

Project Information

Date 2013
 Client Grahame White
 OWLarchitecture.com
 25 Crescent View, Leeds, LS17 7QF

Project
 General Refurbishment

Celotex Limited

Lady Lane Industrial Estate
 Hadleigh, Ipswich
 Suffolk IP7 6BA
 Tel: 01473 820850

Email: technical@celotex.co.uk

Construction Type

Element : Pitched roof, ceiling at rafter line – Merged in – 1 Pitched Roofs –
 Un-ventilated – Insulation Between & Above Rafters 450mm Rafter Spacing
 Internal surface emissivity : High External surface emissivity : High

Correction for mechanical fasteners :-

Alpha : 0.8 per m Thermal conductivity of fastener : 17.00 W/mK
 Fasteners per square metre : 6.70 off Fasteners cross-sectional area : 7.45 mm²

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m ² K/W)	Pitch Bridge Details (°)
Outside surface resistance	–	–	0.040	
Tiling including batten space	–	–	0.120	
Counter batten	38.0	–	0.000	
Breather membrane	–	–	–	
Celotex GA4000 over rafters	100.0	–	4.545	
Celotex GA4000 between rafters @ 450 ctrs	60.0	–	2.727	10.4% Timber (60.0mm)
Cavity (low emissivity) rafter space	40.0	–	0.454	10.4% Timber (40.0mm)
Polythene, 1000 gauge, VCL + Air Leakage Barrier	–	–	0.000	
Knauf Wallboard	12.5	–	0.066	
Inside surface resistance	–	–	0.100	

U-value = 0.13W/m²K

U-value, Combined Method : 0.13W/m²K (upper/lower limit 7.708 / 7.107m²K/W, dUf 0.0022, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc0.0000)

(Correction for mechanical fasteners, Delta Uf = 0.002W/m²K)

(Correction for air gaps, Delta Ug = 0.000W/m²K)

(Based on the combined method for determining U-values of structures containing repeating thermal bridges)