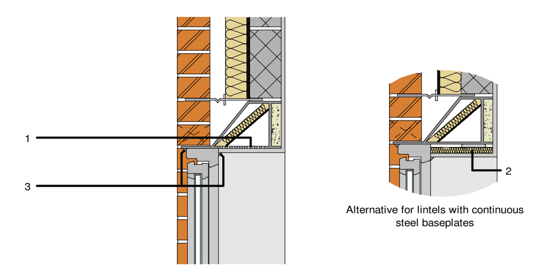
1. Continue wall insulation at least 150mm below top of perimeter insulation and support on row of ties.
2. Perimeter insulation with minimum R-value of 0.75m²K/W - see table.

Any screed must have perimeter insulation with a minimum R-value of 0.75m²K/W (not shown).

* Thermal conductivity

Masonry: Cavity Wall Insulation: Partial-Fill **robust** details

4.09 Windows and doors. Lintel.



To achieve R=0.34m²K/W (note 2)	
lambda (W/mK)	Thickness (mm)
0.020	7
0.025	9
0.030	10
0.035	12
0.040	14

Notes

1. Perforated baseplate with effective conductivity not exceeding 30W/mK (manufacturer's certified data).
2. For lintels with continuous solid steel baseplates soffit should be lined with insulation of minimum R-value of 0.34m²K/W - see table (alternative provision for trickle ventilation may be required).
3. Sealant to front and back of frame.

Seperate cavity trays may be required depending on exposure and lintel specification.

* Thermal conductivity

Masonry: Cavity Wall Insulation: Partial-Fill **robust** details

SPECIFICATION:

DRAINAGE:

The existing drainage system is located below the proposed extension and will require exposing and the condition of the drainage pipes inspected for condition. The drains are tro be removed or re-routed as shown on plan and new inspection chambers inserted on system as indicated.
All the pipe work below the extension is to be replaced with Hepworth Supasleeve pipes with flexible joints, the pipes are top be set at a gradientr of 1 in 40 and theconnection to the existing back street sewer is to be camera inspected and repaired if required,

FOUNDATIONS:

Excavate foundation trenches to a depth of 900mm below the external ground level or to a depth agreed with the local authority building inspectors during on site inspections. No concrete is to be poured before the inspection and the depth is agreed. The foundations or to be minimum 150mm thick and extend 150mm beyond the wall face giving a width of foundation of 700mm. The wall is to incorporate a damp proof course set at 150mm above the external ground level.
The foundations of the north elevation of the extension are to be built up off the existing walls and foundations of the swimming pool (which has been backfilled) These wald and foundations form the deep end wall of the pool and are abount 2.4m deep with walls formed of 150mm block with 100mm cavity and ext' skin off 300mm blockwork all supported on concrete foundations. These foundations are to be excavated and exposed and inspected by the Local Authority Biulding Inspector prior to any new foundations beiing excavated and approved.

EXTERNAL WALLS BELOW GROUND LEVEL:

The external walls are to be cavity walls with and external skin of 100mm blocks below G.L , the cavity is to be 120mm wide with 70mm thick insulation secured against the inner skin of 125mm thick Solar Block. The cavity below the insulation and d.p.c.is to be grout filled. The external wall surfaces are to be clad in 150mm deep profiled interlocking p.v.c. cladding boards fixed to plastic battens 50mm x 32mm set at required centres. The cladding is to be trimmed around the window openings and finished at cirners with a cover strip. Colour to be RAL Colour No.

FLOOR CONSTRUCTION:

Form an insulated floor with a 150mm thick floor slab laid over a 1200 gauge Visqueen D.P.M. over a layer of 120mm thick CELOTEX GA4000 solid insulation laid over a layer of Visqueen 1200 gauge D.P.M. (to be tied to the D.P.C. of the cavity wall.) The insulation and d.p.m. are to be laid over a sand blinding screed over clean graded hardcore laid and consolidated in max' 150mm layers. The floor construction perimeter is to be fitted with an insulation upstand of CELOTEX GA4000 25mm thick between the edge of the concrete and the internal skin of the cavity wall to prevent "Cold Bridging".

WALLS ABOVE D.P.C. LEVEL:

The cavity wall above d.p.c. level is to have and outer skin of 100mm thick facing brick deep courses to match the existing. The cavity is to be 120mm wide and the inner skin is to be 100mm thick Solar Blocks with an internal plaster finish. The skins of the cavity wall are to be tied together by galvanised mild steel cavity ties set at 450mm vertical centres and 700mm horizontal centres in a staggered pattern. The cavity around openings is to have the ties set at 215mm vertical intervals. The window opening is to be supported over by a Catnic secret steel lintel with 150mm end bearing. The cavity opening around the window is to be closed with an insulated cavity closer with integral vertical and horizontal d.p.c's.
The cavity insulation is to be CELOTEX or similar CW4000 70mm thick secured against the internal skin by collars on the cavity ties. The insulation is to be installed with aluminium taped joints
The cavity walls are to be fitted with a timber wall-plate 100x50mm on top of the internal skin, bedded into a mortar bed and secured to the wall with lateral retstraint straps 30x5mmx1200mm screw fixed to the wall-plate and the wall set at 1200mm ctrs.

