

# BUILDING KNOWLEDGE SERIES

# ENERGY RATING IN BERS PRO<sup>®</sup>

TECHNICAL GUIDANCE FOR THERMOSEAL<sup>™</sup> WALL WRAP XP

When modelled correctly, reflective laminate wall wrap products can contribute an additional air-gap R-Value to a wall system, improving the overall thermal efficiency of the home. To ensure that the additional air-gap R-Value is correctly calculated, this Building Knowledge Series by CSR Building Products provides guidance on how to accurately input Bradford Thermoseal Wall Wrap XP into BERS Pro.

Accurately simulate the contribution of wall wrap



CSR

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## PRODUCT SPECIFICATION

Thermoseal Wall Wrap XP has a reflective and non-reflective surface with the following properties:

- The reflective surface faces outwards and has an emittance of 0.09
- The non-reflective surface faces inwards and has an emittance of 0.9

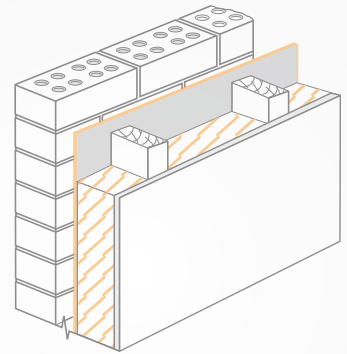
## BRICK VENEER CONSTRUCTION EXAMPLE

This example uses a Brick Veneer wall with a 110mm extruded brick, Thermoseal Wall Wrap XP, R2.5 wall batts and 10mm plasterboard lining.

- |  |       |
|--|-------|
| ■ Layer 1: Contains the 110mm extruded brick       | 0.18  |
| ■ Layer 2: Select 40mm 0.09/0.9 reflective air gap | 0.558 |
| ■ Layer 3: Select R2.5 wall batt                   | 2.5   |
| ■ Layer 4: Select 10mm plasterboard                | 0.059 |

**Total R-Value\***

**3.297**



As the wall cavity air gap does not automatically adjust for bulk or reflective insulation in BERs Pro, adjust the bulk insulation to achieve the target Total R-Value ( $R_t$ )

\*The  $R_t$  should be  $\leq$  the value calculated in Calculation Tools.

# BERS PRO<sup>®</sup> PRODUCT SIMULATION

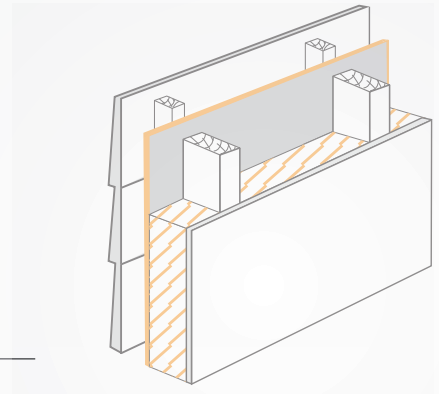
## SIMULATION SPECIFICATION

To simulate this product in BERS Pro use the Calculation Tools available to firstly work out the R-Values of all the elements. Once you have these values you can then work out the wall Total R-Value. In External Walls select 'Bulk + Foil, Reflective One Side, Anti-glare Other'. Then modify the bulk insulation R-Value so that the Total R-Value of the wall is equal to (or under) the Total R-Value worked out by using the Calculation Tools. The examples in this document will guide you through this process.

## LIGHTWEIGHT CLAD CONSTRUCTION EXAMPLE

This example uses a 9mm Cemintel™ Expresswall™ panel on a 35mm top hat, Thermoseal Wall Wrap XP, R2.0 wall batts and 10mm plasterboard lining.

- Layer 1: Contains the 9mm Cemintel Expresswall panel 0.028
- Layer 2: Select 35mm 0.09/0.9 reflective air gap 0.551
- Layer 3: Select R2.0 wall batt – adjust to achieve the required total R-Value ( $R_T$ ) 2.0
- Layer 4: Select 10mm plasterboard 0.059



Adjust to achieve total target R-Value\*

2.638

As the wall cavity air gap does not automatically adjust for bulk or reflective insulation in BERS Pro, adjust the bulk insulation to achieve the target Total R-Value ( $R_T$ )

External Wall Default

OK Cancel


Type	Insulation	Height 2400 mm
<p>Cavity Panel wider than 70mm</p> <p>Thickness 8 mm</p> <p>R 0.08</p>	<p>Bulk+Foil, Reflective One Side, Anti-glare Other</p> <p>Bulk R 1.6</p> <p>R 2.48</p>	<p>3000</p> <p>2700</p> <p>2550</p> <p><input checked="" type="radio"/> 2400</p>
<p>Colour</p> <p>Dark</p> <p>Medium</p> <p>Light</p>		<p>Absorptance 0.50</p>
<p>Rt 2.56 U 0.37</p>		<p>Beyond the Wall</p> <p><input checked="" type="radio"/> Air</p> <p><input type="radio"/> Shaded Air</p> <p><input type="radio"/> Neighbour</p> <p><input type="radio"/> Earth</p>

\*The  $R_T$  should be  $\leq$  the value calculated in Calculation Tools.

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## THERMOSEAL WALL WRAP XP – UNDERSTAND THE XP DIFFERENCE


When the building stud cavity is filled with wall batt insulation, conventional (single sided inward facing) wall wraps are no longer able to contribute an additional air-gap R-Value to the wall system. Thermoseal Wall Wrap XP overcomes this problem by using an outward facing patterned antiglare surface to create a more energy efficient wall system by boosting the performance of the wall batt insulation.



**CONVENTIONAL WALL WRAP WITH NO WALL BATT INSULATION**

Conventional wall wrap installed with no wall insulation works by utilising the empty stud cavity (without wall insulation) to generate a reflective air-gap R-Value.

Full R-Value from Wall Wrap	$R_T 1.2$
	Summer



**CONVENTIONAL WALL WRAP WITH R1.5 WALL BATT INSULATION**

Conventional wall wrap installed with wall insulation can no longer contribute a reflective air-gap R-Value now the stud cavity is filled with insulation.

No R-Value from Wall Wrap, only the wall insulation	$R_T 2.0$
	Summer



**WALL WRAP XP WITH R1.5 WALL BATT INSULATION**

Wall Wrap XP installed with wall insulation contributes a reflective air-gap R-Value even with the stud cavity filled with insulation so you get the added benefits of both insulation systems.

Full R-Value from Wall Wrap XP plus the wall insulation	$R_T 2.5$
	Summer

## NEED TO KNOW MORE

For more information or product advice, contact CSR Bradford on **1300 850 305**, email [bradfordenquiries@csr.com.au](mailto:bradfordenquiries@csr.com.au) or visit our website [www.bradfordinsulation.com.au](http://www.bradfordinsulation.com.au) to download a product data sheet.

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