Symbol	Unit		Value	Ref.
Transport properties of mortar				
w_f	[kgm^{-3}]	free water saturation	160	
w_{80}	[kgm^{-3}]	water content at $\varphi = 0.8$ [-]	23	
λ_0	[Wm^{-1}K^{-1}]	thermal conductivity	0.45	
b_{tcs}	[−]	thermal conductivity supplement	9	
ρ_{s}	[kgm^{-3}]	bulk density	1670	
μ	[−]	water vapor diffusion resistance factor	9.63	
a	[kgm^{-2}s$^{-0.5}$]	water absorption coefficient	0.82	
c_{s}	[Jkg^{-1}K^{-1}]	specific heat capacity	1000	
Mechanical properties of mortar				
E	[Pa]	Young's modulus	$1 \cdot 10^{10}$	
ν	[−]	Poisson's ratio	0.2	
f_t	[Pa]	tensile strength	$2.5 \cdot 10^{6}$	
ε_f	[−]	equivalent strain at critical crack opening	$2.5 \cdot 10^{-3}$	
l_{intl}	[m]	internal length	$1 \cdot 10^{-3}$	
α	[K^{-1}]	thermal expansion coefficient	$1.2 \cdot 10^{-5}$	
Ice formation process				
γ_{li}	[Nm^{-1}]	liquid/ice surface tension	0.0409	
Δs_{m}	[PaK^{-1}]	melting entropy	$1.2 \cdot 10^{6}$	
n	[−]	total porosity	0.35	
ψ	[−]	cumulative volume of pores	Fig. **??**(b)	
Other properties				
α_{h}	[Wm^{-2}K^{-1}]	heat transfer coefficient	8	
β_{v}	[kgm^{-2}s^{-1}Pa^{-1}]	water vapor transfer coefficient	$5.6 \cdot 10^{-8}$	
α_{swr}	[−]	short-wave absorption coefficient	0.6	