ROOF CONSTRUCTION.

The new roof over the extension is to be formed with timber trusses set at 600mm ctrs and supported off the wall-plates sat on the inner skin of the cavity wall. The trusses are to be formed with a pitch to match the existing roof pitch and are to be braced and tied together as per manufacturers instruction with 100x25mm thimber bracing timbers. The roof is to be finshed with a TYVEK breather membrane laid over the trusses and fixed in place with treated or synthetic battens set at reuired gauge for tiled to match the existing roof finish. The roof perimeter is to be finished with p.v.c. gutter boards and soffits and fitted with 100mm deep half round rainwater gutters and down pipes 64mm internal diameter.

ROOF VENTILATION:

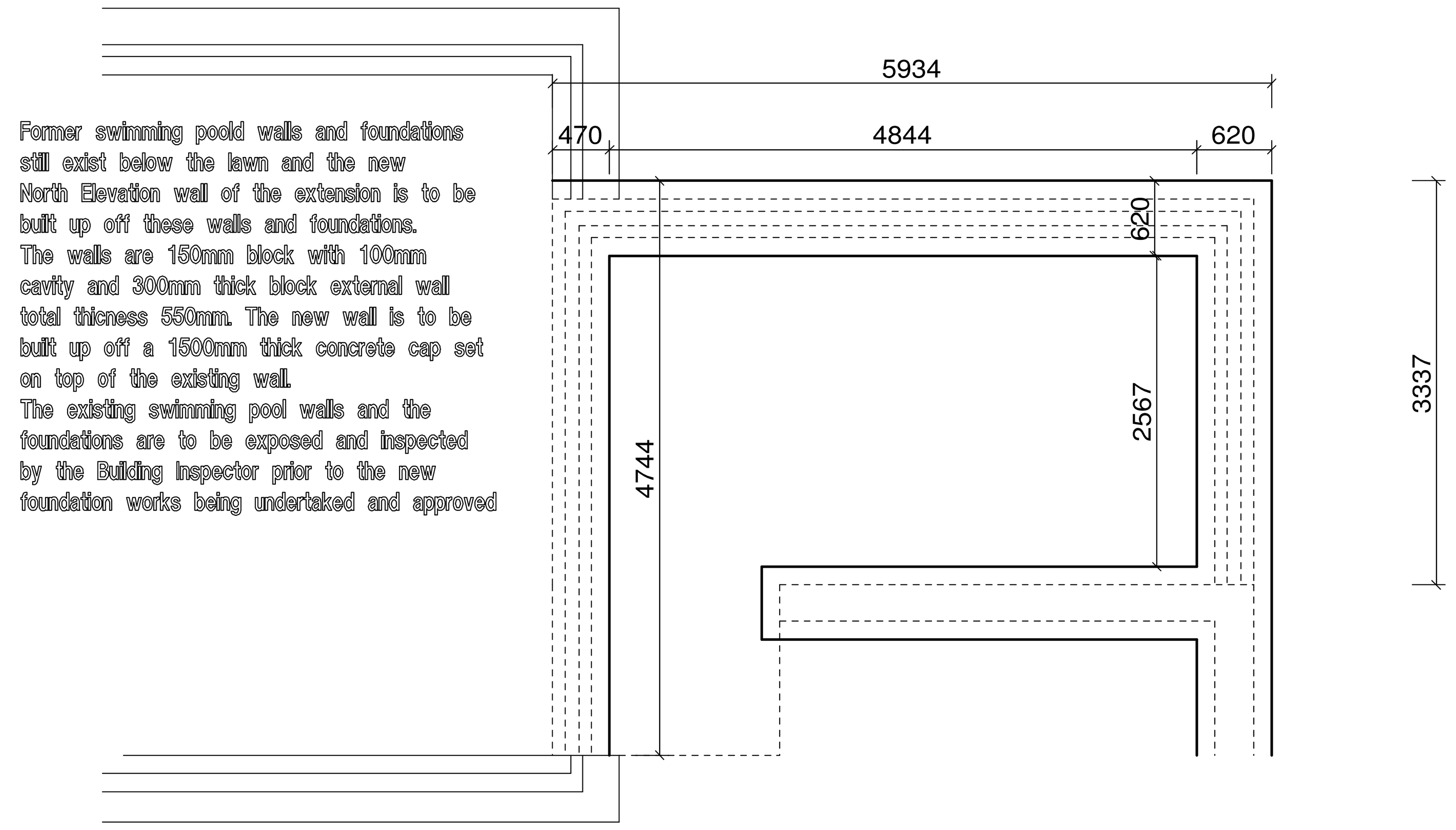
The eaves of the roof is to have a soffit and gutter board box formed with the soffit on b othe sides being fitted with a Glidevale continuous vent strip to provide cross flow ventilation through the roof area.

