

# 1. STANDART - U=0.164

## 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: 76 g/(m<sup>2</sup>a)

At least required by DIN 68800-2: 100 g/(m<sup>2</sup>a)

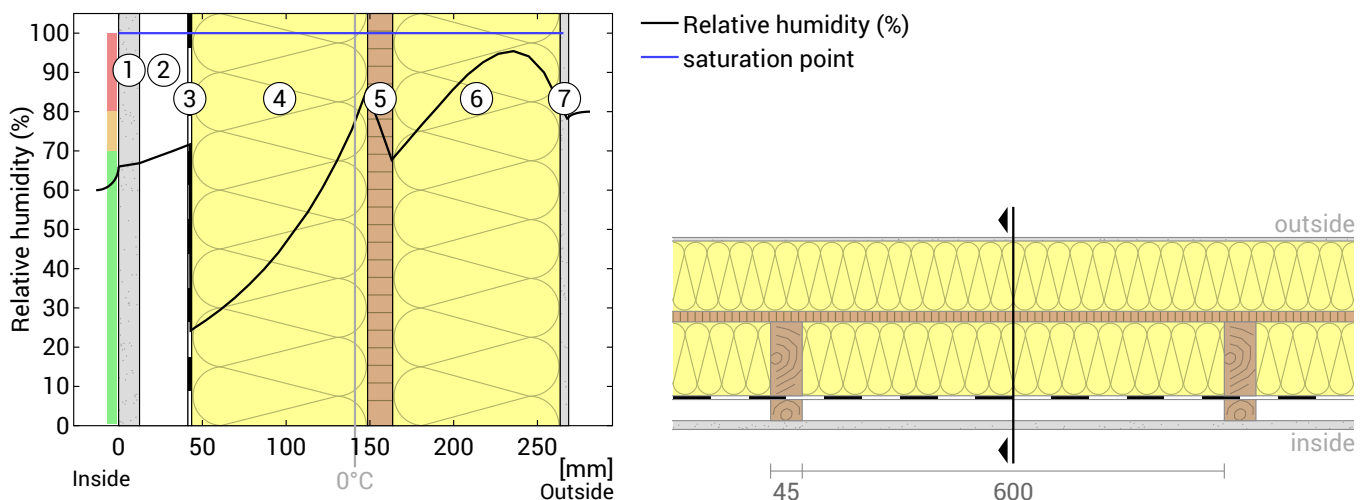
The moisture protection of this component is therefore rated poorly.

#	Material	sd-value [m]	Condensate		Weight
			[kg/m <sup>2</sup> ]	[Gew.-%]	[kg/m <sup>2</sup> ]
1	1,25 cm Gypsum Fibreboard	0,05	-		14,4
2	3 cm Stationary air (unventilated)	0,01	-		0,0
	3 cm Spruce (7,0%)	0,60	-	-	0,9
3	0,05 cm Vapor barrier sd=35m	35,00	-		0,1
4	10,5 cm mineral wool 035	0,11	-		2,0
	10,5 cm Spruce (7,0%)	2,10	-	-	3,3
5	1,5 cm OSB/3	4,50	-	-	9,3
6	10 cm Insulation/Polystyrene (EPS 035)	10,00	-		3,0
7	0,5 cm Cement plaster	0,18	-		10,0
	26,8 cm Whole component	49,97			43,0

## Humidity

The temperature of the inside surface is 18,0 °C leading to a relative humidity on the surface of 68%. Mould formation is not expected under these conditions.

The following figure shows the relative humidity inside the component.



- ① Gypsum Fibreboard (12,5 mm)
- ② Stationary air (30 mm)
- ③ Vapor barrier sd=35m
- ④ mineral wool 035 (105 mm)
- ⑤ OSB/3 (15 mm)
- ⑥ Insulation/Polystyrene (100 mm)
- ⑦ Cement plaster (5 mm)

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.