

Wimpey No Fines Homes

BIG Energy Upgrade Briefing Sheet

Construction Information:

- In-situ solid concrete wall construction, 2.5" steel bar reinforcement
- Thickness of the wall often indicates when the house was built:
 - 12" wall, before 1951
 - 10" wall, 1951-1964
 - 8" wall, after 1964
- Retrofit with external wall insulation to improve thermal performance of the building fabric
- External wall insulation can also improve the aesthetics of the homes
- Gable walls can be clad with a masonry outer leaf, this is tied into the inner leaf of no-fines concrete with wire butterfly ties that are cast into concrete
- Solid concrete or brick wall on foundations up to D.P.C.—this generally is not covered with external wall insulation



Original Wimpey No Fines Terrace



Wimpey No Fines House clad with external wall insulation

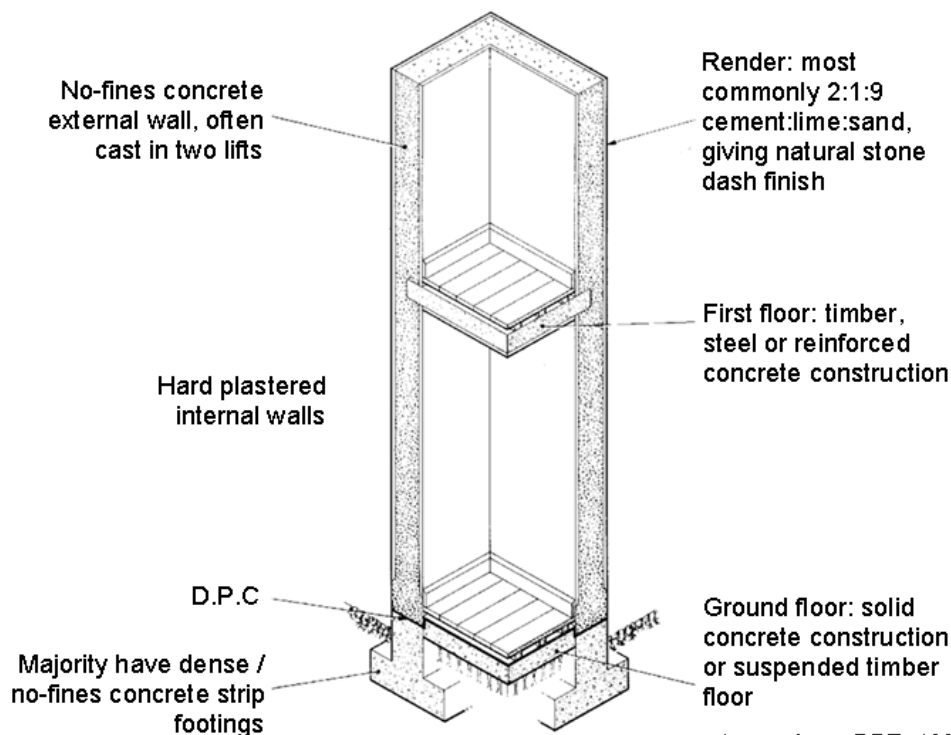


Image from: BRE, 1989



Brick leaf gable wall



Base rail of external wall insulation system with brick wall between foundations and D.P.C. exposed

Useful sources for additional information:

- Williams, A.W. & Ward, G.C. 1991. The renovation of no-fines housing – a guide to the performance and rehabilitation of loadbearing no-fines concrete dwellings built using the Wimpey and Scottish Special Housing Association systems. Building Research Establishment Report
- Reeves, B.R. & Martin, G.R. 1989. The structural condition of Wimpey No-Fines low-rise dwellings. Building Research Establishment (BRE) Document

Common problems with existing Wimpey No Fines homes

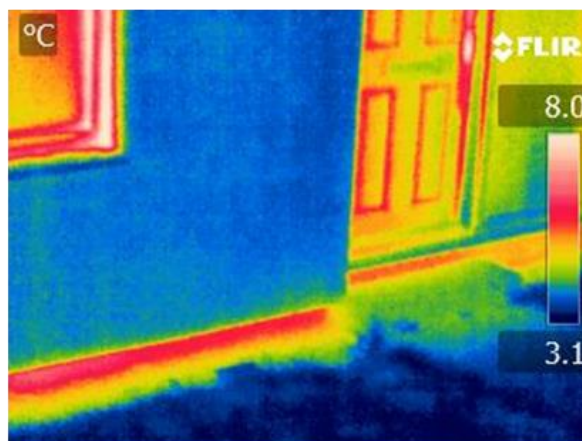
- Cracking of external render
- Water penetration
- Hard to heat
- Condensation

Solution: retrofit with external wall insulation

Considerations when installing external wall insulation to Wimpey No Fines homes:

- Careful detailing around openings and projections required
- Pull out tests for mechanical fixings suggested
- Movement joints in insulation system should be lined up with any existing in the concrete

There will be cold bridging between the base rail of the external wall insulation and the ground, approximately 100mm



Where gable wall has an outer brick leaf there is no cavity or insulation, if not insulated this will create a thermal bridge across the wall—providing a large surface area for heat loss



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