

## 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 <sup>2</sup> 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	80.0	0.028	2.850		L:0 0.000W/m <sup>2</sup> K
Fixit 223 contact mortar	5.0	0.900	0.006		
Inside surface resistance	-	-	0.130		
<b>Total thickness</b>	<b>315.0mm</b>				

**U-value = 0.30W/m<sup>2</sup>K**

U-value, Combined Method : 0.297W/m<sup>2</sup>K (upper/lower limit 3.370 / 3.370m<sup>2</sup>K/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/m<sup>2</sup>K

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**Thermal Mass Details**

	Thickness assessed (actual) (mm)	Density (kg/m <sup>3</sup> )	Specific heat capacity (J/kgK)	Heat capacity (kJ/m <sup>2</sup> 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 (80.0)	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 : 0.99 W/m<sup>2</sup>K    Decrement : 0.19 factor    Decrement delay : -11.84 hours