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Sarking Products for Non-Combustible Construction in Class 2–9 Buildings

DEEMED-TO-SATISFY AND ALTERNATE SOLUTION CONSTRUCTION FABRICS



 **Bradford™**

CSR

How to Select Sarkings for Non-Combustible Walls in Class 2 – 9 Buildings

IDENTIFY TYPE OF CONSTRUCTION

Depending on the type of construction, non-combustible components may be mandatory to meet the requirements of the NCC 2016 BCA Volume One Amendment 1. Specifically, Clauses C1.1 and C1.9 of 'Part C1 Fire Resistance and Stability' defines that any Class 2 to 9 building of Type A & B Construction must have non-combustible external and common walls.

To achieve this, all wall components must be deemed non-combustible in accordance with AS 1530.1.

To understand the requirements, identify the type of construction required by using Table C1.1 shown below. If the building is classified as Type A or B, clause C1.9 (a) (i) states that the external and common wall components are required to be non-combustible. This includes both insulation and sarking-type materials.

Reference to BCA 2016 v1.1

C1.1 Type of construction required

(a) The minimum Type of *fire-resisting construction* of a building must be determined in accordance with **Table C1.1**, except as allowed for—

- certain Class 2, 3 or 9c buildings in **C1.5**; and
- a Class 4 part of a building located on the top storey in **C1.3(b)**; and
- open spectator stands* and indoor sports stadiums in **C1.7**.

SA C1.1(a)(iv)

(b) Each building element must comply with **Specification C1.1** as applicable.

Table C1.1 TYPE OF CONSTRUCTION REQUIRED

Rise in storeys	Class 2, 3 or 9 building	Class 5, 6, 7 or 8 building
4 or more	A	A
3	A	B
2	B	C
1	C	C

SA C1.1(c) and (d)

Reference to BCA 2016 C1.9

C1.9 Non-combustible building elements

(a) In a building *required* to be of Type A or B construction, the following building elements and their components must be *non-combustible*:

- External walls* and *common walls*, including all components incorporated in them including the facade covering, framing and insulation.
- The flooring and floor framing of lift pits.
- Non-loadbearing internal walls* where they are *required* to be *fire-resisting*.

(b) A *shaft*, being a lift, ventilating, pipe, garbage, or similar *shaft* that is not for the discharge of hot products of combustion, that is *non-loadbearing*, must be of *non-combustible* construction in—

- a building *required* to be of Type A construction; and
- a building *required* to be of Type B construction, subject to **C2.10**, in—

SELECT THE RIGHT SARKING PRODUCT FOR NON-COMBUSTIBLE WALLS

There are a range of sarking products suitable for use within non-combustible external wall applications that must be chosen based on the available evidence of suitability and the climate zone of the construction. Below are some considerations to take when selecting the right sarking:

General Considerations

- It is recommended that any sarking used in non-combustible applications be classified as a Water Barrier (High) in accordance with AS/NZS4200.1, to provide protection against wind driven rain – if a sarking material is perforated or considered a Water Barrier: Unclassified in accordance with AS4200.1 it may not be able to provide weather protection.
- For cooler climate zones, use a vapour permeable sarking
- For hot, humid climate zones, use a vapour barrier sarking

Some sarking products may comply with the Deemed-To-Satisfy provisions of Clause C1.9(e) while other sarking products may require a Fire Engineer's opinion as 'Evidence of Suitability'. Bradford has product solutions available for all options.

The range of suitable sarking products offered by CSR Bradford are detailed over the following pages, a summary table can also be found on the back page of this brochure. Always check each sarking product's performance option meets the requirements for the climate zone of construction prior to use.

