Sample P/A 0.5 Celotex Calcs.pdf

OWL architecture.com - updated 15th April 2020

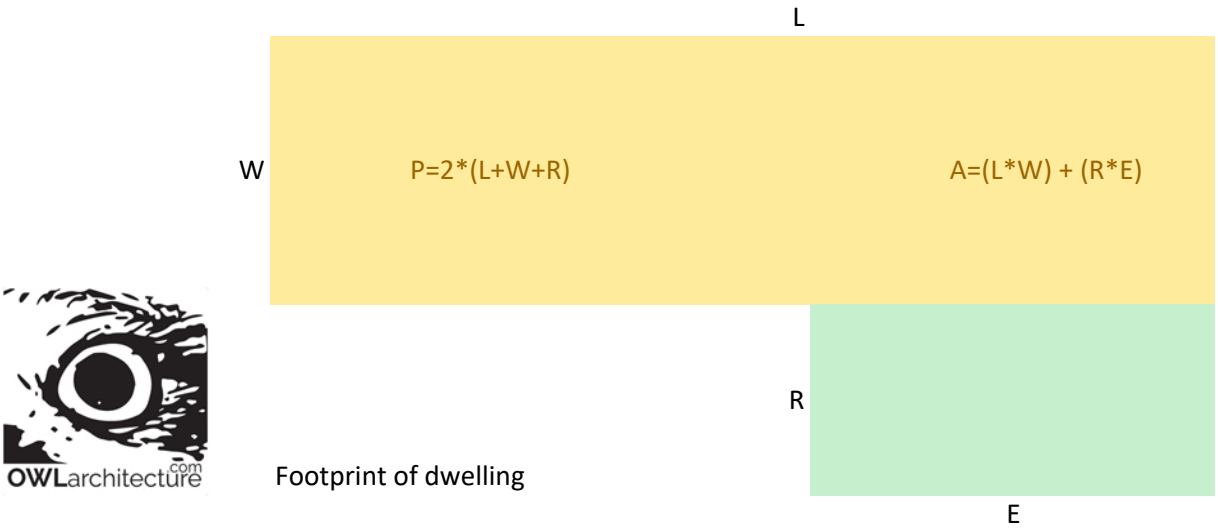
<<< Scottish Bldg Regs Table 6.C.1: U-values for solid ground floors >>> <<< Extended Calc by OWL (W/m²K)

Thermal resistance of all-over insulation m2K/W	Floor Perimeter divided by Area (P/A)	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.5	8.0	8.5	9.0
0.13	0.05	0.13	0.11	0.10	0.09	0.08	0.08	0.07	0.07	0.07									
0.21	0.10	0.22	0.18	0.16	0.14	0.13	0.12	0.11	0.11	0.10									
0.28	0.15	0.30	0.24	0.21	0.18	0.17	0.15	0.14	0.13	0.12									
0.36	0.20	0.37	0.29	0.25	0.22	0.19	0.18	0.16	0.15	0.14									
0.43	0.25	0.44	0.34	0.28	0.24	0.22	0.19	0.18	0.16	0.15									
0.49	0.30	0.49	0.38	0.31	0.27	0.23	0.21	0.19	0.17	0.16									
0.55	0.35	0.55	0.41	0.34	0.29	0.25	0.22	0.20	0.18	0.16									
0.61	0.40	0.60	0.44	0.36	0.30	0.26	0.23	0.20	0.18	0.17									
0.67	0.45	0.65	0.47	0.38	0.32	0.27	0.23	0.21	0.19	0.17									
0.73	0.50	0.70	0.50	0.40	0.33	0.28	0.24	0.22	0.19	0.18	**U-values converge around P/A 0.5**								
0.78	0.55	0.74	0.52	0.41	0.34	0.28	0.25	0.22	0.20	0.18									
0.82	0.60	0.78	0.55	0.43	0.35	0.29	0.25	0.23	0.20	0.18									
0.87	0.65	0.82	0.57	0.44	0.35	0.30	0.26	0.23	0.21	0.19									
0.91	0.70	0.86	0.59	0.45	0.36	0.30	0.26	0.23	0.21	0.19									
0.95	0.75	0.89	0.61	0.46	0.37	0.31	0.27	0.24	0.21	0.19									
0.99	0.80	0.93	0.62	0.47	0.37	0.32	0.27	0.24	0.21	0.19									
1.02	0.85	0.96	0.64	0.47	0.38	0.32	0.28	0.24	0.22	0.20									
1.05	0.90	0.99	0.65	0.48	0.39	0.32	0.28	0.24	0.22	0.20									
1.08	0.95	1.02	0.66	0.49	0.39	0.33	0.28	0.25	0.22	0.20									
1.10	1.00	1.05	0.68	0.50	0.40	0.33	0.28	0.25	0.22	0.20									
BRE IP 3/90 (no insulation) formula is		no insul..			half					half again				target					half agin
	U-values	0.46	0.39	0.36	0.33	0.28	0.25	0.2	0.19	0.17	0.16	0.15	0.14	0.13	0.12	0.12	0.11		0.09
$U = 0.05 + 1.65(P/A) - 0.6(P/A)^2$	m2K/W	0.545	0.909	1.136	1.364	1.818	2.27	3.18	3.5+/-	4.09	4.545	5	5.455	5.909	6.364	6.818	7.5		9.091
	mm	12	20	25	30	40	50.00	65.00	75-80	90.00	100	110	120	130	140	150	165		200
			TB Celotex Thickness				GA Celotex Thickness				XR Celotex Thickness								
														target					

