



CALCULATION OF THERMAL PERFORMANCE

REGEN BUILDING SOLUTIONS - Suspended XL-Floor 75, Unenclosed Sub-floor

System Description: XL-Floor 75 (2-layers of 12mm thickness Megaboard 920kg/m³, 51mm core of H Grade EPS)
Unenclosed Non-Reflective Subfloor Air Film

INSULATION PATH

Calculation: **F160202a W** (Evaluation for Winter 12°C ambient temperature, 1 8°C inside temperature)

Element Description	WINTER				
	R (m ² K/W)	°C out	°C in	Mean °C	Δ-T
Indoor Air-Film	0.160	18.00	17.49	17.74	0.51
12mm Megaboard	0.120	17.49	17.11	17.30	0.38
51mm H Grade EPS	1.438	17.11	12.51	14.81	4.59
12mm Megaboard	0.120	12.51	12.13	12.32	0.38
Unenclosed Non-Reflective Air Film	0.040	12.13	12.00	12.06	0.13
TOTAL R VALUE	1.9	(m².K/W)		6.00	

Assumed Airspace Properties				
e1	e2	mm	Heat Flow	Notes
				1
				3
				2
				3
				4

Calculation: **F160202a S** (Evaluation for Summer 36°C ambient temperature, 24°C inside temperature)

Element Description	SUMMER				
	R (m ² K/W)	°C out	°C in	Mean °C	Δ-T
Indoor Air-Film	0.110	24.00	24.75	24.38	0.75
12mm Megaboard	0.120	24.75	25.57	25.16	0.82
51mm H Grade EPS	1.367	25.57	34.91	30.24	9.34
12mm Megaboard	0.120	34.91	35.73	35.32	0.82
Unenclosed Non-Reflective Air Film	0.040	35.73	36.00	35.86	0.27
TOTAL R VALUE	1.8	(m².K/W)		12.00	

Assumed Airspace Properties				
e1	e2	mm	Heat Flow	Notes
				1
				3
				2
				3
				4

- Notes:
- AS/NZS 4859.1:2002, Amdt.1 2006, Cl. K5(b) - Air Films.
 - AIRAH Technical Handbook, Edition 5 2013, pp. 62-75 - Thermal Properties of Building and Insulating Material.
 - Material R-value tested to AS/NZS 4859.1.
 - AS/NZS 4859.1:2002, Amdt.1 2006, K5 (a).
- This calculation does not consider thermal bridging as thermal resistance is calculated on the path of the insulation only.
 - This calculation is not compliant for the purposes of labelling in accordance with AS/NZS 4859.1 without the endorsement of a recognised laboratory as per Section 4.3 of AS/NZS 4859.1.
 - This report may not be produced except in full. Results may not be quoted without reference to the assumptions.

The Total R values of the above system for Winter and Summer conditions have been determined in accordance with the requirements of AS/NZS 4859.1:2002 Amdt 1 (Dec 2006).

Total R value R_T (WINTER) 1.9 (m².K/W)
R_T (SUMMER) 1.8 (m².K/W)

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