

# CERTIFICATE OF PHYSICAL PROPERTIES

## HardieBrace™

HardieBrace™ has been comprehensively tested and displays the following typical physical properties.

STRENGTH AND MOISTURE RELATED			
PHYSICAL PROPERTY	SATURATED CONDITION	EQUILIBRIUM CONDITION 23°C – 50% RH	STANDARD
Average Bending Strength Category Type	> 7.0MPa 3 A		AS/NZS 2908.2
Density in kg/m <sup>3</sup> (Oven Dry)	1285		AS/NZS 2908.2
Watertightness		Passes	AS/NZS 2908.2
Water Absorption	29.9%		ASTM C1186
EQ Moisture Content		2.4%	ASTM C1186
Moisture Movement 30-90% relative humidity*		A direction 0.04% B direction 0.04%	ASTM C1186
Dimensional Conformance	N.A	Passes	AS/NZS 2908.2

DURABILITY		
Heat-Rain Durability	Passes	AS/NZS 2908.2
Warm Water Resistance	Passes	AS/NZS 2908.2
Freeze-Thaw Resistance	Passes	AS/NZS 2908.2
Soak-Dry	Passes	AS/NZS 2908.2

MISCELLANEOUS PROPERTIES		
Termite resistance	Resistance to damage from termite attack.	Based on testing completed by CSIRO Division of Forest Products and Ensis Australia James Hardie building products have demonstrated resistance to termite attack.

\*The way fibre cement sheets are produced, the grain direction of the cellulose fibre is typically along the direction of the sheet. That means that typically the fibre direction is in the same direction as the long edge of the sheet. The characteristic flexural strength in the 'a' direction is typically stronger, as the rupture is occurring across the grain length. The 'b' direction is tested along the length of the cellulose fibres, therefore is typically lower than the 'a' direction.

THERMAL PROPERTIES		
Combustibility	Suitable where non-combustible materials are required in accordance with C.1.12 of the BCA	Deemed to comply with BCA
Sample Classification	Group 1	AS/NZS 3837
Average Specific Extinction Area	17.7m <sup>2</sup> /Kg	
Fire Propagation Index	0	BS476.6
Spread of Flame Index	Class 1	BS476.7
<b>Surface Burning Characteristics</b>	<b>Lower Values Are Better</b>	<b>ASTM E84</b>
Flame Spread Index	0	
Fuel Contributed	0	
Smoke Developed Index	5	
Class	A	
Thermal Conductivity	0.553W/m °K	ASTM C 518

### NOTE

In addition to the above product properties, building assemblies incorporating this product have been tested for fire, acoustic and impact performance. Additional installation information, warranties, and warnings are available at [www.jameshardie.com.au](http://www.jameshardie.com.au)

Ask James Hardie™  
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[www.jameshardie.com.au](http://www.jameshardie.com.au)

