



Software: Stroma U-value Calculator - Version 0.92
 Date Printed: 29/07/2021 16:07
 Construction Type: Floor - Beam & Block floor - Orchard Way
 Calculation Method: BS EN ISO 6946 / BS EN ISO 13370

Floor Construction

No	Description	Main Element			Bridging Element		
		Thickness	λ	R-value	λ	R-value	Fraction
-	Internal Surface Resistance	-	-	0.17	-	-	-
1	Screed (1200)	75	0.41	0.182927	-	-	-
2	Celotex GA4000 (100 mm)	100	0.022	4.545455	-	-	-
3	Concrete Block (High Density 2400)	100	1.93	0.051813	1.13	0.088	0.12
4	Underfloor Resistance	0	-	0.17	-	-	-
		$\Sigma=275\text{mm}$		$\Sigma=5.120195$			

Resistances

Lower Limit	Upper Limit	Average
5.123	5.125	5.124 m ² K/W

Soil Properties

Perimeter	47m
Area	87m ²
Wall Thickness	300mm
Ground Type - Default $\lambda=$	2W/mK
Rse	0.04
Resistance on solum Rg	0m ² K/W
The height of the floor above external ground level	0.2m
Depth of underfloor space below ground	0.2m
U-value of walls	1.5W/m ² K
Mean wind speed	5m/s
Wind shielding factor	0.05
Ventilation openings per metre length	0.0015m ² /m

Floor U-value Corrections

Corrective Description	Correction Value
Vertical Edge Insulation	-0.019
$\Sigma=-0.019$	

Average Temperature - Underfloor Space

Internal Temperature	18°C
External Temperature	6°C
Average Temperature in Underfloor Space	7.67°C

Floor U-value

Ug - U-value of the Ground	0.921
Total U-value Corrections - Applied to Ug	-0.019
Uf - U-value of the Floor Corrected	0.901
Uf - U-value of the Floor	0.195
Ux - U-value for Ventilation Equivalent	0.309
U-value	0.168
U-value rounded	0.17 W/m²K



Software: Stroma U-value Calculator - Version 0.92
 Date Printed: 29/07/2021 16:07
 Construction Type: Wall - Plinth walls - Orchard Way
 Calculation Method: BS EN ISO 6946

Wall Construction

No	Description	Main Element			Bridging Element		
		Thickness	λ	R-value	λ	R-value	Fraction
-	Internal Surface Resistance	-	-	0.13	-	-	-
1	Plaster (Lightweight)	3	0.18	0.016667	-	-	-
2	Gyproc WallBoard (12.5 mm)	12.5	0.19	0.065789	-	-	-
3	Plaster Dabs Cavity	15	0.1	0.15	0.43	0.035	0.2001
4	Blockwork (100mm)	100	0.15	0.666667	0.88	0.114	0.0667
5	Kingspan Kooltherm (50mm)	50	0.018	2.777778	-	-	-
6	Cavity - (Wall - Low Emissivity) (50 mm)	50	-	0.44	-	-	-
7	Brickwork Outer Leaf - BRE	219	0.77	0.284416	0.94	0.233	0.1712
-	External Surface Resistance	-	-	0.04	-	-	-
		$\Sigma=449.5\text{mm}$		$\Sigma=4.571316$			

Resistances

Lower Limit	Upper Limit	Average
4.338	4.497	4.418 m ² K/W

Wall U-value Corrections

No Correction Values

Wall U-value

U-value	0.226
U-value rounded	0.23 W/m ² K



Software: Stroma U-value Calculator - Version 0.92
 Date Printed: 29/07/2021 16:07
 Construction Type: Wall - Brickwork walls - Orchard Way
 Calculation Method: BS EN ISO 6946

Wall Construction

No	Description	Main Element			Bridging Element		
		Thickness	λ	R-value	λ	R-value	Fraction
-	Internal Surface Resistance	-	-	0.13	-	-	-
1	Plaster (Lightweight)	3	0.18	0.016667	-	-	-
2	Gyproc WallBoard (12.5 mm)	12.5	0.19	0.065789	-	-	-
3	Plaster Dabs Cavity	15	0.1	0.15	0.43	0.035	0.2001
4	Blockwork (100mm)	100	0.15	0.666667	0.88	0.114	0.0667
5	Kingspan Kooltherm (50mm)	50	0.018	2.777778	-	-	-
6	Cavity - (Wall - Low Emissivity) (50 mm)	50	-	0.44	-	-	-
7	Brickwork Outer Leaf - BRE	102.5	0.77	0.133117	0.94	0.109	0.1712
-	External Surface Resistance	-	-	0.04	-	-	-
		$\Sigma=333\text{mm}$		$\Sigma=4.420017$			

