

Approved Document Part O Simplified overheating Calculations

Site Address

Name/Number Plot at Sunnyside Farm
Street Cambrose
Town Redruth
County Cornwall
Postcode TR16 4HT

Results

	Target	Result	Pass/Fail
Maximum Glazing Area must be less than	35.6256	28.5275	PASS
Maximum area of glazing in the most glazed room	16.8165	15.2225	PASS
Total Minimum Free Area (% of the floor area)	> 9%	10.94382	PASS
Total Minimum Free Area (% of the glazing area)	> 55%	75.92674	PASS
Bedroom Minimum Free Area	> 4%	See blow	PASS
	Bed 1	Bed 2	Bed 3
	9.124087591	11.51316	4.130435

Does the dwelling meet the simplified requirements for moderate risk with cross Ventilation?

PASS

Building Details

Use Residential dwelling
Site Location Cornwall
Risk Moderate
Cross Ventilation Yes

Part O Simplified Method Overheating Assessor

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Organisation Energy Access
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Date of assessment 19th September 2023

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			Glazing Permitted Table 1.1 (% Floor area)	Area of glazing allowed on this project	
Floor Area of House	LGF	0	North	18	18
	GF	100.46	East	18	
	FF	97.46	South	15	
	SF	0	West	11	
	Total	197.92			18

Largest Glazed Façade - Elevation - Galzing m2		permitted	35.6256	Notes
N		35.6256		
NE		35.6256	*take North as worse case	
E		35.6256		
SE		29.688	*take South as worse case	
S		29.688		
SW		21.7712	*take West as worse case	
W		21.7712		
NW		21.7712	*take West as worse case	
		0		

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Maximum area of glazing in the most glazed room (%floor area of room)

Maximum area of glazing in the most glazed room (%floor area of room)			%Glazing Permitted Table 1.1		Area of glazing on this project
Most glazed room is	Liv Kit Din	45.45 4.5m max depth	North	37	37
			East	37	
			South	30	
area of the room			West	22	
					37
	Total	45.45			

Largest Glazed Façade - Elevation - Galzing m2	Proposed Glazing	permitted	16.8165
N	15.2225	16.8165	
NE		16.8165	*take North as worse case
E		16.8165	
SE		13.635	*take South as worse case
S		13.635	
SW		9.999	*take West as worse case
W		9.999	
NW		9.999	*take West as worse case
		15.2225	
	15.2225		

Notes			
opening siz h	w	area	
W1	1.8	1.1	1.98
W2	0.95	0.75	0.7125
W3	1.7	3.1	5.27
W4	3.3	2.2	7.26
W5	0	0	0
		total	15.2225

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Calculator 2a - Minimum free area for the whole dwelling

Free area or equivalent area of windows	21.66	
Floor area of Whole dwelling	197.92	
Glazing area of whole dwelling	28.5275	
Free Area as a % of floor area	10.94382%	target is > than 9% of the floor area
Free Area as a % of the glazing area	75.92674%	target is > than 55% of the glazed area

Calculator 2b - Minimum free area for the bedrooms

Bedroom 1

Free area or equivalent area of windows for the bedroom	2.75
Floor area of the bedroom	30.14
% of floor area	9.124088

Bedroom 2

Free area or equivalent area of windows for the bedroom	2.1
Floor area of the bedroom	18.24
% of floor area	11.51316

Bedroom 3

Free area or equivalent area of windows for the bedroom	0.57	
Floor area of the bedroom	13.8	
% of floor area	4.130435	

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Whole Dwelling Equivalent Free Area

