

Passive House Planning

R-VALUES OF BUILDING ELEMENTS

Building: End-of-Terrace Passive House Kranichstein

Wedge Shaped Building Element Layers and
Still Air Spaces -> Secondary Calculation to the Right

1 Exterior wall							
Assembly No. Building Assembly Description							
Surface Film Resistance (R-value)			interior R_{si} :				
			0.74				
			exterior R_{se} :				
			0.23				
	Area Section 1	R per inch	Area Section 2 (optional)	R per inch	Area Section 3 (optional)	R per inch	Total Width Thickness [in]
1.	Interior plaster	0.412					0.591
2.	Calcium Silicate Blocks	0.131					6.890
3.	Polystyrene Foam	3.605					10.827
4.	Exterior Render	0.180					0.787
5.							
6.							
7.							
8.							
			Percentage of Sec. 2		Percentage of Sec. 3		Total
							19.1 in
R-Value: 41.3 (hr.ft ² .F/BTU)							

2 Roof							
Assembly No. Building Assembly Description							
Surface Film Resistance (R-value)			interior R_{si} :				
			0.57				
			exterior R_{se} :				
			0.23				
	Area Section 1	R per inch	Area Section 2 (optional)	R per inch	Area Section 3 (optional)	R per inch	Total Width Thickness [in]
1.	Chipboard	1.109					1.969
2.	Blown Mineral Wool	3.605	I-Beam	0.386			15.748
3.	Gypsum Plasterboard	0.206					0.492
4.							
5.							
6.							
7.							
8.							
			Percentage of Sec. 2		Percentage of Sec. 3		Total
			2.0%				18.2 in
R-Value: 52.8 (hr.ft ² .F/BTU)							

3 Ground Floor							
Assembly No. Building Assembly Description							
Surface Film Resistance (R-value)			interior R_{si} :				
			0.97				
			exterior R_{se} :				
			0.97				
	Area Section 1	R per inch	Area Section 2 (optional)	R per inch	Area Section 3 (optional)	R per inch	Total Width Thickness [in]
1.	Parquet	1.109					0.866
2.	Screed	0.137					1.890
3.	Impact sound insulation	3.605					1.181
4.	Concrete	0.069					6.299
5.	Polystyrene Foam	3.605					9.843
6.	Plaster Coat	0.180					0.394