

KMC - vägg

N	NE	E	SE	S	SW	W	NW
-	-	-	-	-	-	-	-

Use: Wall
Against exterior

Interior

EN ISO 6946

Exterior

3

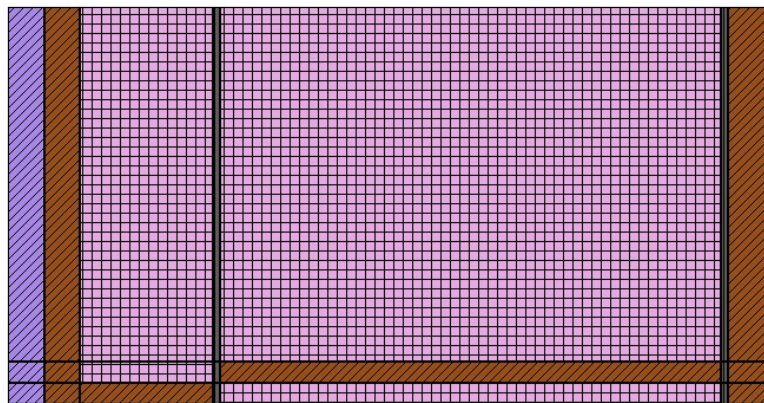
Possible uses:: Wall

Thermal capacity
[kJ/m²K]

k1' : **19.7**
Cm 10cm (24h): 9.61
Cm 3cm (2h): 9.61

Geometry

Thickness [mm]: 257

**U value**

Static

0.1717 [W/m²K]

Periodic transmittance

 $\frac{1}{1.24}$
0.115 [W/m²K]

Rsi: 0.13 [m²K/W]

Rse: 0.04 [m²K/W]

Meteo: Basel-Binningen (CH), Altitude of building site : 500 m (+184 m)Section 1 (Section proportion 89%)

Material name:		Thick. [cm]	Sd [m]	λ [W/mK]	μ [-]	ρ [kg/m³]	c [wh/kgK]	R [m²K/W]
Rsi								0.130
1	Rigips : RFI	1.25	0.09	0.25	7	800	0.267	0.05
2	CEN : Plywood 300 kg/m³	1.2	1.8	0.09	150	300	0.444	0.133
3	Project : Rockwool panel 60-120 kg/m³	4.5	0.07	0.036	2	90	0.167	1.25
4	Isover : Vario Xtra	0.03	10.15	0.2	33834	266	0.444	0.001
5	SIA 381/1 : Rockwool mat 60-120 kg/m³	17	0.17	0.036	1	90	0.167	4.722
6	Pavatex SUISSE AG : PAVATEX LDB 0.02	0.072	0.02	0.2	28	240	0.39	0.004
7	Project : Sawn Timber, softwood, air dried, raw	1.6	0.48	0.14	30	540	0.611	0.114
Rse								0.040
dUg= 0 [W/m²K], dUf= 0 [W/m²K]							dR	0
							RT	6.445

frsi = 0.978 [-], frsi,min,cond = 0.727 [-], frsi,min,moist = 0.750 [-]

Dynamic thermal characteristics (EN ISO 13786)

Period T= 0 [h] +24 [h]

U-Value factors					Transfer matrices		
Static		0.155 [W/m²K]			Modulo		Time shift
Periodic transmittance (U24)		0.127 [W/m²K]			Z11	10.09 [-]	9.27 [h]
Time shift	0h/24h:	19.22 [h]	-12h/+12h:	-4.78 [h]	Z21	16.14 [W/m²K]	2.16 [h]
Ampl. temp. ext.-int	10.1 [-]	Decrement		0.816 [-]	Z12	7.89 [m²K/W]	16.78 [h]
					Z22	12.65 [-]	9.7 [h]
Areal heat capacities				Thermal admittances			
k1¹	Interior	18.93 [kJ/m²K]			Internal	1.28 [W/m²K]	4.49 [h]
k2¹	Exterior	23.49 [kJ/m²K]			External	1.6 [W/m²K]	4.92 [h]

¹ calculated with Rsi/Rse

Hygrothermal characteristics

First Month: January	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Security factor
Interior													
Temperature [°C]	20	20	20	20	20	20	20	20	20	20	20	20	-
Relative humidity [%]	51.8	52.9	56.8	60.2	66.9	71.5	75.2	75.3	68.8	63.4	56.2	53.4	-
Exterior													
Temperature [°C]	0.78	1.98	5.88	8.68	13.3	16.3	18.6	18.5	14	9.98	4.48	2.08	-
Relative humidity [%]	82.7	78.5	69.9	68.1	71.2	70	68.7	70.2	77.3	82.3	84.8	84	-

Ma: accumulated moisture contents

Gc: rate of condensation

Graphs in equivalent air thickness: January



Water pressure [Pa]

Saturation pressure [Pa]

Temperature [°C]

Equivalent air width of the section:






12.8 [m]



No condensation in the section

Section 2 (Section proportion 5%)