*assumed 50mm frame around glazing

	Window	Window	Glazing*	Glazing*	Glazing	Opening	Equivalent Area	Structural	Structural	
	Location	Reference	Orientation	Height	Width	Areas	Angle	(tables D1-D9)	Op Height	Op Width
1	Entrance		South	0	0	0	90	1.86	2.1	1
2	Entrance		South	1.95	0.55	1.0725	0	0	2.1	0.7
3	Utility		South	0.95	0.75	0.7125	90	0.4	1.2	1
4	Liv Kit Din		South	1.8	1.1	1.98	90	2.62	2.1	1.5
5	Liv Kit Din		South	0.95	0.75	0.7125	90	0.4	1.2	1
6	Bedroom 2		South	0.95	0.75	0.7125	90	0.4	1.2	1
7	Bedroom 2		South	0.95	0.75	0.7125	90	0.4	1.2	1
8	Wardrobe		South	0.95	0.75	0.7125	90	0.4	1.2	1
9	Bedroom 1		South	0.95	0.75	0.7125	90	0.4	1.2	1
10	Bedroom 1		South			0.47	90	0.65	1.18	0.66
11	Bedroom 1		South			0.47	90	0.65	1.18	0.66
12	Bedroom 1		South			0.47	90	0.65	1.18	0.66
								Total area	8.7375	
13	Utility		West	1.7	0.65	1.105	90	1.48	2.1	0.85
14	Snug		West	0.95	0.75	0.7125	90	0.4	1.2	1
15	Bedroom 3		West	0.95	0.75	0.7125	90	0.57	1.2	1
16	Bedroom 2		West			0.47	90	0.65	1.18	0.66
17	Bedroom 2		West			0.47	90	0.65	1.18	0.66
								Total area	3.47	
18	Liv Kit Din		North	1.7	3.1	5.27	90	6.18	2.1	3.8
19	Liv Kit Din		North	3.3	2.2	7.26	0	0	3.5	2.6
20	Snug		North	0.95	0.75	0.7125	90	0.4	1.2	1
21	Bedroom 1		North	0.95	0.75	0.7125	90	0.4	1.2	1
22	Bedroom 1		North	0.95	0.75	0.7125	90	0.4	1.2	1
23	Bathroom		North	0.95	0.75	0.7125	90	0.4	1.2	1
24	Bathroom		North			0.47	90	0.65	1.18	0.66
25	En Suite		North			0.47	90	0.65	1.18	0.66
26	Gallery		North			0.47	90	0.65	1.18	0.66
27	Gallery		North			0.47	90	0.65	1.18	0.66
28	Gallery		North			0.47	90	0.65	1.18	0.66
								Total area	17.73	
29	Entrance		West	0.95	0.75	0.7125	90	0.4	1.2	1
30	Bedroom 2		West			0.47	90	0.65	1.18	0.66
31	Bedroom 2		West			0.47	90	0.65	1.18	0.66
								Total area	1.6525	
							28.5275	21.66		

Notes

fixed

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Bedroom - Equivalent Free Area

	Window	Window	Glazing	Glazing	Glazing	Opening	Equivalent Area (tables D1-D9)
	Reference	Orientation	Height	Width	Area	Angle	
Bedroom 1							
1		South	0.95	0.75	0.7125	90	0.4
2		South			0.47	90	0.65
3		South			0.47	90	0.65
4		South			0.47	90	0.65
5		North	0.95	0.75	0.7125	90	0.4
6		North	0.95	0.75	0.7125	90	0.4
					2.835		2.75
Bedroom 2							
1		South	0.95	0.75	0.7125	90	0.4
2		South	0.95	0.75	0.7125	90	0.4
3		West			0.47	90	0.65
4		West			0.47	90	0.65
5							
					2.365		2.1
Bedroom 3							
1		West	0.95	0.75	0.7125	90	0.57
2							
3							
4							
5							
					0.7125		0.57
Bedroom 4							
1							
2							
3							
4							
5							
					0		0

The Equivalent Areas have also been Derived using Dr B Jones Window Discharge Coefficient calculator

The window discharge coefficient calculator was developed by Dr Benjamin Jones of Nottingham University.
And is a copy of the calculator found on the government website here.