



CALCULATION OF THERMAL PERFORMANCE

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

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

INSULATION PATH

Calculation: **F160202b 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	17.63	17.81	0.37
12mm Megaboard	0.120	17.63	17.35	17.49	0.28
51mm H Grade EPS	1.433	17.35	14.01	15.68	3.34
12mm Megaboard	0.120	14.01	13.73	13.87	0.28
Unenclosed Non-Reflective Air Film	0.160	13.73	13.35	13.54	0.37
Ground Heat Flow Thermal Resistance	0.580	13.35	12.00	12.68	1.35
TOTAL R VALUE	2.6	(m².K/W)		6.00	

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

Calculation: **F160202b S** (Evaluation for Summer 36°C ambient temperature, 2 4°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	24.55	24.28	0.55
12mm Megaboard	0.120	24.55	25.16	24.86	0.60
51mm H Grade EPS	1.363	25.16	32.02	28.59	6.86
12mm Megaboard	0.120	32.02	32.63	32.32	0.60
Unenclosed Non-Reflective Air Film	0.110	32.63	33.18	32.90	0.55
Ground Heat Flow Thermal Resistance	0.560	33.18	36.00	34.59	2.82
TOTAL R VALUE	2.4	(m².K/W)		12.00	

Assumed Airspace Properties				
e1	e2	mm	Heat Flow	Notes
				1
				3
				2
				3
				1
				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, K7.
- 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) **2.6** (m².K/W)
 R_T (SUMMER) **2.4** (m².K/W)

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