

PASSIVE_U=0.137 - 250+30mm rockwool

Moisture proofing

For the calculation of the amount of condensation water, the component was exposed to the following constant climate for 90 days: inside: 20°C und 60% Humidity; outside: -20°C und 80% Humidity (Climate according to user input).

This component is free of condensate under the given climate conditions.

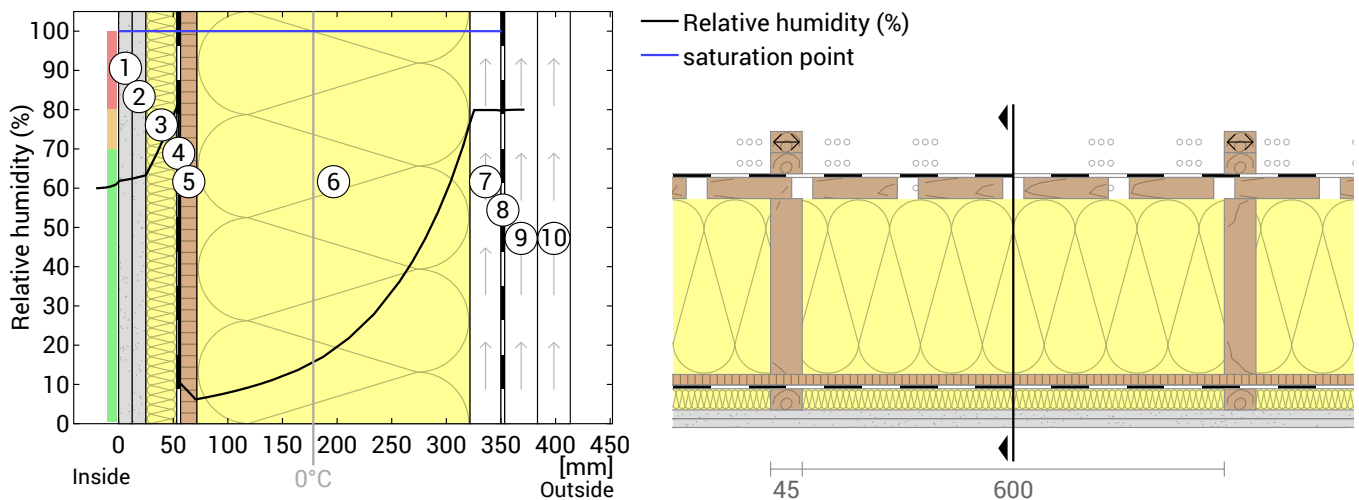
Drying reserve according to Ubakus 2D-FE method: 471 g/(m²a)
 At least required by DIN 68800-2: 250 g/(m²a)

#	Material	sd-value [m]	Condensate		Weight [kg/m ²]
			[kg/m ²]	[Gew.-%]	
1	1,25 cm Gypsum Fibreboard	0,05	-		14,4
2	1,25 cm Gypsum board	0,05	-		8,5
3	3 cm mineral wool 035	0,03	-		0,6
	3 cm Spruce (7,0%)	0,60	-	-	0,9
4	0,05 cm Vapor barrier sd=100m	35,00	-		0,1
5	1,5 cm OSB/3	2,25	-		9,3
6	25 cm mineral wool 035	0,50	-		4,7
	25 cm Spruce (7,0%)	12,50	-	-	7,8
7	3 cm Outside air		-		
	3 cm Spruce (80%)	1,50	-	-	10,4
8	0,05 cm Breather membrane sd=0,05m	0,02	-		0,4
	41,1 cm Whole component	39,05			58,9

Humidity

The temperature of the inside surface is 19,1 °C leading to a relative humidity on the surface of 63%. Mould formation is not expected under these conditions.

The following figure shows the relative humidity inside the component.



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|-------------------------------|------------------------------|---------------------------------|
| ① Gypsum Fibreboard (12,5 mm) | ⑤ OSB/3 (15 mm) | ⑨ Rear ventilated level (30 mm) |
| ② Gypsum board (12,5 mm) | ⑥ mineral wool 035 (250 mm) | ⑩ Rear ventilated level (30 mm) |
| ③ mineral wool 035 (30 mm) | ⑦ Outside air (30 mm) | |
| ④ Vapor barrier sd=100m | ⑧ Breather membrane sd=0,05m | |

Layers marked with <-> run parallel to the illustrated cutting plane and were not taken into account in the moisture protection calculation.

Notes: Calculation using the Ubakus 2D-FE method. Convection and the capillarity of the building materials were not considered. The drying time may take longer under unfavorable conditions (shading, damp / cool summers) than calculated here.