

## U-value calculation

by BRE U-value Calculator version 2.04d

Printed on 28 Mar 2019 at 15:27

Filename: 225mm Standard U Value SWIP IWI System.uva (File saved: 28 Mar 2019 15:24)

### Element type: Wall - Masonry solid wall with internal insulation

Calculation Method: BS EN ISO 6946

#### Example Wall System

<u>Layer</u>	<u>d (mm)</u>	<u><math>\lambda</math> layer</u>	<u><math>\lambda</math> bridge</u>	<u>Fraction</u>	<u>Density</u>	<u>Sp. heat</u>	<u>R layer</u>	<u>R bridge</u>	<u>Description</u>
1	12.5	0.210			700	1000	0.130 0.060		Rsi Plasterboard
(standard wallboard)									
2									Vapour
control layer									
3	15	0.032	0.130	0.125			0.469	0.115	
SWIP(95mm)/15mm OSB(on SWIP)									
4	80	0.032	0.033	0.125			2.500	2.424	
SWIP(95mm)/SWIP									
5	13	0.570			1300	1000	0.023		Gypsum
plaster (1300 kg/m <sup>3</sup> )									
6	225	0.770			1700	800	0.292		Brick outer
leaf									
							<u>0.040</u>		Rse
							3.513		
	<u>346 mm</u>								(total wall thickness)

Total resistance: Upper limit: 3.453 Lower limit: 3.374 Ratio: 1.024 Average: 3.414 m<sup>2</sup>K/W

U-value (uncorrected) 0.293

#### U-value corrections

Air gaps in layer 3  $\Delta U = 0.000$  (Level 0)

No fixings in layer 3

Total  $\Delta U$  0.000

U-value (corrected) 0.293

**U-value (rounded) 0.29 W/m<sup>2</sup>K**

Heat capacity per m<sup>2</sup> ( $\kappa$ ) 8.8 kJ/m<sup>2</sup>K

Calculated by:

Paul Stokes

SWIP LTD

Unit 15 Key Business Park

Kingsbury Road

Erdington

Birmingham

B24 9PT

Tel: 0845 402 3585

E-mail: info@swipiwi.co.uk