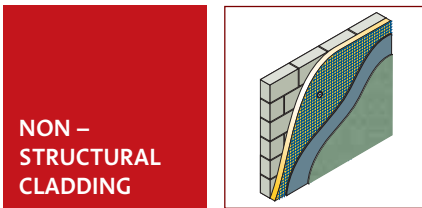


Structherm | Non-Structural Cladding

THERMAL PERFORMANCE, TYPICAL DETAILS & INSTALLATION



Optimum thermal performance is considered in conjunction with windows, doors and roofs as part of Structherm’s integrated, whole building design approach.



Thermal performance

The range of high performance insulants is continually reviewed and upgraded to ensure that it more than meets current building regulations. Table 1 indicates the range of thermal improvements achieved with different insulants when each are applied to a small selection of typical constructions. Any of the options, NSC 1 to 6, may be chosen.

TABLE 1 - COMPARATIVE U-VALUES

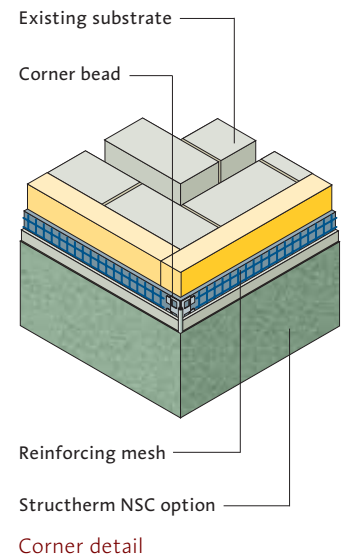
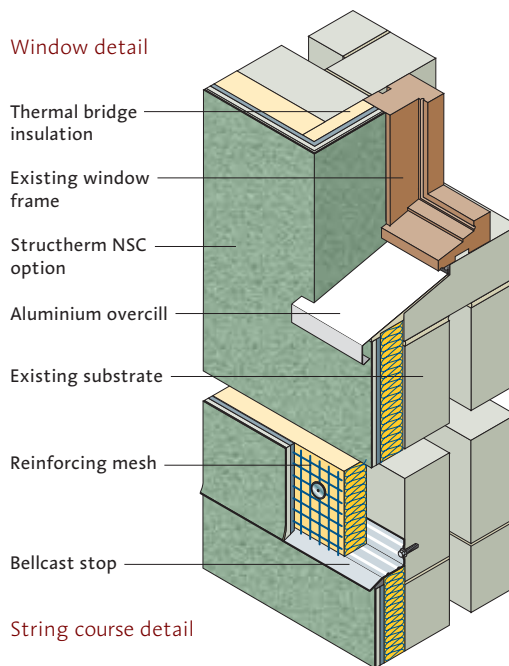
| Construction Type | 215mm Brickwork | Traditional Cavity Wall | 250mm No-fines | Hollow Block |
|--|-----------------|-------------------------|-----------------|-----------------|
| Existing average U-values (without insulation) | (W/m²K) 2.07 | (W/m²K) 1.59 | (W/m²K) 1.64 | (W/m²K) 1.75 |
| U-values obtained with following insulants applied to the external face, and their thickness | | | | |
| | (mm) (W/m²K) | (W/m²K) | (W/m²K) | (W/m²K) |
| Expanded polystyrene | 70 0.39 | 0.39 | 0.44 | 0.41 |
| | 80 0.36 | 0.36 | 0.39 | 0.37 |
| | 100 0.30 | 0.30 | 0.32 | 0.31 |
| Extruded polystyrene | 50 0.43 | 0.40 | 0.45 | 0.42 |
| | 60 0.37 | 0.35 | 0.39 | 0.36 |
| | 80 0.29 | 0.28 | 0.30 | 0.28 |
| Mineral fibre | 60 0.45 | 0.42 | 0.47 | 0.41 |
| | 80 0.36 | 0.34 | 0.37 | 0.33 |
| | 100 0.30 | 0.29 | 0.31 | 0.28 |
| Phenolic | 50 0.40 | 0.35 | 0.39 | 0.30 |
| | 60 0.35 | 0.30 | 0.33 | 0.28 |

The advanced thermal performance of the Structherm Non-structural External Wall Insulation Cladding System cuts fuel bills and controls condensation. Under normal UK conditions, interstitial condensation will not occur within the cladding system. However, consultants and building owners must ensure that additional measures are undertaken to increase ventilation in areas with continuous high humidity such as kitchens and bathrooms.

Typical details

Typical window, string course and corner details indicate the methods adopted for insulating the building fabric.

Window detail



String course detail



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Certificate No. FM 84513

Installation procedure

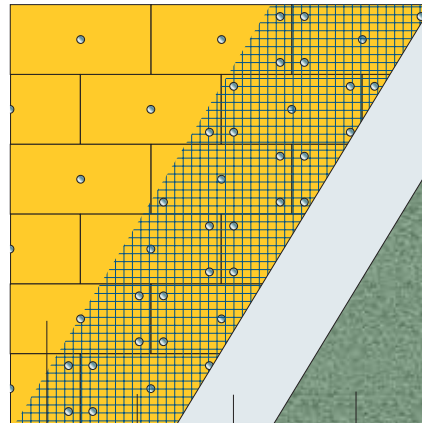
The non-structural cladding system must be applied to a substrate that is structurally sound. Once the type and condition of substrate is known, the correct choice of proprietary fixing is determined by the pull out tests undertaken prior to work proceeding.

For options NSC 3 to 6, the first insulation board is located in position with a temporary central fixing. The procedure is repeated for each board, butt jointing as the work proceeds. The galvanised or stainless steel reinforcing mesh is then offered up over the boards. The mesh and insulation boards are together fixed to the wall using 6 to 8 proprietary fixings per m². The mesh is lapped 100mm. The render base coat is trowel applied to the insulation and mesh, over which the surface finish is applied.

For NSC 1 and 2, the procedure is similar except that the insulation boards are fully fixed to the wall prior to the application of a 1mm or 3mm skim of basecoat render into which a polypropylene mesh is pressed. The remainder of the basecoat is then applied to give a thickness of 3mm or 6mm, followed by the surface finish.

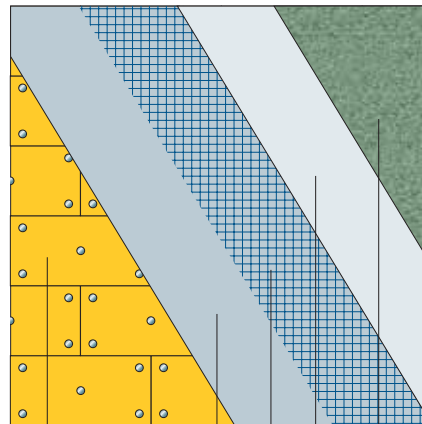
For all options, top and corner beads and other profiles are fixed as required, after the installation of the boards.

Procedure for NSC 3 to 6



- Insulation boards temporarily fixed
- Mesh and insulation boards fully fixed
- Basecoat render
- Surface finish to requirements

Procedure for NSC 1 and 2



- Insulation boards fully fixed before basecoat applied
- Basecoat render skim
- Mesh bedded in basecoat render skim
- Remainder of basecoat render
- Surface finish to requirements



Notes to numbered photographs (showing procedure for NSC 1 and 2):

1. Prepare insulation boards
2. Locate insulation boards
3. Fix insulation boards with proprietary fixings
4. Fix corner beads and other profiles
5. Apply basecoat render skim
6. Bed mesh in basecoat render
7. Apply remainder of basecoat render
8. Apply surface finish



For more information about Structherm products, please contact us or visit our website:

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