

XXX, Tallinn. VS-1

Exterior wall

Raamtingimused, mis on arvesse võetud arvutuste tegemiseks on järgmised (DIN EN ISO 6946-7 järgi):
 Kondenseerumisperiodil (tT): väliskliima -10 C°, 80% rel. niiskus; sisekliima +20 C°, 50% rel. niiskus; perioodi pikkus 2160 h (90 päeva).
 Aurumisperiodil tV : väliskliima +12 C°, 70% rel. niiskus; sisekliima +12 C°, 70% rel. niiskus; kliima kondenseerumiskohas +12 C°, 100% rel. niiskus; perioodi pikkus 2160 h ehk 90 päeva.

Thermal protection

U = 0,18 W/(m²K)

EnEV Bestand*: U<0,24 W/(m²K)



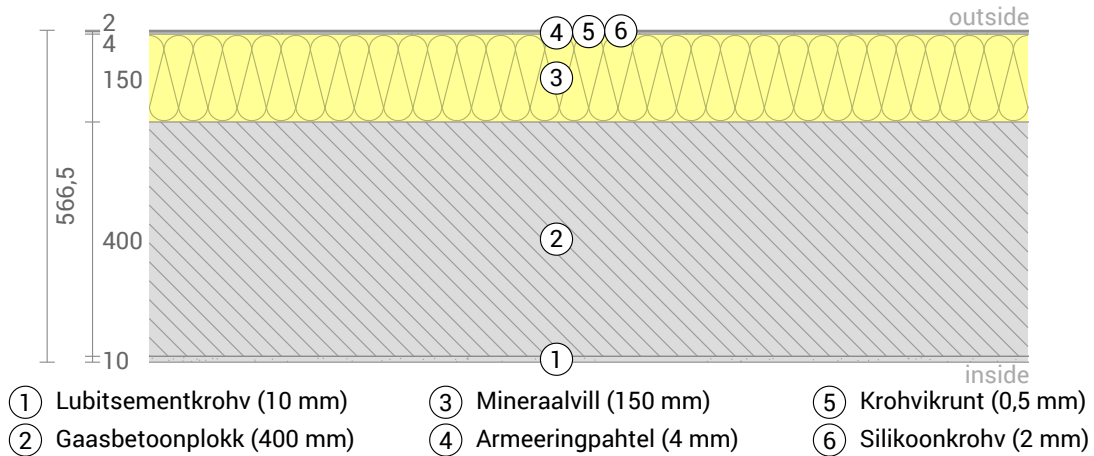
Moisture proofing

No condensate

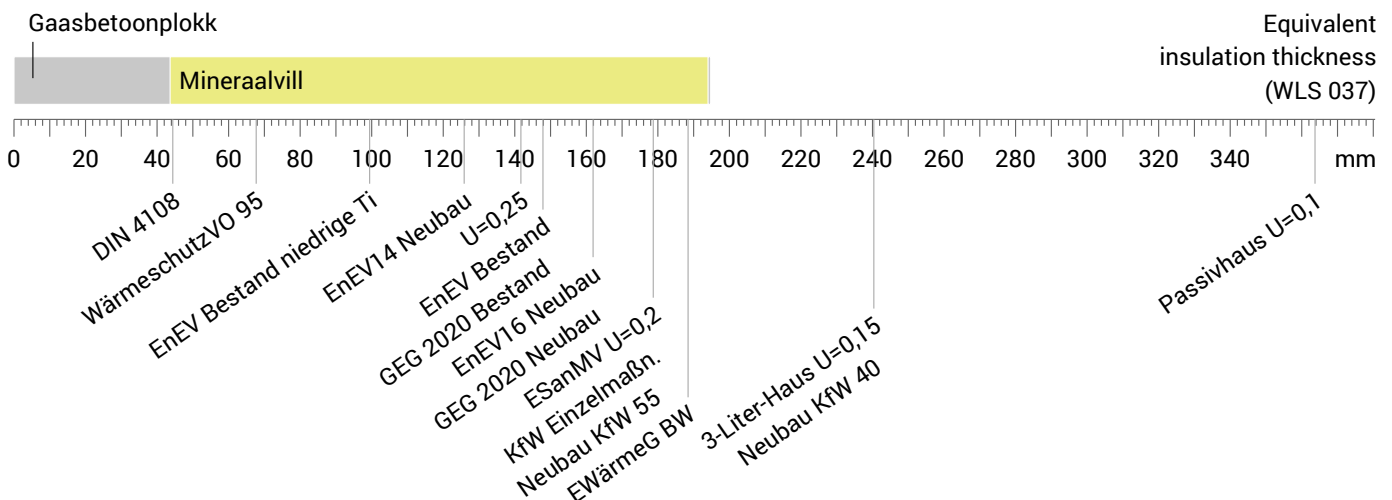


Heat protection

Temperature amplitude damping: >100
 phase shift: non relevant
 Thermal capacity inside: 633 kJ/m²K



Impact of each layer and comparison to reference values



Inside air : 20,0°C / 50%
 Outside air: -10,0°C / 80%
 Surface temperature.: 18,6°C / -9,8°C

sd-value: 28,9 m

Thickness: 56,6 cm
 Weight: 750 kg/m²
 Heat capacity: 750 kJ/m²K

- EnEV Bestand
- BEG Einzelmaßn.
- GEG 2020 Bestand
- GEG 2020 Neubau

U-Value calculation according to DIN EN ISO 6946

#	Material	Dicke [cm]	λ [W/mK]	R [m²K/W]
	Thermal contact resistance inside (Rsi)			0,130
1	Lubitsementkrohv	1,00	1,000	0,010
2	Gaasbetoonplokk	40,00	0,340	1,176
3	Mineraalvill	15,00	0,037	4,054
4	Armeeringpahtel	0,40	0,700	0,006
5	Krohvikrunt	0,05	0,700	0,001
6	Silikoonkrohv	0,20	0,700	0,003
	Thermal contact resistance outside (Rse)			0,040