Deemed-to-Satisfy Solution

THERMOSEAL FIRESPEC

Firespec is made from a white woven fibre glass cloth that has been laminated to a single layer of aluminium and is deemed suitable for non-combustible applications in accordance with NCC 2016 BCA Volume 1, Amendment 1, Clause C1.9 (e)(vi) and Volume 2 clause 3.7.1.2

Supporting Documents for Suitability

AS1530 Part 1/2/3 test reports and CSIRO report FCO-3235

Climate Consideration

This product is classified as a Class 2 (Medium) Vapour Barrier in accordance with AS/NZS 4200.1 and is recommended for applications in warmer climates where lower insulation values are used and the risk of condensation entrapment within the stud frame is lower.

PRODUCT INFORMATION

Thermoseal Firespec

CODE	DESCRIPTION	WIDTH (mm)	LENGTH (mm)	m ² PER ROLL
164674	THERMOSEAL FIRESPEC	1500	30	45



Alternative Solutions

There are other sarkings available, that although deemed to be combustible in accordance with AS1530.1, can still be offered as alternative solutions.

ENVIROSEAL RW OR ENVIROSEAL CW

Enviroseal RW and Enviroseal CW are highly vapour permeable sarkings manufactured from spunbond and vapour permeable film.

For cooler climates, it is able to reduce the risk of condensation by allowing internally generated moisture to escape from the thermally insulated building envelope.

Supporting Documents for Suitability

Fire Performance of Wall Wrap - Evidence of Suitability (Stephen Grubitts & Associates - 2013/277.32 R2.5).

Climate Consideration

This product is classified as a Class 4, Highly Vapour Permeable membrane in accordance with AS/NZS 4200.1 and is recommended for cooler climate zones where higher insulation values are used. It is not suitable for use in tropical climate zones.

Enviroseal RW

PRODUCT INFORMATION

CODE	DESCRIPTION	WIDTH (mm)	LENGTH (mm)	m ² PER ROLL
167641	ENVIROSEAL RW	1500	30	45
118153	ENVIROSEAL RW	1500	50	75
165532	ENVIROSEAL RW-IT	1500	50	75
138628	ENVIROSEAL RW	2750	25	68.75
155884	ENVIROSEAL RW	3000	25	75

*RW-IT is a product variant that includes integrated tape.



Enviroseal CW

PRODUCT INFORMATION

CODE	DESCRIPTION	WIDTH (mm)	LENGTH (mm)	m ² PER ROLL
114175	ENVIROSEAL CW	1500	50	75
134863	ENVIROSEAL CW-IT	1500	50	75

*CW-IT is a product variant that includes integrated tape.



Alternative Solutions

There are other sarkings available, that although deemed to be combustibile in accordance with AS1530.1, can still be offered as alternative solutions.

THERMOSEAL WALL WRAP XP

Wall Wrap XP is made from a layer of aluminium laminated to polyweave using a hot melt adhesive. It is able to provide an outward facing reflective R value when the antiglare ink surface faces a 25mm air cavity. This cavity can be provided by brick veneer construction or by using a top hat batten in a light weight wall construction. This product is ideal for use where higher R-values, such as; $R_t3.3$ are required. Note: It is not possible to achieve $R_t3.3$ with a 90mm stud without the reflective air-gap provided by this product.

Supporting Documents for Suitability

Fire Performance of Wall Wrap - Evidence of Suitability (Stephen Grubitts & Associates - 2013/277.32 R2.5)

