

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 – Pitched Roof – Over Rafter (Sarking) –
 One layer insulation 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	
Cavity between counter batten	38.0	–	0.000	
Breather membrane	–	–	–	
Celotex FR5000 over rafter. Joints taped.	100.0	–	4.762	
Cavity (low emissivity) rafter space	150.0	–	0.484	10.4% Timber (150.0mm)
Polythene, 1000 gauge, VCL + Air Leakage Barrier	–	–	0.000	
Knauf Wallboard	12.5	–	0.066	
Inside surface resistance	–	–	0.100	

U-value = 0.18W/m²K

U-value, Combined Method : 0.18W/m²K (upper/lower limit 5.635 / 5.603m²K/W, dUf 0.0050, dUg 0.0000,
 dUp0.0000, dUr0.0000, dUrc0.0000)

(Correction for mechanical fasteners, Delta Uf = 0.005W/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)