Resistances

Lower Limit	Upper Limit	Average
4.192	4.351	4.271 m ² K/W

Wall U-value Corrections

No Correction Values

Wall U-value

U-value	0.234
U-value rounded	0.23 W/m ² K



Software: Stroma U-value Calculator - Version 0.92
 Date Printed: 29/07/2021 16:07
 Construction Type: Wall - Rendered walls - Orchard Way
 Calculation Method: BS EN ISO 6946

Wall Construction

No	Description	Main Element			Bridging Element		
		Thickness	λ	R-value	λ	R-value	Fraction
-	Internal Surface Resistance	-	-	0.13	-	-	-
1	Plaster (Lightweight)	3	0.18	0.016667	-	-	-
2	Gyproc WallBoard (12.5 mm)	12.5	0.19	0.065789	-	-	-
3	Plaster Dabs Cavity	15	0.1	0.15	0.43	0.035	0.2001
4	Blockwork (100mm)	100	0.15	0.666667	0.88	0.114	0.0667
5	Kingspan Kooltherm (50mm)	50	0.018	2.777778	-	-	-
6	Cavity - (Wall - Low Emissivity) (50 mm)	50	-	0.44	-	-	-
7	Blockwork (100mm)	100	0.15	0.666667	0.88	0.114	0.0667
8	Render - Cement and Sand (20 mm)	20	1	0.02	-	-	-
-	External Surface Resistance	-	-	0.04	-	-	-
		$\Sigma=350.5\text{mm}$		$\Sigma=4.973567$			

Resistances

Lower Limit	Upper Limit	Average
4.587	4.868	4.727 m ² K/W

Wall U-value Corrections

No Correction Values

Wall U-value

U-value	0.212
U-value rounded	0.21 W/m ² K



Software: Stroma U-value Calculator - Version 0.92
 Date Printed: 29/07/2021 16:07
 Construction Type: Roof - Sloped roof - Orchard Way
 Calculation Method: BS EN ISO 6946

Roof Construction

No	Description	Main Element			Bridging Element		
		Thickness	λ	R-value	λ	R-value	Fraction
-	Internal Surface Resistance	-	-	0.1	-	-	-
1	Plaster (Lightweight)	3	0.18	0.016667	-	-	-
2	Gyproc WallBoard (12.5 mm)	12.5	0.19	0.065789	-	-	-
3	Celotex GA4000 (70mm)	70	0.022	3.181818	-	-	-
4	Celotex GA4000 (100mm)	100	0.022	4.545455	0.13	0.769	0.09
5	Rafter cavity	50	-	0.34	0.13	0.385	0.09
-	External Surface Resistance	-	-	0.04	-	-	-
		$\Sigma=235.5\text{mm}$		$\Sigma=8.289729$			

Resistances

Lower Limit	Upper Limit	Average
6.9	7.713	7.307 m ² K/W

Roof U-value Corrections

No Correction Values

Roof U-value

U-value	0.137
U-value rounded	0.14 W/m ² K



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 Date Printed: 29/07/2021 16:07
 Construction Type: Roof - Flat roof - Orchard Way
 Calculation Method: BS EN ISO 6946

Roof Construction

No	Description	Main Element			Bridging Element		
		Thickness	λ	R-value	λ	R-value	Fraction
-	Internal Surface Resistance	-	-	0.1	-	-	-
1	Plaster (Lightweight)	3	0.18	0.016667	-	-	-
2	Gyproc WallBoard (12.5 mm)	12.5	0.19	0.065789	-	-	-
3	Joists Cavity	195	-	0.34	0.13	1.5	0.09
4	Celotex GA4000 (140mm)	140	0.022	6.363636	-	-	-
5	Plywood (22mm)	22	0.13	0.169231	-	-	-
-	External Surface Resistance	-	-	0.04	-	-	-
		$\Sigma=372.5\text{mm}$		$\Sigma=7.095324$			

Resistances

Lower Limit	Upper Limit	Average
7.121	7.186	7.153 m ² K/W

Roof U-value Corrections

No Correction Values

Roof U-value

U-value	0.14
U-value rounded	0.14 W/m ² K