

Approved Document Part O Simplified overheating Calculations

Site Address

Name/Number Plot at No. 15
Street Coach Lane
Town Redruth
County Cornwall
Postcode TR15 2TP

Results

	Target	Result	Pass/Fail
Maximum Glazing Area must be less than	12.232	12.15688	PASS
Maximum area of glazing in the most glazed room	4.1602	3.93	PASS
Total Minimum Free Area (% of the floor area)	> 9%	11.35791	PASS
Total Minimum Free Area (% of the glazing area)	> 55%	103.8918	PASS
Bedroom Minimum Free Area	> 4%	See blow	PASS
	Bed 1	Bed 2	Bed 3 Bed 4
	4.920634921	6.666667	6.666667 7.663782447

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 31st October 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	11 11
	GF	55.6	East	18	
	FF	55.6	South	15	
	SF	0	West	11	
	Total	111.2			
Largest Glazed Façade - Elevation - Galzing m2			permitted	12.232	Notes
	N	20.016			
	NE	20.016	*take North as worse case		
	E	20.016			
	SE	16.68	*take South as worse case		
	S	16.68			
	SW	12.232	*take West as worse case		
	W	12.232			
	NW	12.232	*take West as worse case		
		0			
		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	Kitchen Dir	18.91	North	37	
			East	37	
			South	30	
area of the room			West	22	22
					22
	Total	18.91			

Largest Glazed Façade - Elevation - Galzing m2	Proposed Glazing	permitted	4.1602
N		6.9967	
NE		6.9967	*take North as worse case
E		6.9967	
SE		5.673	*take South as worse case
S		5.673	
SW		4.1602	*take West as worse case
W	3.93	4.1602	
NW		4.1602	*take West as worse case
		3.93	
		3.93	

Notes			
opening siz h	w	area	
W1	1.7	1.5	2.55
W2	0.875	0.5	0.4375
W3	0.975	0.6	0.585
W4	0.65	0.55	0.3575
W5	0	0	0
		total	3.93

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Calculator 2a - Minimum free area for the whole dwelling

Free area or equivalent area of windows	12.63	
Floor area of Whole dwelling	111.2	
Glazing area of whole dwelling	12.15688	
Free Area as a % of floor area	11.35791%	target is > than 9% of the floor area
Free Area as a % of the glazing area	103.8918%	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	0.62
Floor area of the bedroom	12.6
% of floor area	4.920635

Bedroom 2

Free area or equivalent area of windows for the bedroom	0.62
Floor area of the bedroom	9.3
% of floor area	6.666667

Bedroom 3

Free area or equivalent area of windows for the bedroom	0.62
Floor area of the bedroom	9.3
% of floor area	6.666667

Bedroom 4

Free area or equivalent area of windows for the bedroom	0.62
Floor area of the bedroom	8.09
% of floor area	7.663782

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Whole Dwelling Equivalent Free Area

*assumed 50mm frame around glazing

	Window Location	Window Reference	Window Orientation	Glazing* Height	Glazing* Width	Glazing Areas	Opening Angle	Equivalent Area (tables D1-D9)	Structural Op Height	Structural Op Width
1	Entrance		East	0.625	0.525	0.328125	90	1.86	2.1	1
2	Entrance		East	1.9	0.2	0.38	0	0	2.1	0.4
3	Living		East	0.875	0.5	0.4375	90	0.62	1.1	1.5
				0.975	0.6	0.585	0	0 fixed centre		
4	Kitchen Diner		East	0.875	0.5	0.4375	90	0.62	1.1	1.5
				0.975	0.6	0.585	0	0 fixed centre		
5	Bedroom 1		East	0.875	0.5	0.4375	90	0.62	1.1	1.5
				0.975	0.6	0.585	0	0 fixed centre		
6	Bedroom 2		East	0.875	0.5	0.4375	90	0.62	1.1	1.5
				0.975	0.6	0.585	0	0 fixed centre		
7	Stairs		East	0.875	0.375	0.328125	90	0.42	1.1	0.6
								Total area		5.12625
8	kitchen diner		South	0.65	0.55	0.3575	90	1.86	2.1	1
								Total area		0.3575
9	Utility		West	0.625	0.525	0.328125	90	1.86	2.1	1
10	Kitchen		West	1.7	1.5	2.55	90	1.87	2.1	2
11	Living		West	0.9	0.55	0.495	90	0.62	1.1	1.5
				1	0.65	0.65	0	0 fixed centre		
12	Bedroom 3		West	0.9	0.55	0.495	90	0.62	1.1	1.5
				1	0.65	0.65	0	0 fixed centre		
13	Bedroom 4		West	0.9	0.55	0.495	90	0.62	1.1	1.5
				1	0.65	0.65	0	0 fixed centre		
14	Bathroom		West	0.9	0.4	0.36	90	0.42	1.1	0.6
								Total area		6.673125

Notes

fixed side panel

One side opens fixed centre

glazing bars

One side opens fixed centre

glazing bars

One side opens fixed centre

glazing bars

One side opens fixed centre

glazing bars

Sliding door

One side opens fixed centre

One side opens fixed centre

One side opens fixed centre

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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		East	0.875	0.5	0.4375	90	0.62
2			0.975	0.6	0.585	0	0
3							
4							
5					1.0225		0.62
Bedroom 2							
1		East	0.875	0.5	0.4375	90	0.62
2			0.975	0.6	0.585	0	0
3							
4							
5					1.0225		0.62
Bedroom 3							
1		West	0.9	0.55	0.495	90	0.62
2			1	0.65	0.65	0	0
3							
4							
5					1.145		0.62
Bedroom 4							
1		West	0.9	0.55	0.495	90	0.62
2			1	0.65	0.65	0	0
3							
4							
5							
					1.145	0.62	

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.