ROOF LATERAL RESTRAINT:

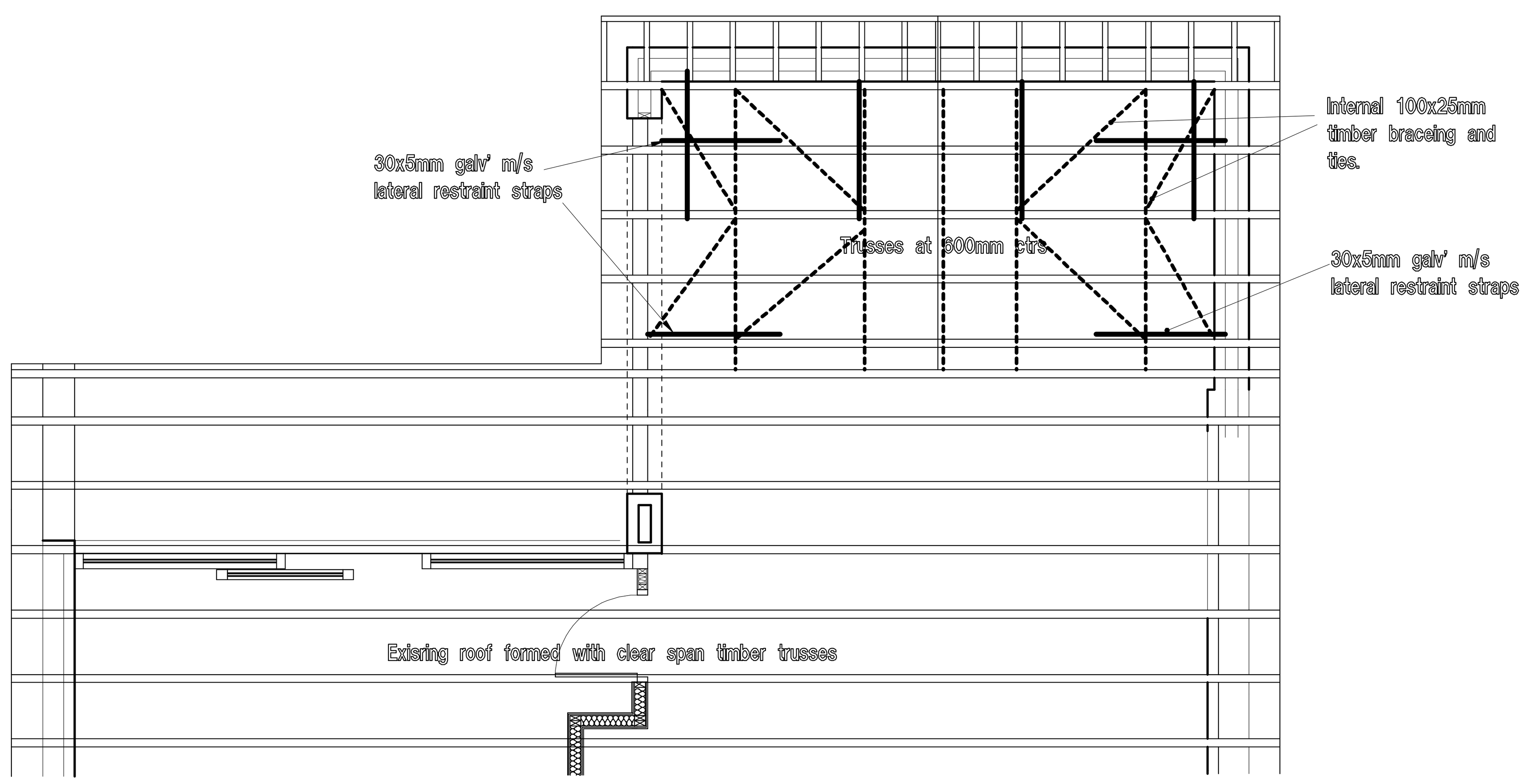
The roof structure is to be fitted with lateral restraint straps of 30x5mm galvanised mild steel straps screwed to the truss and wall-plate and turned down the cavity 400mm, the strap is to be secured along the bottom chord of the truss for 1200mm. Where the truss runs parrallel to walls the straps are to be fixed across 3no truss bottom and top chords at 1200mm ctrs.

SUPPORT OVER BI-FOLD OPENING

Form a new opening in North elevation for the Bi-fold doors which is an opening of 3.50 meters with a CATNIC HD insulated lintel with min' 150mm end bearing sat onto padstones cast into new wall.



Proposed Foundation Plan 1:50



Proposed Extension Roof Plan

LABC Registered
Partner Authority Scheme

revision		date

notes

X

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project

Proposed Removal of Conservatory and form Single Storey Garden Room Extension
"Mooredge" Simonstone Road.
Sabden
Clitheroe BB7 9HA

title

Section, Details & Specification

scale 1:50	drawn AF	date 27/09/21
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