

Approved Document Part O Simplified overheating Calculations

Site Address

Name/Number Bronsley (Left Hand)
Street Bodinnick Road
Town St Tudy, Bodmin
County Cornwall
Postcode PL30 3NX

Results

	Target	Result	Pass/Fail
Maximum Glazing Area must be less than	18.1698	27.7532	FAIL
Maximum area of glazing in the most glazed room	7.5746	16.67	FAIL
Total Minimum Free Area (% of the floor area)	> 9%	12.332	PASS
Total Minimum Free Area (% of the glazing area)	> 55%	73.39694	PASS
Bedroom Minimum Free Area	> 4%	See blow	PASS
	Bed 1	Bed 2	Bed 3 Bed 4
	7.667731629	8.241758	#DIV/0! #DIV/0!

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

FAIL

Building Details

Use Residential dwelling
Site Location Cornwall
Risk Moderate
Cross Ventilation Yes

Part O Simplified Method Overheating Assessor

Name Stuart Thomas BSc(Hons) C.Build E FCABE
Organisation Energy Access
Email address s.thomas@energyaccess.org.uk
Date of assessment 10th 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
	GF	103.93	East	18
	FF	61.25	South	15
	SF	0	West	11
	Total	165.18		11

Largest Glazed Façade - Elevation - Galzing m2		permitted	18.1698
N		29.7324	
NE		29.7324	*take North as worse case
E		29.7324	
SE		24.777	*take South as worse case
S		24.777	
SW		18.1698	*take West as worse case
W		18.1698	
NW		18.1698	*take West as worse case
		0	
		0	

Notes

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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	Kit Liv Din	34.43	4.5m max depth	North	37	
				East	37	
				South	30	
area of the room				West	22	22
						22
	Total	34.43				

Largest Glazed Façade - Elevation - Galzing m2	Proposed Glazing	permitted	7.5746	Notes			
N		12.7391		opening size	w	area	
NE		12.7391	*take North as worse case	W 9 - 13	0	0	11.96 West
E		12.7391		W 15	0	0	0.66 South
SE		10.329	*take South as worse case	W 16-18	0	0	4.05 North
S		10.329					
SW		7.5746	*take West as worse case				
W	16.67	7.5746					
NW		7.5746	*take West as worse case				
		16.67					
		16.67					
					total		16.67

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Calculator 2a - Minimum free area for the whole dwelling

Free area or equivalent area of windows	20.37	
Floor area of Whole dwelling	165.18	
Glazing area of whole dwelling	27.7532	
Free Area as a % of floor area	12.332%	target is > than 9% of the floor area
Free Area as a % of the glazing area	73.39694%	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	1.2
Floor area of the bedroom	15.65
% of floor area	7.667732

Bedroom 2

Free area or equivalent area of windows for the bedroom	1.2
Floor area of the bedroom	14.56
% of floor area	8.241758

Bedroom 3

Free area or equivalent area of windows for the bedroom	0
Floor area of the bedroom	0
% of floor area	#DIV/0!

Bedroom 4

Free area or equivalent area of windows for the bedroom	0
Floor area of the bedroom	0
% of floor area	#DIV/0!

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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	0.45	0.6	0.27	90	1.86	2.1	1
2	Utility		East	1	0.4	0.4	45	0.51	1.2	0.6
3	Entrance		East	1	0.3	0.3	0	0	1.1	0.4
4	Reception		East	1	1.2	1.2	45	1.3	1.2	2.4
				1.1	0.7	0.77	0	0		
5	Bedroom 2		East	1	1.2	1.2	45	1.3	1.2	2.4
				1.1	0.7	0.77	0	0		
6	Bedroom 1		East	1	1.2	1.2	45	1.3	1.2	2.4
				1.1	0.7	0.77	0	0		
								Total area	6.88	
7	Landing		West	1.5	0.6	0.9	45	1.03	1.7	0.8
8	Bathroom		West	0.5	1.6	0.8	90	0.74	0.7	1.8
9	Liv Kit Din		West	0.98	3.42	3.3516	0	0	1.08	3.52
10	Liv Kit Din		West	0.98	3.42	3.3516	0	0	1.08	3.52
11	Liv Kit Din		West	1.8	1.7	3.06	90	3.89	2.1	2.4
12	Liv Kit Din		West	1.1	1	1.1	45	1.11	1.3	1.2
13	Liv Kit Din		West	1.1	1	1.1	45	1.11	1.3	1.2
								Total area	13.6632	
14	Reception		South	1	0.4	0.4	45	0.51	1.2	0.6
15	Liv Kit Din		South	0.3	2.2	0.66	45	0.67	0.5	2.4
								Total area	1.06	
16	Liv Kit Din		North			1.35	90	1.68	2	1
17	Liv Kit Din		North			1.35	90	1.68	2	1
18	Liv Kit Din		North			1.35	90	1.68	2	1
								Total area	2.7	
19	FF Landing		Horz			2.1	0	0	1	2.5
								Total area	2.1	

27.7532

20.37

Notes

fixed

***both sides open fixed centre**

***both sides open fixed centre**

***both sides open fixed centre**

fixed

fixed

fixed lantern

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Bedroom - Equivalent Free Area

	Window	Window	Glazing	Glazing	Glazing	Opening	Equivalent Area	
	Reference	Orientation	Height	Width	Area	Angle	(tables D1-D9)	
Bedroom 1								
1		1	1.2	1.2	45	1.3	1.2	2.4
2		1.1	0.7	0.77	0	0		
3								
4								
5					45		1.2	
Bedroom 2								
1		1	1.2	1.2	45	1.3	1.2	2.4
2		1.1	0.7	0.77	0	0		
3								
4								
5					45		1.2	
Bedroom 3								
1								
2								
3								
4								
5								
Bedroom 4								
1								
2								
3								
4								
5								
					0		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.