

Approved Document Part O Simplified overheating Calculations

Site Address

Name/Number Hendra Farm
Street Darite
Town Liskeard
County Cornwall
Postcode PL14 5HJ

Results

	Target	Result	Pass/Fail
Maximum Glazing Area must be less than	39.555	28.025	PASS
Maximum area of glazing in the most glazed room	17.415	12.77	PASS
Total Minimum Free Area (% of the floor area)	> 9%	9.233978	PASS
Total Minimum Free Area (% of the glazing area)	> 55%	86.88671	PASS
Bedroom Minimum Free Area	> 4%	See blow	PASS
	Bed 1	Bed 2	Bed 3 Bed 4
	4.20499343	4.232804	7.109005 6.393516434

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

Name Stuart Thomas BSc(Hons) C.Build E FCABE
Organisation Energy Access
Email address s.thomas@energyaccess.org.uk
Date of assessment 5th April 2024

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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	15
	GF	135.32	East	18	
	FF	128.38	South	15	
	SF	0	West	11	
	Total	263.7			

Largest Glazed Façade - Elevation - Galzing m2		permitted	39.555
N		47.466	
NE		47.466	*take North as worse case
E		47.466	
SE		39.555	*take South as worse case
S		39.555	
SW		29.007	*take West as worse case
W		29.007	
NW		29.007	*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)				Area of glazing on this project	
Most glazed room is	Liv Kit Din	58.05 *4.5m max depth	%Glazing Permitted Table 1.1		
			North	37	
			East	37	
			South	30	30
			West	22	
area of the room					30
	Total	58.05			

Largest Glazed Façade - Elevation - Galzing m2	Proposed Glazing	permitted	17.415	Notes
N		21.4785		opening siz h w area
NE		21.4785	*take North as worse case	South 8.84
E		21.4785		West 0.34
SE		17.415	*take South as worse case	North 1.35
S	12.77	17.415		East 2.24
SW		12.771	*take West as worse case	0
W		12.771		
NW		12.771	*take West as worse case	
		12.77		total 12.77
	12.77			

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Calculator 2a - Minimum free area for the whole dwelling

Free area or equivalent area of windows	24.35	
Floor area of Whole dwelling	263.7	
Glazing area of whole dwelling	28.025	
Free Area as a % of floor area	9.233978	% target is > than 9% of the floor area
Free Area as a % of the glazing area	86.88671	% 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	1.6
Floor area of the bedroom	38.05
% of floor area	4.204993

Bedroom 2

Free area or equivalent area of windows for the bedroom	0.8
Floor area of the bedroom	18.9
% of floor area	4.232804

Bedroom 3

Free area or equivalent area of windows for the bedroom	1.2
Floor area of the bedroom	16.88
% of floor area	7.109005

Bedroom 4

Free area or equivalent area of windows for the bedroom	1.42
Floor area of the bedroom	22.21
% of floor area	6.393516

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Whole Dwelling Equivalent Free Area									
*assumed 50mm frame around glazing									
Window	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	Liv Kit Din	South	1.8	0.7	1.26	90	1.86	2.1	1
2	Liv Kit Din	South	1.9	0.2	0.38	0	0	2.1	0.3
3	Liv Kit Din	South	1.8	2.4	4.32	90	4.59	2.1	2.8
4	Liv Kit Din	South	0.85	0.8	0.68	45	0.8	1.05	2.4
			0.95	1.1	1.045	0	0		
5	Liv Kit Din	South	0.85	0.8	0.68	45	0.8	1.05	1.8
			0.95	0.5	0.475	0	0		
6	Bedroom 1	South	0.85	0.8	0.68	45	0.8	1.05	2.7
			0.95	1.4	1.33	0	0		
7	Bedroom 2	South	0.85	0.8	0.68	45	0.8	1.05	1.2
8	Bedroom 3	South	0.85	0.8	0.68	45	0.8	1.05	2.4
			0.95	1.1	1.045	0	0		
								Total area	13.255
9	Utility	West	1.8	0.6	1.08	90	1.77	2.1	0.9
10	Play Room	West	0.85	0.6	0.51	45	0.7	1.05	1.5
			0.95	0.4	0.38	0	0		
11	Liv Kit Din	West	0.85	0.4	0.34	45	0.4	1.05	0.6
12	Bedroom 3	West	0.85	0.4	0.34	45	0.4	1.05	0.6
13	Bedroom 4	West	0.85	0.4	0.34	45	0.4	1.05	0.6
								Total area	2.99
14	Liv Kit Din	North	1	0.8	0.8	45	1.02	1.2	1.8
			1.1	0.5	0.55	0	0		
15	Hall	North	1.15	0.7	0.805	45	0.84	1.35	0.9
16	Utility	North	0.85	0.8	0.68	45	0.8	1.05	2.4
			0.95	1.1	1.045	0	0		
17	Bedroom 4	North	1	0.8	0.8	45	1.02	1.2	1.8
			1.1	0.5	0.55	0	0		
18	Bathroom	North	1	0.8	0.8	45	0.82	1.2	1.2
19	Landing	North	0.85	0.7	0.595	45	0.64	1.05	0.9
20	Bedroom 1	North	0.85	0.4	0.34	45	0.4	1.05	0.6
21	En Suite	North	0.85	0.8	0.68	45	0.8	1.05	1.8
			0.95	0.5	0.475	0	0		
								Total area	8.12
22	Utility	East	1.8	0.6	1.08	90	1.77	2.1	0.9
23	Liv Kit Din	East	0.85	0.6	0.51	45	0.7	1.05	1.5
			0.95	0.4	0.38	0	0		
24	Liv Kit Din	East	1	0.8	0.8	45	1.02	1.2	1.8
			1.1	0.5	0.55	0	0		
25	Bedroom 1	East	0.85	0.4	0.34	45	0.4	1.05	0.6
								Total area	3.66
							28.025	24.35	

Notes

fixed

two sides open

Fixed centre

two sides open

Fixed centre

two sides open

Fixed centre

two sides open

Fixed centre

two sides open

Fixed centre

two sides open

Fixed centre

two sides open

Fixed centre

two sides open

Fixed centre

two sides open

Fixed centre

two sides open

Fixed centre

two sides open

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		South	0.85	0.8	0.68	45	0.8
2			0.95	1.4	1.33	0	0
3		North	0.85	0.4	0.34	45	0.4
4		East	0.85	0.4	0.34	45	0.4
5							
					2.69		1.6
Bedroom 2							
1		South	0.85	0.8	0.68	45	0.8
2							
3							
4							
5							
					0.68		0.8
Bedroom 3							
1		South	0.85	0.8	0.68	45	0.8
2			0.95	1.1	1.045	0	0
3		West	0.85	0.4	0.34	45	0.4
4							
5							
					2.065		1.2
Bedroom 4							
1		West	0.85	0.4	0.34	45	0.4
2		North	1	0.8	0.8	45	1.02
3			1.1	0.5	0.55	0	0
4							
5							
					1.69		1.42

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.