Material name:	Thick. [cm]	Sd [m]	λ [W/mK]	μ [-]	ρ [kg/m³]	c [wh/kgK]	R [m²K/W]
Rsi							0.130
1 Rigips : RFI	1.25	0.09	0.25	7	800	0.267	0.05
2 CEN : Plywood 300 kg/m³	1.2	1.8	0.09	150	300	0.444	0.133

3	Project : Rockwool panel 60-120 kg/m³		4.5	0.07	0.036	2	90	0.167	1.25
4	Isover : Vario Xtra		0.03	10.15	0.2	33834	266	0.444	0.001
5	SIA 381/1 : Pine (15% moisture)		17	5.1	0.14	30	480	0.611	1.214
6	Pavatex SUISSE AG : PAVATEX LDB 0.02		0.072	0.02	0.2	28	240	0.39	0.004
7	Project : Sawn Timber, softwood, air dried, raw		1.6	0.48	0.14	30	540	0.611	0.114
Rse									0.040
dUg= 0 [W/m²K], dUf= 0 [W/m²K]									dR
									RT
									2.937

frsi = 0.978 [-], frsi,min,cond = 0.727 [-], frsi,min,moist = 0.750 [-]

Dynamic thermal characteristics (EN ISO 13786)

Period T= 0 [h] +24 [h]

U-Value factors					Transfer matrices		
Static		0.34 [W/m²K]			Modulo		Time shift
Periodic transmittance (U24)		0.045 [W/m²K]			Z11	27.33 [-]	16.18 [h]
Time shift	0h/24h:	11.34 [h]	-12h/+12h:	-12.66 [h]	Z21	83.64 [W/m²K]	6.91 [h]
Ampl. temp. ext.-int		27.3 [-]	Decrement	0.131 [-]	Z12	22.35 [m²K/W]	0.66 [h]
					Z22	68.38 [-]	15.39 [h]
Areal heat capacities				Thermal admittances			
k1¹	Interior	17.11 [kJ/m²K]		Internal	1.22 [W/m²K]	3.51 [h]	
k2¹	Exterior	42.47 [kJ/m²K]		External	3.06 [W/m²K]	2.73 [h]	

¹ calculated with Rsi/Rse

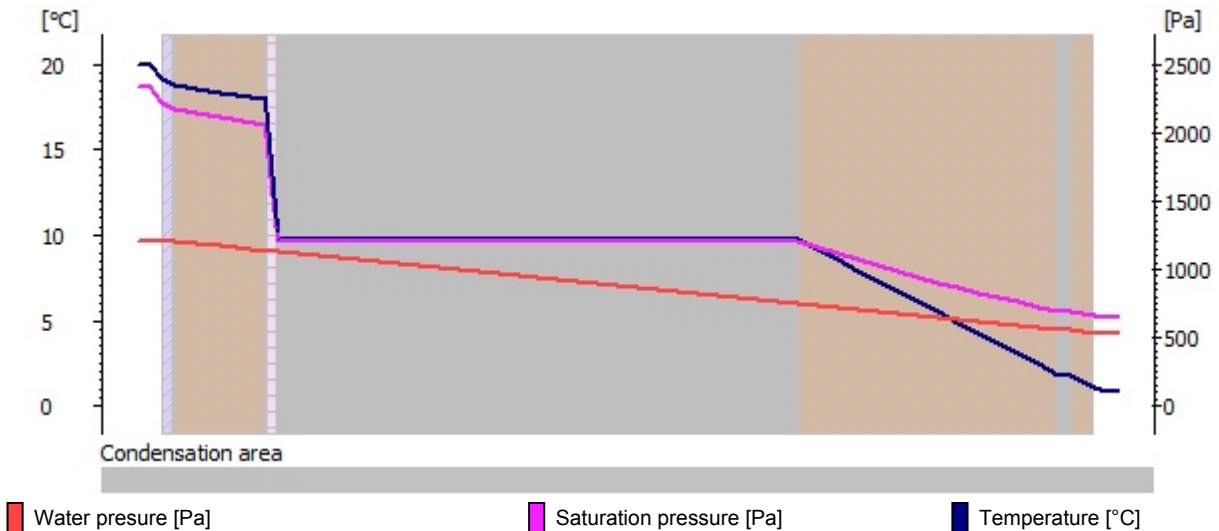
Hygrothermal characteristics

First Month:	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Security factor
January													
Interior													
Temperature [°C]	20	20	20	20	20	20	20	20	20	20	20	20	-
Relative humidity [%]	51.8	52.9	56.8	60.2	66.9	71.5	75.2	75.3	68.8	63.4	56.2	53.4	-
Exterior													
Temperature [°C]	0.78	1.98	5.88	8.68	13.3	16.3	18.6	18.5	14	9.98	4.48	2.08	-
Relative humidity [%]	82.7	78.5	69.9	68.1	71.2	70	68.7	70.2	77.3	82.3	84.8	84	-

Ma: accumulated moisture contents

Gc: rate of condensation

Graphs in equivalent air thickness: January



Equivalent air width of the section:

17.7 [m]



No condensation in the section

Section 3 (Section proportion 5%)

