

# Approved Document Part O Simplified overheating Calculations

## Site Address

**Name/Number** Land West of 14  
**Street** Victoria  
**Town** Lostwithiel  
**County** Cornwall  
**Postcode** PL22 0AX

## Results

	Target	Result	Pass/Fail
<b>Maximum Glazing Area</b> must be less than	25.6896	<b>15.66</b>	<b>PASS</b>
<b>Maximum area of glazing in the most glazed room</b>	10.9594	<b>4.85</b>	<b>PASS</b>
<b>Total Minimum Free Area (% of the floor area)</b>	> 9%	<b>11.55409</b>	<b>PASS</b>
<b>Total Minimum Free Area (% of the glazing area)</b>	> 55%	<b>105.3001</b>	<b>PASS</b>
<b>Bedroom Minimum Free Area</b>	> 4%	See blow	<b>PASS</b>
	Bed 1	Bed 2	Bed 3
	<b>5.186590765</b>	<b>6.165414</b>	<b>5.659075</b>

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

**YES**

## 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** 3rd 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
	GF	72.8	East	18
	FF	69.92	South	15
	SF	0	West	11
	<b>Total</b>	<b>142.72</b>		<b>18</b>

Largest Glazed Façade - Elevation - Galzing m2		permitted	25.6896
N		25.6896	
NE		25.6896	*take North as worse case
E		25.6896	
SE		21.408	*take South as worse case
S		21.408	
SW		15.6992	*take West as worse case
W		15.6992	
NW		15.6992	*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	Kitch / Din	29.62	North	37	37
			East	37	
			South	30	
area of the room			West	22	
	<b>Total</b>	<b>29.62</b>			37

Largest Glazed Façade - Elevation - Galzing m2	Proposed Glazing	permitted	10.9594
N		10.9594	
NE	4.85	10.9594	*take North as worse case
E		10.9594	
SE		8.886	*take South as worse case
S		8.886	
SW		6.5164	*take West as worse case
W		6.5164	
NW		6.5164	*take West as worse case
		4.85	
	<b>4.85</b>		

<b>Notes</b>			
opening siz h	w	area	
W1	0.85	0.6	0.51
W2	0.95	0.4	0.38
W3	1.8	2.2	3.96
W4	0	0	0
W5	0	0	0
		total	4.85

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

Free area or equivalent area of windows	<input type="text" value="16.49"/>	
Floor area of Whole dwelling	<input type="text" value="142.72"/>	
Glazing area of whole dwelling	<input type="text" value="15.66"/>	
Free Area as a % of floor area	<input type="text" value="11.55409"/>	% target is > than 9% of the floor area
Free Area as a % of the glazing area	<input type="text" value="105.3001"/>	% 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="0.82"/>
Floor area of the bedroom	<input type="text" value="15.81"/>
% of floor area	<input type="text" value="5.186591"/>

### Bedroom 2

Free area or equivalent area of windows for the bedroom	<input type="text" value="0.82"/>
Floor area of the bedroom	<input type="text" value="13.3"/>
% of floor area	<input type="text" value="6.165414"/>

### Bedroom 3

Free area or equivalent area of windows for the bedroom	<input type="text" value="0.82"/>	<input type="text"/>
Floor area of the bedroom	<input type="text" value="14.49"/>	<input type="text"/>
% of floor area	<input type="text" value="5.659075"/>	<input type="text"/>



Notes

2 sides open  
fixed centre  
2 sides open  
fixed centre

2 sides open  
fixed centre  
2 sides open  
fixed centre

2 sides open  
fixed centre

2 sides open  
fixed centre

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## Bedroom - Equivalent Free Area

	Window Reference	Window Orientation	Glazing Height	Glazing Width	Glazing Area	Opening Angle	Equivalent Area (tables D1-D9)
Bedroom 1	1	South West	1	0.6	0.6	45	0.82
	2		1.1	0.4	0.44	45	
	3						
	4						
	5					1.04	0.82
Bedroom 2	1	South West	1	0.6	0.6	45	0.82
	2		1.1	0.4	0.44	45	
	3						
	4						
	5					1.04	0.82
Bedroom 3	1	North East	1	0.6	0.6	45	0.82
	2		1.1	0.4	0.44	45	
	3						
	4						
	5					1.04	0.82

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.