

FLAT ROOF CONSTRUCTION

12 MM ELASTOMERIC ROOFING MEMBRANE

5MM SHEAVING FELT

18MM EXTERNAL QUALITY PLYWOOD

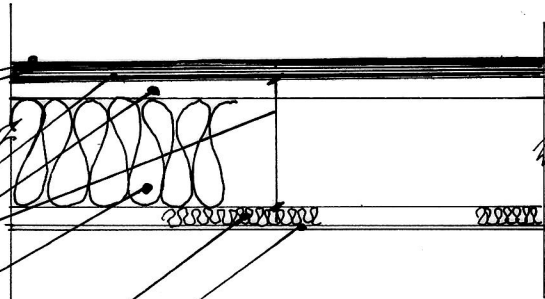
VENTILATED VOID

75x145 ROOFING JOISTS AT 400 CENTRES

150MM CELOTEX XR4150 INSULATION BETWEEN JOISTS

25MM CELOTEX PL4000 (COMPOSITE 12.5 MM PLASTER BOARD CELOTEX INSULATION 12.5 MM)

6MM BOARD PLASTER SKIM



FOR CALCULATION PURPOSES 1M² ROOF AREA WILL HAVE MIN 2 NO JOISTS
 TIMBER AREA = 9% OF INSULATED 1M²
 CELOTEX AREA = 91% OF INSULATED 1M²

'U' VALUE OF FLAT ROOF

			Resistivity
EXTERNAL SURFACE RESISTANCE FOR SHELTERED EXPOSURE URBAN LOCATION LOW EMISSIVITY COEFFICIENT	0.09		0.09
12MM ELASTOMERIC ROOF MEMBRANE	5.3×0.012		0.064
5MM FELT	5.3×0.005		0.027
18MM EXTERNAL QUALITY PLYWOOD	6.93×0.018		0.125
VENTILATED VOID COEFFICIENT	0.18		0.18
150MM CELOTEX XR4150 JOISTS BRIDGING INSULATION	$45.45 \times 0.150 \times 91\%$		6.204
25MM CELOTEX PL4000	$0.145 \times 6.93 \times 9\%$		0.904
6MM BOARD PLASTER SKIM	45.45×0.025		1.136
	6.25×0.006		0.038
INTERNAL SURFACE RESISTANCE COEFFICIENT	0.106		0.106

TOTAL RESISTANCE = 8.874

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

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$$= 0.113 \text{ W/m}^2 \cdot \text{K}$$

Current Building Regulations require minimum 'U' Value of 0.13 W/m²·K
 The construction will be well within the required standard.

'U' VALUE CALCULATION FOR FLAT ROOF CONSTRUCTION

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

Scale (CALCULATION SHEET)

99a CAMDEN MEWS, CAMDEN, LONDON NW1 9BU.

Contract

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Drg. No.