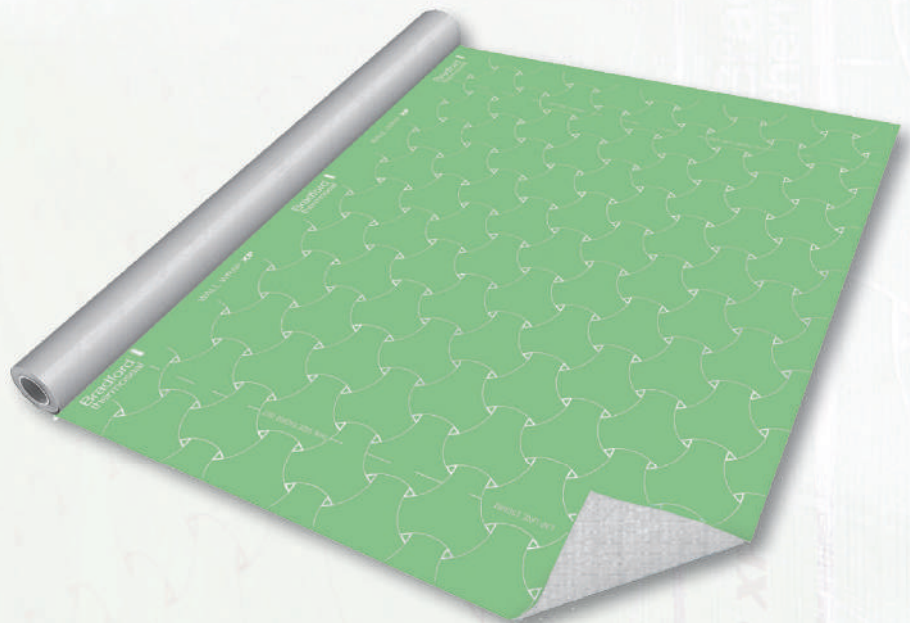
Climate Consideration

This product is classified as a Class 1 (High) Vapour Barrier in accordance with AS/NZS 4200.1 and is recommended for hot to tropical climates where lower insulation values are used.

Thermoseal Wall Wrap XP

PRODUCT INFORMATION

CODE	DESCRIPTION	WIDTH (mm)	LENGTH (mm)	m ² PER ROLL
124652	WALL WRAP XP	1350	60	81
125825	WALL WRAP XP	1350	30	40.5
181126	WALL WRAP XP	1500	30	45
181127	WALL WRAP XP	1500	60	90



CSR BRADFORD COMPLIANT SOLUTIONS SUMMARY

The below table is a summary of all suitable sarking products for use in non-combustible construction. Keep in mind each sarking has unique supporting documentation and may be recommended for specific climate zones.

	THERMOSEAL FIRESPEC	THERMOSEAL WALL WRAP XP	ENVIROSEAL RW & CW
VAPOUR CONTROL CLASSIFICATION	CLASS 2 VAPOUR BARRIER	CLASS 1 VAPOUR BARRIER	CLASS 4 VAPOUR PERMEABLE
CLIMATE CONSIDERATION	RECOMMENDED FOR WARMER CLIMATES WHERE LOWER INSULATION VALUES ARE USED	RECOMMENDED FOR HOT TO TROPICAL CLIMATES WHERE LOWER INSULATION VALUES ARE USED	RECOMMENDED FOR COOLER CLIMATES WHERE HIGHER INSULATION VALUES ARE USED
WATER CONTROL CLASSIFICATION	WATER BARRIER (HIGH)	WATER BARRIER (HIGH)	WATER BARRIER (HIGH)
DUTY CLASSIFICATION	EXTRA HEAVY DUTY	EXTRA HEAVY DUTY	LIGHT*
NON-COMBUSTIBLE SUPPORTING DOCUMENTATION	AS1530 PART 1/2/3 TEST REPORTS AND CSIRO REPORT FCO-3235	FIRE PERFORMANCE OF WALL WRAP - EVIDENCE OF SUITABILITY (STEPHEN GRUBITTS & ASSOCIATES - REPORT 2013/277.32 R2.5)	FIRE PERFORMANCE OF WALL WRAP - EVIDENCE OF SUITABILITY (STEPHEN GRUBITTS & ASSOCIATES - REPORT 2013/277.32 R2.5)

If further technical support is required, please contact a Bradford Technical Representative for more information on 1800 354 044.

Technical Support

CSR Bradford offer a range of technical services for project or climate specific applications, as well as general product and project technical support.

For more information please contact CSR Bradford bradfordwebenq@csr.com.au



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