

## Approved Document Part O Simplified overheating Calculations

### Site Address

**Name/Number** The Workshop  
**Street** Carnon Crescent  
**Town** Carnon Downs  
**County** Cornwall  
**Postcode** TR3 6HZ

### Results

	Target	Result	Pass/Fail
<b>Maximum Glazing Area</b> must be less than	10.4562	6.1975	PASS
<b>Maximum area of glazing in the most glazed room</b>	6.21	3.25	PASS
<b>Total Minimum Free Area (% of the floor area)</b>	> 9%	12.66999	PASS
<b>Total Minimum Free Area (% of the glazing area)</b>	> 55%	118.7576	PASS
<b>Bedroom Minimum Free Area</b>	> 4%	See blow	PASS
	Bed 1		
	17.29264476		

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** 15th 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	25.55	East	18
	FF	32.54	South	15
	SF	0	West	11
	<b>Total</b>	<b>58.09</b>		<b>18</b>

Largest Glazed Façade - Elevation - Galzing m2		permitted	10.4562
N		10.4562	
NE		10.4562	*take North as worse case
E		10.4562	
SE		8.7135	*take South as worse case
S		8.7135	
SW		6.3899	*take West as worse case
W		6.3899	
NW		6.3899	*take West as worse case
		0	
		<b>0</b>	

**Notes**

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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	Living	20.7 4.5m max depth	North	37	
			East	37	
			South	30	30
area of the room			West	22	
					30
	<b>Total</b>	<b>20.7</b>			

Largest Glazed Façade - Elevation - Galzing m2	Proposed Glazing	permitted	6.21	<b>Notes</b>
N		7.659		opening siz h w area
NE		7.659	*take North as worse case	W1 0 0 0.2 East
E		7.659		W2 0 0 0.37 East
SE		6.21	*take South as worse case	W3 0 0 0.37 East
S	3.25	6.21		0.8 1.5 1.2 South
SW		4.554	*take West as worse case	0.37 West
W		4.554		0.37 West
NW		4.554	*take West as worse case	0.37 West
		0.37		
	<b>3.25</b>			<b>3.25</b>

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## Calculator 2a - Minimum free area for the whole dwelling

Free area or equivalent area of windows	<input type="text" value="7.36"/>	
Floor area of Whole dwelling	<input type="text" value="58.09"/>	
Glazing area of whole dwelling	<input type="text" value="6.1975"/>	
Free Area as a % of floor area	<input type="text" value="12.66999"/>	% target is > than 9% of the floor area
Free Area as a % of the glazing area	<input type="text" value="118.7576"/>	% 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	<input type="text" value="2.21"/>	<input type="text"/>
Floor area of the bedroom	<input type="text" value="12.78"/>	<input type="text"/>
% of floor area	<input type="text" value="17.29264"/>	<input type="text"/>
	<input type="text"/>	<input type="text"/>
	<input type="text"/>	<input type="text"/>
	<input type="text"/>	<input type="text"/>

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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	1.8	0.6	1.08	90	1.86	2.1	0.9
2	Entrance		East	1.95	0.25	0.4875	0	0	2.1	0.4
3	Bedroom		East	1.8	0.6	1.08	90	1.86	2.1	0.9
4	Living		East			0.2	0	0	0.5m dia	Portal
5	Living		East			0.37	90	0.44	0.98	0.55
6	Living		East			0.37	90	0.44	0.98	0.55
								<b>Total area</b>	<b>3.5875</b>	
7	Bedroom		South	0.2	1.5	0.3	45	0.35	0.4	1.7
8	Living		South	0.8	1.5	1.2	90	1.09	1	1.7
								<b>Total area</b>	<b>1.5</b>	
9	Living		West			0.37	90	0.44	0.98	0.55
10	Living		West			0.37	90	0.44	0.98	0.55
11	Living		West			0.37	90	0.44	0.98	0.55
								<b>Total area</b>	<b>1.11</b>	

6.1975

7.36

Notes

fixed

fixed

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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		East	1.8	0.6	1.08	90	1.86
2		South	0.2	1.5	0.3	45	0.35
3							
4							
5					1.38		2.21

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.