See Sample P/A 0.5 Celotex Calcs.pdf

Uninsulated Ground Floor Slabs - from Table C1 1995 Approved Document L Appendix C

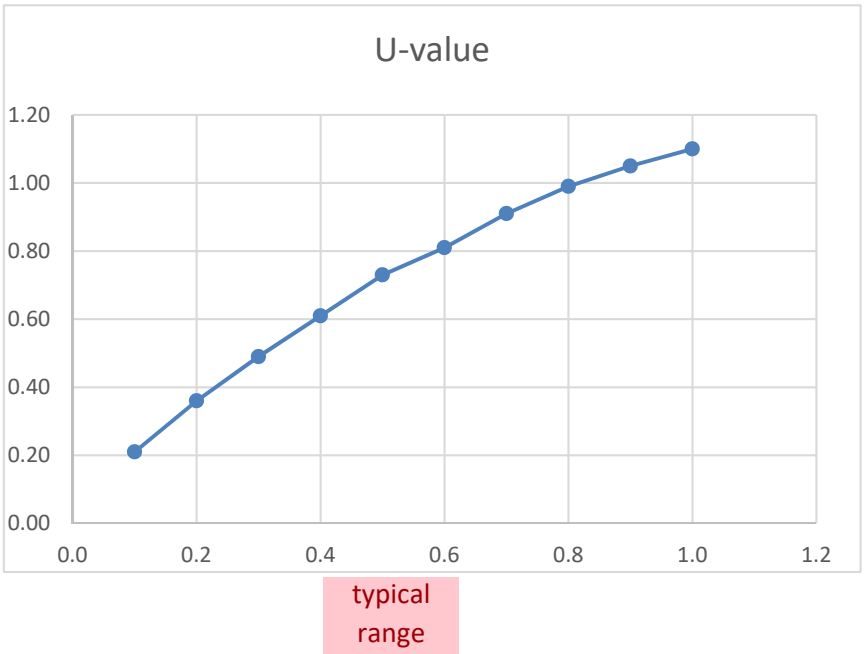
	L	W	E	R	P	A	P/A	P/A	U-value
best	40	40	0	0	160	1600	0.10	0.1	0.21
	20	20	0	0	80	400	0.20	0.2	0.36
	20	10	0	0	60	200	0.30	0.3	0.49
range	10	10	0	0	40	100	0.40	0.4	0.61
	15	6	6	15	72	180	0.40	0.4	0.61
typical	8	8	0	0	32	64	0.50	0.5	0.73
typical	10	5	5	10	50	100	0.50	0.5	0.73
	10	5	0	0	30	50	0.60	0.6	0.81
range	7.5	6	0	0	27	45	0.60	0.6	0.81
	5.4	6	0	0	22.8	32.4	0.70	0.7	0.91
	5	5	0	0	20	25	0.80	0.8	0.99
	5	4	0	0	18	20	0.90	0.9	1.05
worst	4	4	0	0	16	16	1.00	1.0	1.10



Footprint of dwelling

Most Dwellings are within a 10% band of P/A 0.5 and thus this can be used as a generic guide

P/A	U-value
0.1	0.21
0.2	0.36
0.3	0.49
0.4	0.61
0.5	0.73
0.6	0.81
0.7	0.91
0.8	0.99
0.9	1.05
1.0	1.10



15th April 2020

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Email: technical@celotex.co.uk

Project Information

Date	15 April 2020		
Client	Grahame White, OWLarchitecture.com 25 Crescent View Leeds LS17 7QF	Project	test test

Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex TB4000	12.0	-	0.545		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.46W/m²K

U-value, Combined Method : 0.459W/m²K (upper/lower limit 0.881 / 0.881m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex TB4000	20.0	-	0.909		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.39W/m²K

U-value, Combined Method : 0.390W/m²K (upper/lower limit 1.245 / 1.245m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex TB4000	25.0	-	1.136		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.36W/m²K

U-value, Combined Method : 0.357W/m²K (upper/lower limit 1.472 / 1.472m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex TB4000	30.0	-	1.364		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.33W/m²K

