

EXISTING EXTERIOR SOLID WALL THERMAL UPGRADE CONSTRUCTION.

EXISTING 220 MM BRICKWORK.

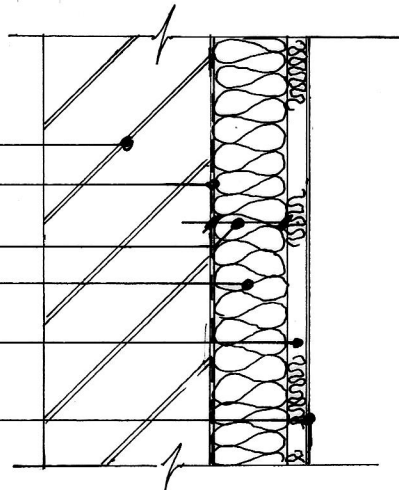
4 MM BREATHABLE FELT

45 x 97 MM VERTICAL STUDS AT 400 CENTRES.

100 MM CELOTEX XR4150 INSULATION SLAB BETWEEN STUDS.

25 MM CELOTEX PL4000 (COMPOSITE 12.5 MM PLASTERBOARD CELOTEX INSULATION 12.5 MM)

6 MM BOARD PLASTER SKIM



FOR CALCULATION PURPOSES 1 M² OF WALL AREA WILL HAVE MIN OF 2 VERTICAL STUDS. TIMBER AREA = 8.75% OF INSULATED AREA.
CELOTEX AREA = 91.25% OF INSULATED AREA.

'U' VALUE EXISTING EXTERNAL WALL THERMAL UPGRADE CONSTRUCTION.

Resistivity.

EXTERNAL SURFACE RESISTANCE FOR SHELTERED EXPOSURE URBAN LOCATION LOW EMISSIVITY COEFFICIENT

0.11

0.11

EXISTING 220 MM BRICKWORK 1.19 x 0.22

0.262

4 MM BREATHABLE FELT 5.3 x 0.004

0.021

TIMBER STUDS . 97 MM 6.93 x 0.097 x 8.75%

0.059

100 MM CELOTEX XR4150 INSULATION SLAB BETWEEN STUDS 45.45 x 0.1 x 91.25%.

4.147

25 MM CELOTEX PL4000 45.45 x 0.025.

1.136

6 MM BOARD PLASTER SKIM. 6.25 x 0.006

0.838

INTERNAL SURFACE RESISTANCE COEFFICIENT FOR LOW EMISSIVITY SURFACE

0.304

0.304

TOTAL RESISTANCE = 6.077

$$'U' \text{ VALUE} = \frac{1}{R.}$$

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$$= 0.165 \text{ W/m}^2\text{°K}$$

Current Building Regulations require minimum 'U' Value of 0.18 W/m²°K. The construction will be well within the required standard.

'U' VALUE CALCULATION FOR THERMAL UPGRADE OF EXISTING EXTERNAL SOLID BRICKWALL.

Data Source for resistance values: Celotex published trade literature Design Data Publication for common construction materials CIBS publications.

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NOT TO SCALE
(CALCULATION SHEET)
Scale

2482/1/A4:10
Drg. No.

99a CAMDEN MEWS, CAMDEN, LONDON NW1 9BU

Contract