

# Thermal Comfort Assessment

BUILDING  
SUSTAINABILITY  
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Development application for:

77 Bower Street

Manly NSW 2095

Issue	File Ref	Description	Author	Date
A	9587	Original Thermal Comfort Assessment	KH	21/10/15
B	17-0762	Updated thermal comfort assessment to reflect plan changes and glazing specifications	JB	11/07/17
C	17-0880	Updated thermal comfort assessment to reflect wall changes	JB	28/07/17

This report has been prepared by Efficient Living Pty Ltd on behalf of our client GRS Building Reports Pty Ltd. Efficient Living prepares all reports in accordance with the BASIX Thermal Comfort Protocol and is backed by professional indemnity insurance. This report takes into account our client's instructions and preferred building inclusions.



Assessor	Tracey Cools	
Accreditation Number	VIC/BDAV/12/1473	
Thermal Comfort results	BDAV Certificate number: 0001692474-01	
	Conditioned area: 506m <sup>2</sup>	Area adjusted heating load: 50 MJ/m <sup>2</sup> /pa
	Un-conditioned area: 29m <sup>2</sup>	Area adjusted cooling load: 21 MJ/m <sup>2</sup> /pa
Specification	<p>The following specification was used to achieve the thermal performance values. Modelling proxies are used at times and if the buildings element details vary the thermal performance specifications below shall take precedence.</p> <p>If there is a change to this specification during design or construction phases please contact Efficient Living for advice and if required an updated certificate will be issued.</p>	
Floors	<p>Concrete slab on ground with no insulation – Level 0.</p> <p>Elevated enclosed concrete slab with no insulation – Level 1.</p> <p>Concrete slab, no insulation required between levels internally.</p>	
Walls	<p><u>External walls:</u></p> <p>Cavity brick with a R1.5 Kooltherm K17 insulated plasterboard or a minimum Total system R-Value of R<sub>t</sub> 1.86</p> <p>Concrete with a R1.5 Kooltherm K17 insulated plasterboard or a minimum Total system R-Value of R<sub>t</sub> 1.60</p> <p>Single skin brick with no insulation – To garage walls only.</p> <p>Medium colour (SA 0.475-0.7)</p> <p><u>Internal walls:</u></p> <p>Concrete block, no insulation – To walls adjacent to lift.</p> <p>Plasterboard on studs, no insulation – To rest of home</p>	
Windows	<p>Aluminium frames with performance glazing as per window schedule:</p> <p><b>6clr/12/6Clr</b></p> <p>U-Value (equal to or lower than): 4.70</p> <p>SHGC (+ or - 10%): 0.48</p>	



**6/12/6**

U-Value (equal to or lower than): 3.9

SHGC (+ or - 10%): 0.55

**6/16/6.38**

U-Value (equal to or lower than): 2.70

SHGC (+ or - 10%): 0.66

Given values are NFRC, total window values

Skylights Timber frames with double glazed glazing.

Ceilings Plasterboard with R3.0 bulk insulation (excluding garage)  
It has been assumed at DA stage that the area of all ceiling penetrations is less than 0.5% of the total ceiling area. If down lights are proposed at a later stage, BCA loss of insulation calculations will be required.

Roof Metal roof with foil backed blanket, R1.2 (up) R1.28 (down) flat ceiling – Level 2  
Concrete, no insulation – Level 1  
Medium colour (SA 0.475-0.7)

Floor Coverings Tiles to wet areas, timber to living areas and carpet to bedrooms

External shade External Aluminium louvre blades – As per plans

Ventilation All external doors have weather seals, all exhaust fans and chimneys have dampers, any down lights proposed will have capped fittings.

Report contact Jonathan Bills  
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