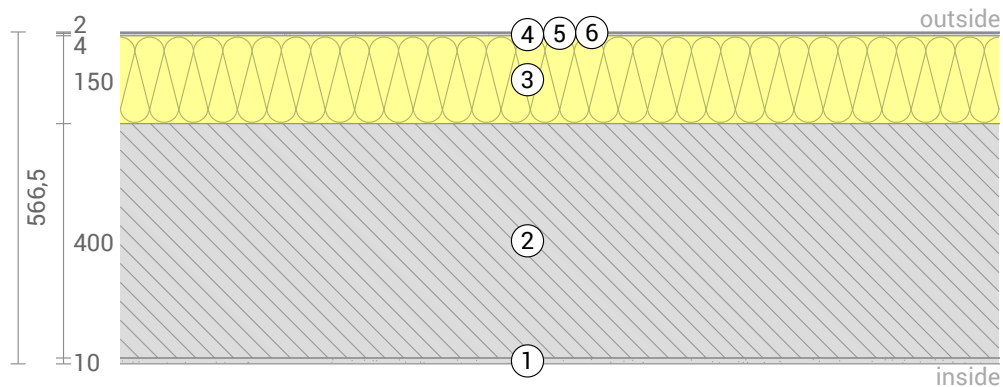
Thermal contact resistances have been taken from DIN 6946 Table 7.

Rsi: heat flow direction horizontally

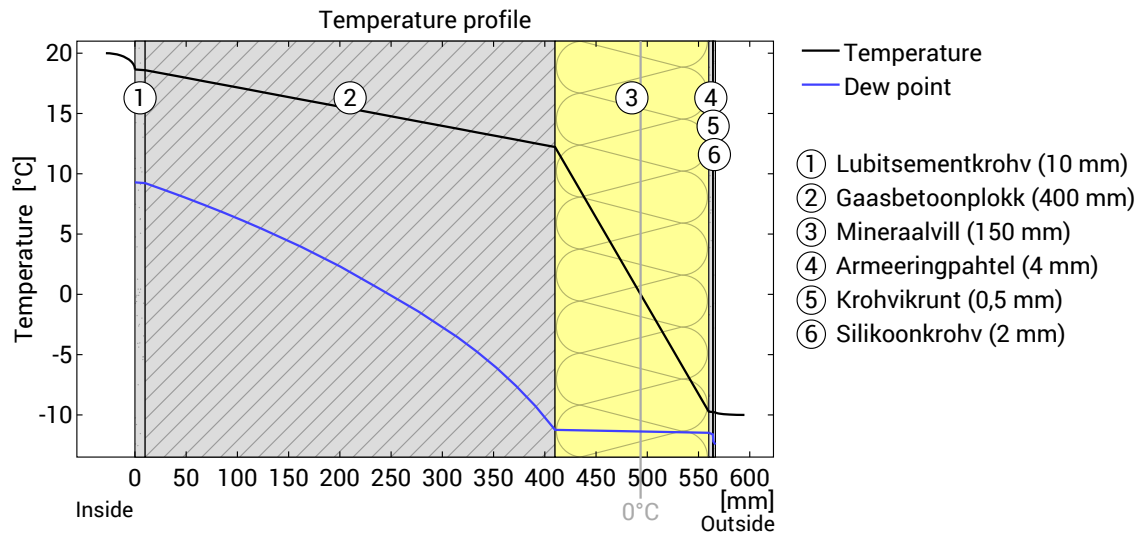
Rse: heat flow direction horizontally, outside: Direct contact to outside air

Thermal resistance $R_{tot} = 5,420 \text{ m}^2\text{K/W}$

Heat transfer coefficient $U = 1/R_{tot} = 0,18 \text{ W}/(\text{m}^2\text{K})$



Temperature profile



Temperature and dew-point temperature in the component. The dew-point indicates the temperature, at which water vapour condensates. As long as the temperature of the component is everywhere above the dew-point temperature, no condensation occurs. If the curves have contact, condensation occurs at the corresponding position.

Layers (from inside to outside)

#	Material	λ [W/mK]	R [m ² K/W]	Temperatur [°C]		Weight [kg/m ²]
				min	max	
	Thermal contact resistance*		0,250	18,6	20,0	
1	1 cm Lubitsementkrohv	1,000	0,010	18,6	18,6	18,0
2	40 cm Gaasbetoonplokk	0,340	1,176	12,2	18,6	720,0
3	15 cm Mineraalvill	0,037	4,054	-9,7	12,2	3,0
4	0,4 cm Armeeringpahtel	0,700	0,006	-9,8	-9,7	4,8
5	0,05 cm Krohvikrunt	0,700	0,001	-9,8	-9,8	0,9
6	0,2 cm Silikoonkrohv	0,700	0,003	-9,8	-9,8	3,6
	Thermal contact resistance*		0,040	-10,0	-9,8	
	56,65 cm Whole component		5,420			750,3

*Thermal contact resistances according to DIN 4108-3 for moisture protection and temperature profile. The values for the U-value calculation can be found on the page 'U-value calculation'.

Surface temperature inside (min / average / max): 18,6°C 18,6°C 18,6°C
 Surface temperature outside (min / average / max): -9,8°C -9,8°C -9,8°C