U-value, Combined Method : 0.329W/m²K (upper/lower limit 1.700 / 1.700m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex TB4000	40.0	-	1.818		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.28W/m²K

U-value, Combined Method : 0.283W/m²K (upper/lower limit 2.154 / 2.154m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex GA4000	50.0	-	2.273		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.25W/m²K

U-value, Combined Method : 0.248W/m²K (upper/lower limit 2.609 / 2.609m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex GA4000	70.0	-	3.182		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.20W/m²K

U-value, Combined Method : 0.203W/m²K (upper/lower limit 3.518 / 3.518m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
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Celotex
Lady Lane Industrial Estate
Hadleigh, Ipswich
Suffolk IP7 6BA
Tel: 01473 820850
Email: technical@celotex.co.uk

Project Information

Date	15 April 2020		
Client	Grahame White, OWLarchitecture.com 25 Crescent View Leeds LS17 7QF	Project	test test

Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex GA4000	75.0	-	3.409		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.19W/m²K

U-value, Combined Method : 0.194W/m²K (upper/lower limit 3.745 / 3.745m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Project Information

Date	15 April 2020		
Client	Grahame White, OWLarchitecture.com 25 Crescent View Leeds LS17 7QF	Project	test test

Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex GA4000	80.0	-	3.636		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.19W/m²K

U-value, Combined Method : 0.185W/m²K (upper/lower limit 3.972 / 3.972m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex GA4000	90.0	-	4.091		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.17W/m²K

U-value, Combined Method : 0.171W/m²K (upper/lower limit 4.427 / 4.427m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Date	15 April 2020		
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Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex GA4000	100.0	-	4.545		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.16W/m²K

U-value, Combined Method : 0.159W/m²K (upper/lower limit 4.881 / 4.881m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex XR4000	110.0	-	5.000		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.15W/m²K

U-value, Combined Method : 0.148W/m²K (upper/lower limit 5.336 / 5.336m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex XR4000	120.0	-	5.455		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.14W/m²K

U-value, Combined Method : 0.139W/m²K (upper/lower limit 5.791 / 5.791m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex XR4000	130.0	-	5.909		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.13W/m²K

U-value, Combined Method : 0.130W/m²K (upper/lower limit 6.245 / 6.245m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex XR4000	140.0	-	6.364		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.12W/m²K

U-value, Combined Method : 0.123W/m²K (upper/lower limit 6.700 / 6.700m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex XR4000	150.0	-	6.818		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.12W/m²K

U-value, Combined Method : 0.117W/m²K (upper/lower limit 7.154 / 7.154m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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Client	Grahame White, OWLarchitecture.com 25 Crescent View Leeds LS17 7QF	Project	test test

Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex XR4000	165.0	-	7.500		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.11W/m²K

U-value, Combined Method : 0.108W/m²K (upper/lower limit 7.836 / 7.836m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

Saint-Gobain Construction Products UK Limited trading as Celotex
Regsitered Office: Saint-Gobain House, Binley Bussiness Park, Coventry, CV3 2TT
Registered in England and Wales 734396

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Tel: 01473 820850
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Project Information

Date	15 April 2020		
Client	Grahame White, OWLarchitecture.com 25 Crescent View Leeds LS17 7QF	Project	test test

Construction Type

Element : Solid ground floor - Ground Floor - Solid - Insulation over slab - T&G floating floor

Ground Floor - Solid - Insulation over slab - T&&G floating floor

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Inside surface	-	-	0.170		
T+G Chipboard Floating Floor - Glued Joints	18.0	0.143	0.126		
Polythene, 500 gauge separating layer	-	-	-		
Celotex XR4000	200.0	-	9.091		
DPM - Polythene, 1200 gauge	-	-	-		
Concrete oversite	-	-	0.000		
Sand Blinded Hardcore	-	-	0.000		
Ground	-	-	0.040		

Ground Floor Details

Floor type	: Solid floor		
Calculation method	: EN ISO 13370:2007		
P/A	: 0.500	Characteristic dimension, B'	: 4.000
Thermal conductivity of ground:	: 1.500 W/mK	Width of walls, w:	: 0.300 m
Edge insulation position	: None		

Perimeter Upstand Insulation: Celotex TB4000

As detailed in Accredited Construction Details, for all ground floors where a screed or concrete slab is above the insulation layer, a perimeter up-stand insulation with a minimum R Value of 0.75 m²K/W is required for the depth of the screed or concrete slab.
This is achieved with using a minimum thickness of 20mm Celotex TB4000.

U-value = 0.09W/m²K

U-value, Combined Method : 0.092W/m²K (upper/lower limit 9.427 / 9.427m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors
Air gaps, Delta Ug = 0.000W/m²K

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