

Back to Earth SW Ltd

7 Tuns Lane
Silverton
Exeter
EX5 4HY

Project Information

Reference

Date 4 December 2023

Construction Type

Element : Wall - Wall-masonry-solid-internal-aerogel

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m ² K/W)	Pitch (°)	Bridge details Air gaps (Level, Delta U")
Outside surface resistance	-	-	0.040		
Brick outer leaf	105.0	0.770	0.136		
Brick inner leaf	105.0	0.560	0.188		
Render, cement-sand	20.0	1.000	0.020		
Fixit 222	40.0	0.028	1.400		L:0 0.000W/m ² K
Fixit 223 contact mortar	5.0	0.900	0.006		
Inside surface resistance	-	-	0.130		
Total thickness	275.0mm				

U-value = 0.52W/m²K

U-value, Combined Method : 0.521W/m²K (upper/lower limit 1.920 / 1.920m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors

Air gaps, Delta Ug = 0.000W/m²K

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Thermal Mass Details

	Thickness assessed (actual) (mm)	Density (kg/m ³)	Specific heat capacity (J/kgK)	Heat capacity (kJ/m ² K)
Brick outer leaf	0.0 (105.0)	1700.0	840.0	0.0
Brick inner leaf	0.0 (105.0)	1700.0	840.0	0.0
Render, cement-sand	0.0 (20.0)	1800.0	1000.0	0.0
Fixit 222	0.0 (40.0)	220.0	1200.0	0.0
Fixit 223 contact mortar	5.0 (5.0)	1300.0	1000.0	6500000.0
Total				6500000.0
kappa value				6.5000
Limiting condition:	insulation			

Admittance : 0.95 W/m²K Decrement : 0.23 factor Decrement delay : -9.63 hours