



Niall Fitzsimons & Co.

Ocon House, 2 Tivoli Gardens, Silversprings, Cork

Thermo House Roof Design

Table of Maximum Spans for Single Span Roof

Roof Finish	Wind Load Type	Roof Slope					
		10°	20°	30°	40°	50°	60°
		Span (m)					
Slate Roof	Exposure 1	3.63	3.45	3.36	3.34	3.32	3.42
	Exposure 2	3.46	3.36	3.25	3.22	3.17	3.26
	Exposure 3	3.26	3.30	3.17	3.13	3.08	3.15
Tiled Roof	Exposure 1	3.48	3.33	3.26	3.25	3.24	3.36
	Exposure 2	3.43	3.25	3.16	3.14	3.11	3.20
	Exposure 3	3.36	3.19	3.09	3.07	3.02	3.11

Table of Maximum Spans for Double Span Roof

Roof Finish	Wind Load Type	Roof Slope					
		10°	20°	30°	40°	50°	60°
		Span (m)					
Slate Roof	Exposure 1	4.06	3.85	3.75	3.73	3.70	3.82
	Exposure 2	3.86	3.75	3.63	3.59	3.54	3.64
	Exposure 3	3.64	3.68	3.54	3.50	3.44	3.52
Tiled Roof	Exposure 1	3.89	3.71	3.64	3.64	3.62	3.75
	Exposure 2	3.84	3.63	3.53	3.51	3.47	3.58
	Exposure 3	3.75	3.57	3.45	3.42	3.38	3.47

Notes

1. Relevant only to structures less than 250 m OD Malin Head
2. Wind Load exposure 1 - refers to basic wind speed of 23 m/s or less
exposure 2 - refers to basic wind speed of 23 -24 m/s
exposure 3 - refers to basic wind speed of greater than 24 m/s
3. The span is measured along the slope of the roof.

Thermo Panel Properties	Max Moment Capacity	5.45 kNm/m
	Max I	108.31 cm ⁴ /m

Loadings

Slated Roof Dead Loading		Tiled Roof Dead Loading	
Roof Slates (15mm avg tk x 30kN/m ³)	0.45 kN/m ²	Roof Slates (35mm avg tk x 20kN/m ³)	0.70 kN/m ²
Thermo Panel	0.12 kN/m ²	Thermo Panel	0.12 kN/m ²
Battens & Felt	0.05 kN/m ²	Battens & Felt	0.05 kN/m ²
Ceiling and services	0.25 kN/m ²	Ceiling and services	0.25 kN/m ²
Total Dead	0.87 kN/m²	Total Dead	1.12 kN/m²
Wind Loading		Live Loading	
Exposure 1	1.33 kN/m ²	Live Loading	0.60 kN/m²
Exposure 2	1.65 kN/m ²	Snow Loading	0.60 kN/m²
Exposure 3	1.89 kN/m ²	Max Live Loading	0.60 kN/m²