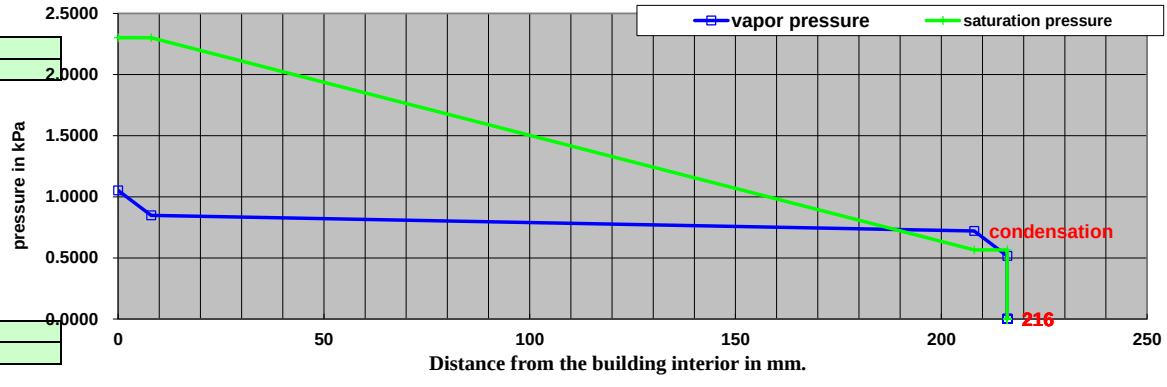
vapor pressure- and saturation curve

Inn

°C	20
RF inn.	45
Pi	1.052

out

°C	-1
RF out.	92
Pu	0.516

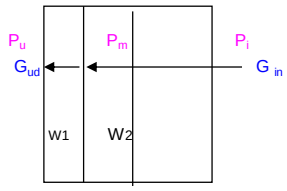


Nr.	Column	1	2	3	4	5	6	7	8	9	10	
	Symbol	S	l	D	s/l =R	S/D=W	Dq	q	DP	P	Ps	
	Material	m	W / m * k	g / m*h*kPa	m² * k / W	m*h*kPa / g	°C	°C	kPa	kPa	kPa	
								20.0		1.0519	2.34	
	thermal resistance Ri				0.130		0.3	19.7	0.0000	1.0519	2.30	
29	Galvanized Steel	0.008	60.000	0.001	0.000	8.00	0.0	19.7	0.2040	0.8479	2.30	
32	PUR insulation	0.2	0.020	0.040	10.000	5.00	20.6	-0.9	0.1275	0.7204	0.57	condensatior
29	Galvanized Steel	0.008	60.000	0.001	0.000	8.00	0.0	-0.9	0.2040	0.5164	0.57	
	Thermal resistance Ru or Rv for ventilated walls and roof spaces.				0.040							
This line is calculated design thermal resistance and diffusion resistance:					10.170	21.00	Kpa					
in This line is the calculated constructions U-Value:					0.098	W/(m²K)		transmission loss:			2	W/m²

http://www.correspondence.school.nz/departments/horticulture/ht106_p7.html

http://geography.uwo.ca/research/great_lakes_geographer/GLG_volume8/Schaetzl_Tomczak.pdf

Winter



P_i	P_m	P_u
1.052	0.565	0.516

W_1	W_2
13.00	8.00

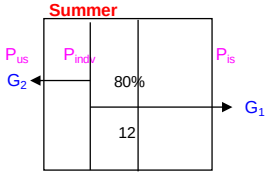
Values retrieved automatic from Moisture Calculation table

$G_{in} = \frac{P_i - P_x}{W_1}$ *24*225 = 202.2 g/m²

$G_{out} = \frac{P_x - P_u}{W_2}$ *24*225 = 32.9 g/m²

accumulation in heat season = 169.4 g/m²

Summer



Values for P_{ind}, P_{is} and P_{us} is vagary

Pindv, Pis, Pus°C	P_{indv}	P_{is}	P_{us}
12	0.000	0.863	0.863
input moisture percer	80'	60	60

$G_1 = \frac{P_{indv} - P_{is}}{W_1}$ *24*140 = -223.1 g/m²

$G_2 = \frac{P_{indv} - P_{us}}{W_2}$ *24*140 = -362.5 g/m²

dryout in summer period = -585.6 g/m²

yearly moisture accumulation = 755.0 g/m²

According to this calculcation, there is large amount of moisture in the element, it is necessary to contact manufacturer and ask whether they have done tests for this and if not, then request exact permeability details to use in this calculation, since these are taken from general tables. And ask manufacturer whether it actually is a p that there is moisture in winter time. If there is no damage caused by the moisture it might not even be a problem.

values to tabel diffusion numbers retrieves in the green humidity compendium
values got from DS 418 calculation of the buildings heat loss

values transmitted to humidity calculation schedule by enter material number
directly in humidity calculation the left-column the other values are transferred automatically

