

# Compliance Document for New Zealand Building Code Clause E2 External Moisture

Prepared by the Department of Building and Housing

This Compliance Document is prepared by the Department of Building and Housing. The Department of Building and Housing is a Government Department established under the State Sector Act 1988.

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## Status of Compliance Documents

Compliance Documents are prepared by the Department of Building and Housing in accordance with section 22 of the Building Act 2004. A Compliance Document is for use in establishing compliance with the New Zealand Building Code.

A person who complies with a Compliance Document will be treated as having complied with the provisions of the Building Code to which the Compliance Document relates. However, a Compliance Document is only one method of complying with the Building Code. There may be alternative ways to comply.

Users should make themselves familiar with the preface to the New Zealand Building Code Handbook, which describes the status of Compliance Documents and explains alternative methods of achieving compliance.

Defined words (italicised in the text) and classified uses are explained in Clause A1 of the Building Code and in the Definitions at the start of this Compliance Document.

<b>E2: Document History</b>		
	<b>Date</b>	<b>Alterations</b>
First published	July 1992	
Second Edition	28 February 1998	Document revised – Second edition issued
Third Edition	E2/VM1 effective from 1 July 2004 E2/AS1 effective from 1 February 2005	
Amendment 1 September 2004	E2/AS1 effective from 1 July 2005	p. 2 Document Status
Reprinted incorporating Amendment 1 September 2004		
Amendment 2	Effective from 1 July 2005	p. 2 Document History, Document Status pp. 5-7, 9, 10 Contents pp. 13-16 References pp. 17-20 Definitions pp. 21-24 E2/VM1 pp. 25-43, 45-47, 49, 50, 55-57, 59-67, 69-89, 93-100, 102, 103, 105-107, 111-119, 121-125, 127-135, 138, 140-144, 146, 147, 149, 150, 153-155, 157, 163-169 E2/AS1 pp. 173, 174, 177, 178 Index
Erratum 1	Effective from 1 December 2005	p. 166 Table 23
<b>Note: Page numbers relate to the document at the time of Amendment and may not match page numbers in current document.</b>		

### Document Status

The most recent version of this document, as detailed in the Document History, is approved by the Chief Executive of the Department of Building and Housing. It is effective from 1 December 2005 and supersedes all previous versions of this document.

People using this Compliance Document should check for amendments on a regular basis. The Department of Building and Housing may amend any part of any Compliance Document at any time. Up-to-date versions of Compliance Documents are available from [www.building.dbh.govt.nz](http://www.building.dbh.govt.nz)

**Table 23: Properties of roof underlays and building wraps**

Paragraphs 8.1.5, 8.2.3, 8.3.6, 8.4.7, 9.1.4, 9.1.7, 9.1.8.2 a), 9.2.3 c), 9.3.3, 9.3.5.1, 9.4.2, 9.4.3, 9.5.3, 9.6.8.1, 9.6.9.1, 9.6.9.2 a) and b), 9.7.3, 9.8.3. and 9.9.4

Category	Application	Absorbency	Vapour resistance	Water resistance	pH of extract	Shrinkage	Mechanical	
Amend 2 Jul 2005	<b>Roof underlay</b> (bitumen and fire-retardant paper-based products) <sup>(2)</sup>	All roofs. <i>Direct fixed</i> non-absorbent wall <i>claddings</i> <sup>(3)</sup>	≥ 100 g/m <sup>2</sup> AS/NZS 4201: Part 6	≤ 7 MN s/g ASTM E96 B	≥ 100 mm AS/NZS 4201: Part 4	≥ 6.0 and ≤ 9.0	≤ 0.5% AS/NZS 4201: Part 3	Edge tear and tensile strength to AS/NZS 4200
Amend 2 Jul 2005	<b>Wall wrap</b> (includes building papers and synthetic wall wraps)	All <i>cavity walls</i> and <i>direct fixed</i> absorbent wall <i>claddings</i> <sup>(4)</sup> (e.g. timber, fibre cement etc) For <i>direct fixed</i> non-absorbent wall <i>claddings</i> see Roof Underlay	No requirement	≤ 7 MN s/g ASTM E96 B	≥ 20 mm AS/NZS 4201: Part 4	≥ 6.0 and ≤ 9.0	≤ 0.5% AS/NZS 4201: Part 3	Edge tear and tensile strength to AS/NZS 4200
Amend 2 Jul 2005	<b>Rigid sheathing</b> (plywood <sup>(5)</sup> and fibre cement sheet)	<i>Direct fixed</i> non-absorbent wall <i>claddings</i> <sup>(6)</sup>	≥ 100 g/m <sup>2</sup> AS/NZS 4201: Part 6	≤ 7 MN s/g ASTM E96 B	≥ 20 mm AS/NZS 4201: Part 4	≥ 6.0 and ≤ 9.0	NA	NA
Amend 2 Jul 2005	<b>Rigid sheathing</b> (plywood <sup>(5)</sup> and fibre cement sheet)	<i>Direct fixed</i> absorbent wall <i>claddings</i> and wall <i>claddings</i> over a cavity <sup>(6)</sup>	No requirement	≤ 7 MN s/g ASTM E96 B	≥ 20 mm AS/NZS 4201: Part 4		NA	NA
Amend 2 Jul 2005	<b>Air barrier</b>	Where no internal <i>linings</i>	≥ 100 g/m <sup>2</sup> <sup>(7)</sup> AS/NZS 4201: Part 6	≤ 7 MN s/g ASTM E96 B	≥ 20 mm AS/NZS 4201: Part 4	≥ 6.0 and ≤ 9.0	≤ 0.5% AS/NZS 4201: Part 3	Edge tear strength AS/NZS 4200 90N Air resistance BS 6538: Part 3: ≥ 0.1 MN s/m <sup>3</sup>
	<b>DPC/DPM</b>	All applications – there will be separate thicknesses depending on use		≥ 90 MN s/g ASTM E96				

**NOTE:**

- (1) Metal roofs and *direct fixed* metal wall *claddings* require paper-based underlays.
- (2) Not including synthetic product.
- (3) Used where necessary directly behind (and so in contact with) profiled metal wall *cladding*.
- (4) Not used in contact with profiled metal wall *cladding*.
- (5) Plywood to be treated in accordance with NZS 3602.
- (6) Bitumen-based products shall not be used in direct contact with LOSP-treated plywood.
- (7) Applies only to air barriers used with non-absorbent *claddings*.

**COMMENT:**

For guidance on measuring the pH of extract as required in Table 23, refer to AS/NZS 1301.421S: 1998 Determination of the pH value of aqueous extracts of paper, board and pulp – cold extraction method.

Erratum 1  
Dec 2005