

Material Permeability

	Material Examples	Equivalent air layer thickness Sd	Thickness (m)	Mu Value			Vapour			Classification			Likely	
				Water resistance factor Mu	Resistance MNs/g	Permeance ug/Ns	Vapour	Water	Air	Emittance	R value			
											non ventilated	ventilated		
1	Ametalin VapourTech Brane VHP	0.016	0.00038	41	0.078	12.848	Class 4	Pass	?	Non reflective	0.9/0.9	0.16	0.12	
2	ProctorWrap RW/Bradfords Enviroseal	0.044	0.00060	73	0.220	4.500	Class 4	Pass	Pass	Non reflective	0.9/0.9	0.16	0.12	
3	Pro Clima Solitex Extasana	0.051	0.00060	85	0.255	3.922	Class 4	Pass	Pass	Non reflective	0.9/0.9	0.16	0.12	
4	Ametalin VapourTech Wall	0.053	0.00045	118	0.266	3.764	Class 4	Pass	Pass	Non reflective	0.58/0.56	0.21	0.12	
5	ProctorWrap HTS	0.04	0.00060	130	0.200	2.565	Class 4	Pass	Pass	Non reflective	0.9/0.9	0.16	0.12	
6	Plasterboard	0.1	0.01000	10	0.500	2.000				Non reflective		0.059	0.059	
14	Rockwool	0.117	0.05000	2	0.582	1.716				Non reflective		1.471	1.471	
7	James Hardie Wall Wrap	0.118	0.00060	196	0.590	1.695	Class 4	Pass	Pass	Non reflective	0.17	0.35	0.12	
8	Ametalin Silver Wrap xR	0.138	0.00012	1,150	0.690	1.450	Class 4	Fail	Pass	Reflective	0.05/0.03	0.47	0.12	
9	Fibre cement (James Hardie rab board)	0.146	0.00600	24	0.0729	1.37	Class 4	Pass		Non reflective		0.024	0.024	
10	MDF	0.18	0.01200	15	0.900	1.111				Non reflective		0.133	0.133	
11	Pro Clima Intello Plus (Open)	0.264	0.00040	662	1.324	0.755	Class 2/3		Pass					
12	OSB	0.36	0.01200	30	1.800	0.555				Non reflective		0.086	0.086	
13	Plywood	0.84	0.00600	70	4.200	0.238				Non reflective		0.052	0.052	
15	Brick	1.98	0.11000	18	9.900	0.101				Non reflective		0.169	0.169	
16	Polystyrene	5	0.05000	100	25.000	0.040				Non reflective		1.316	1.316	
17	Concrete	7	0.10000	70	35.000	0.029				Non reflective		0.069	0.069	
18	Ametalin SilverSark xR	9.055	0.00012	75,458	45.275	0.021	Class 2	Pass	Pass	Reflective	0.05/0.03	0.47	0.12	
19	Trade Select Wall Wrap MD	14.5	0.00010	144,634	72.300	0.013	Class 2	Pass	Pass	Reflective	0.9/0.03	0.16	0.12	
20	Pro Clima Intello Plus (Closed)	25	0.00040	59,880	120.000	0.008	Class 2/3		Pass					
21	Bradfords Thermoseal	67	0.00010	670,325	335.200	0.002	Class 1	Pass	Pass	Reflective	0.9/0.05	0.16	0.12	
22	Timber (pine)		0.09000							Non reflective		0.750	0.750	

Things to note about the table;

- The table is sorted by Permeance, highest to lowest so you can see what you are proposing and if it will allow vapour through it to help dry out the building.
- Some of the numbers are by calculation rather than a data sheet so will be very close but may not match exactly.
- ? means the manufacturer did not clarify this in the data sheet, hence I would suspect it fails.
- **There is NO Class 4 membrane on the Australian market that is permeable, reflective and a water barrier.**
- The columns that describe R value take into account the material k value, the thickness and if the space is ventilated or not.
- Polystyrene is the foam or material R value only, no foil coatings have been added.
- Any air movement = ventilated
- R value is calculated in accordance with BCA & AS/NZS