MTR. NR.	Material decripsion	permeability g / m × h × kPa	l W / m / K
1	Asbestos-cement sheet 700	0.040	0.200
2	Concrete 2300	0.025	1.600
3	Plasterbord	0.110	0.170
4	Calcium Mortar	0.060	0.800
5	Calcium sand stone	0.070	0.950
6	KC-Mortar	0.040	0.900
7	Lightweight concrete	0.075	0.130
8	Hard insulation Against Soil	0.122	0.050
9	Hard insulation A	0.500	0.039
10	Fiberglass A	0.500	0.039
11	Fiberglass B	0.300	0.042
12	Aerated concrete	0.075	0.220
13	polyurethane,Against Soil	0.250	0.050
14	Foamglas	0.000	0.046
15	chipboard	0.015	0.160
16	Tile Brick 1800 inner wall	0.068	0.670
17	Tile brick 1800 external wall	0.072	0.780
18	Wood	0.010	0.120
19	woodfiberboard, asfaltimp.	0.031	0.120
20	Woodfiberboard, semi-hard	0.036	0.120
21	woodfiberboard, hard	0.031	0.120
22	Air 50 mm thickness	0.680	0.29
23	Air 100 mm thickness	0.680	0.29
24	polystyrene above soil	0.014	0.39
25	clinker Concrete	0.075	0.13
26	fiberglass lamella roof board	0.350	0.042
27	Air 20 mm	0.680	0.13
28	Fiber Glass	0.450	0.039
29	Galvanized Steel	0.001	60
30	Stainless Steel	0.001	17
31	Polystyrene in soil	0.014	0.34
32	PUR insulation	0.040	0.02
33	Write new material.		
34	Write new material.		
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values for table diffusibility receives in The green humidity compendium
Notice that there only need to be entered into the thickness of the table when selecting membranes with l value

The values are transferred to moisture calculation scheme by entering material number direct in humidity calculation scheme left column the other values transfers automatic

Mtr.nr.	MEMBRANE:	diffusibility W $\frac{m^2 * h * kPa}{g}$	l
300			
301	Alum-Kraft	70.0	
302	Polyethylenfolio 0.05 mm	35.0	
303	Poluethylenfolio 0,1 mm	70.0	
304	special membranes	1400.0	
305	asphalt layer	140.0	
306	Type med latex bag side	0.28	
307	Air thigh asphalt cardboard	7.0	
308	Vinyl Flooring	28.0	
309	Linoleum	7.0	
310			
311	Alkydolipaint	3.6	
312	Cementpowderpaint	0.14	
313	ChlorkautchukPaint	14.0	
314	limewashing	0.14	
315	rubberfacadepaint	0.28	
316	Oil Emulsionspaint	0.14	
317	plastic paint	0.5	
318	polyurethane varnish	14.0	
319	silicate paint	0.28	
320	Mat alkydwallpaint	1.4	
321	floor varnish on alkyd basis	21.0	
322	write new membrane		
323	Cardboard1	310.0	
324	cardboard2	672.0	
325	Folio	105.0	
326	floor cardboard	4.2	
327	write new membrane		
328	write new membrane		
329	write new membrane		
330	write new membrane		
331	write new membrane		
332	write new membrane		
333	write new membrane		
334	write new membrane		
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339	write new membrane		
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342	write new membrane		
343	write new membrane		
344	write new membrane		
345	write new membrane		
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348	write new membrane		
349	write new membrane		
350	write new membrane		

This table lookup only have the desired effect if the cursor if entry is made and placed in the input field next to outside transition thermal resistance. (Red box)

TABLE OVER THERMAL RESISTANCE Rv FOR EXTERNAL VENTILATED CLADDING,		
NUM-	CLADDING	
MER	FACADE CLADDING + VENTILATED CAVITY:	m²K/W
1	Steel- or metal plate.	0.100
2	Fibercementpanels, ca. 10 mm.	0.200
	Facing wall tile, calcareous sandstone	
3	lightweight concrete.	0.300
4	wood facing. 25 mm.	0.300
	ROOFING + VENTILATED ATTIC OR CAVITY:	
6	Steel- or metal plate.	0.100
7	Fibercementslate or plate on lath.	0.200
8	roof tile med fill gaps between bricks with mortar joint on lath.	0.200
9	roof tile on lath med airthight fill gaps between bricks with mortar.	0.300
10	asphalt on roof boarding of wood, ca. 25 mm.	0.300
11	tacher roof med airthight fill gaps between bricks with mortar.	2.000
12		

	TRANSITIONAL THERMAL RESISTANCE FOR WALL, ROOF OR. SIMIL	
14	Constructionpart in other	0.090
15	Iceland Ru or Rv for ventilated cavity walls or roof cavity	0.000
16		