Material name:		Thick. [cm]	Sd [m]	λ [W/mK]	μ [-]	ρ [kg/m³]	c [wh/kgK]	R [m²K/W]
Rsi								0.130
1	Rigips : RFI	1.25	0.09	0.25	7	800	0.267	0.05
2	CEN : Plywood 300 kg/m³	1.2	1.8	0.09	150	300	0.444	0.133
3	Project : Sawn Timber, softwood, air dried, raw	4.5	1.35	0.14	30	540	0.611	0.321
4	Isover : Vario Xtra	0.03	10.15	0.2	33834	266	0.444	0.001
5	SIA 381/1 : Rockwool mat 60-120 kg/m³	17	0.17	0.036	1	90	0.167	4.722
6	Pavatex SUISSE AG : PAVATEX LDB 0.02	0.072	0.02	0.2	28	240	0.39	0.004
7	Project : Sawn Timber, softwood, air dried, raw	1.6	0.48	0.14	30	540	0.611	0.114
Rse								0.040
dUg= 0 [W/m²K], dUf= 0 [W/m²K]							dR	0
							RT	5.516

frsi = 0.978 [-], frsi,min,cond = 0.727 [-], frsi,min,moist = 0.750 [-]

Dynamic thermal characteristics (EN ISO 13786)

Period T= 0 [h] +24 [h]

U-Value factors					Transfer matrices		
Static	0.181	[W/m²K]				Modulo	Time shift
Periodic transmittance (U24)	0.084	[W/m²K]			Z11	29.33 [-]	10.08 [h]
Time shift	0h/24h:	16.29 [h]	-12h/+12h:	-7.71 [h]	Z21	46.09 [W/m²K]	2.98 [h]
					Z12	11.92 [m²K/W]	19.71 [h]
Ampl. temp. ext.-int	29.3 [-]	Decrement		0.463 [-]	Z22	18.76 [-]	12.61 [h]
Areal heat capacities					Thermal admittances		
k1 ¹	Interior	34.85	[kJ/m²K]		Internal	2.46 [W/m²K]	2.37 [h]
k2 ¹	Exterior	22.79	[kJ/m²K]		External	1.57 [W/m²K]	4.9 [h]

¹ calculated with Rsi/Rse

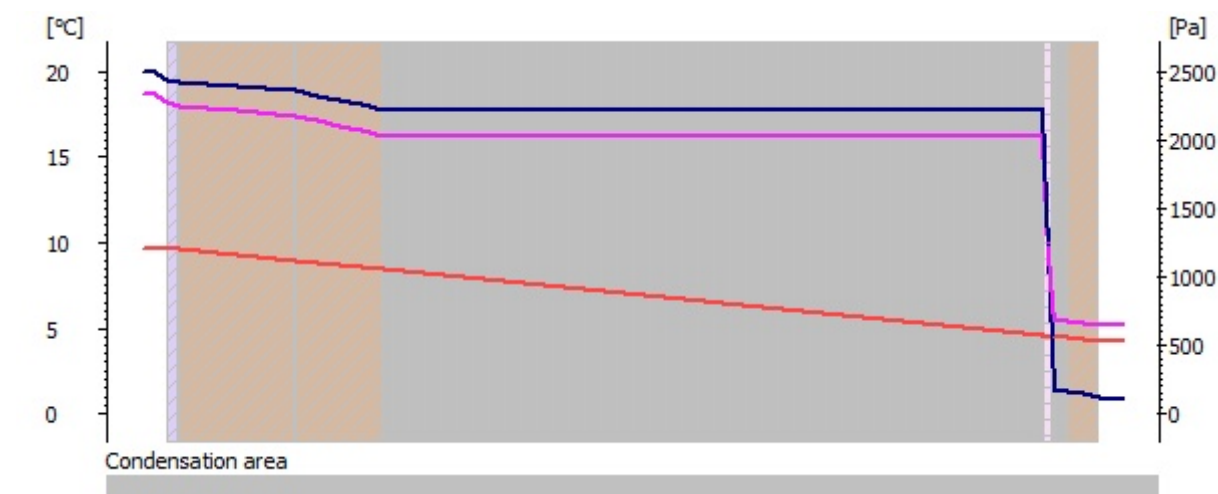

Hygrothermal characteristics


First Month: January	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Security factor
Interior													
Temperature [°C]	20	20	20	20	20	20	20	20	20	20	20	20	-
Relative humidity [%]	51.8	52.9	56.8	60.2	66.9	71.5	75.2	75.3	68.8	63.4	56.2	53.4	-
Exterior													
Temperature [°C]	0.78	1.98	5.88	8.68	13.3	16.3	18.6	18.5	14	9.98	4.48	2.08	-
Relative humidity [%]	82.7	78.5	69.9	68.1	71.2	70	68.7	70.2	77.3	82.3	84.8	84	-


Ma: accumulated moisture contents

Gc: rate of condensation

Graphs in equivalent air thickness: January


 Water pressure [Pa]

 Saturation pressure [Pa]

 Temperature [°C]

Equivalent air width of the section:

14.1 [m]



No condensation in the section