

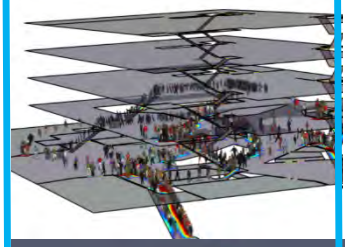
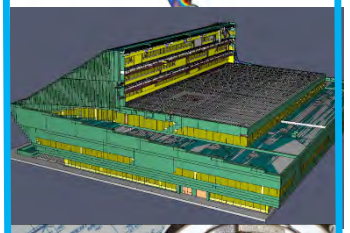

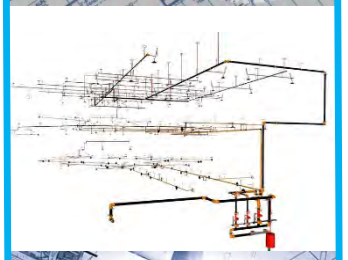

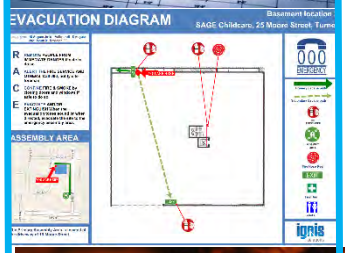

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Palram Australia
SUNPAL, SUNLITE and SUNLITE 7 Wall

PRODUCT ADVICE

IGNS-8367 I01 R00

Issued: 17.02.2021

Valid for:

- NCC Vol 1 and 2 BCA 2019 Amendment 1

DOCUMENT REVISION HISTORY

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CONDITIONS AND LIMITATIONS

This assessment report does not provide an endorsement by Ignis Solutions Pty Ltd of the actual product evaluated.

The conclusions of this assessment may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazards under all conditions.

Because of the nature of fire testing, and the consequent difficulty in quantifying the uncertainty of measurement, it is not possible to provide a stated degree of accuracy. The inherent variability in test procedures, materials and methods of construction, and installation may lead to variations in performance between elements of similar construction.

The assessment can therefore relate only to the actual prototype test specimens, testing conditions and methodology described in the referenced documents, and does not imply any performance abilities of constructions of subsequent manufacture.

This assessment is based on information and experience available at the time of preparation. The published procedures for the conduct of tests and the assessment of test results are the subject of constant review and improvement and it is recommended that this report is reviewed on or, before, the stated expiry date.

This report is prepared in good faith and with due care for information purposes only, and should not be relied upon as providing any warranty or guarantee. In particular, attention is drawn to the nature of the inspection and investigations undertaken and the limitations these impose in determining with accuracy the state of the building, its services or equipment and life safety.

Ignis Solutions' involvement in the Project is limited to the role outlined in section 2 'Scope of Service' of the Letter. This report reflects that role. Any reliance on, or use of, this report for purposes outside the scope of service is at the user's own risk.

Ignis Solutions shall not be held liable for any loss or damage resulting from any defect of the building or its services or equipment or for any non compliance of the building or its services or equipment with any legislative or operational requirement, whether or not such defect or non-compliance is referred to or reported upon in this report, unless such defect or non-compliance should have been apparent to a competent engineer undertaking the evaluation of the type undertaken for the purpose of preparation of this report.

Ignis Solutions has carefully reviewed and applied to the best of our ability the requirements of local Legislation, the current NCC and the International Fire Engineering Guidelines. Any changes to the reference documents including the NCC should warrant a review of this report.

TABLE OF CONTENTS

1 INTRODUCTION

1.1 General

The purpose of this report is to evaluate the applicable use of the Palram Australia products listed below as various building elements against the National Construction Code – Volume One Amendment 1– Building Code of Australia 2019 (BCA Volume 1) and National Construction Code – Volume Two Amendment 1– Building Code of Australia 2019 (BCA Volume 2).

Product 1. SUNPAL Multiwall Polycarbonate Standing Seam Architectural System

Product 2. SUNLITE Twin-Wall Polycarbonate Sheet

Product 3. SUNLITE 7 Multiwall Polycarbonate Sheet

The SUNPAL, SUNLITE and SUNLITE 7 Wall systems are comprised of an extruded resin internal structure sandwiched by 50-micron UV layers. The SUNPAL, SUNLITE and SUNLITE 7 Wall systems are available in varying sizes and thicknesses.

The SUNPAL 18mm system has been tested by Ignis Labs in accordance with AS ISO 9705 and reported in their test report IGNL-4179-06R I01R00 dated 12 January 2021. Ignis Solutions has evaluated this test in accordance with AS 5637.1 (IGNS-8367 I01R01 dated 18 January 2021) and determined that the SUNPAL 18mm system achieves a Group 1 classification with a $SMOGRA_{RC}$ 68.51 m^2/s^2 x 1000.

BCA Clause	SUNPAL 18mm	Test Report
Clause C1.10, Specification C1.10 Clause 4		IGNL-4179-06R I01R00 Test Report 12012021
AS ISO 9705:2003 Test		
Group Number		1
$SMOGRA_{RC}$		68.51 (m^2/s^2 x1000)

The Group 1 classification achieved by SUNPAL 18mm is deemed to be representative of the group number of the SUNLITE and SUNLITE 7 Wall system based on their identical material composition and similar construction.

The SUNLITE (Twin-wall Polycarbonate Sheet) 10.2mm has been tested by Exova Warringtonfire and reported in their test report 424748-00a.2 in accordance with AS/NZS 1530.3.

BCA Clause	SUNLITE 10mm	Test Report
Clause C1.14, Specification C1.10 Clause 7		Exova Warrington Fire Test Report 424748-00a.2 06062016
AS/NZS 1530.3:1999 Test		
Ignitability Index		0
Spread of Flame Index		0
Heat Evolved Index		0
Smoke Developed Index		2

The following Palram Australia products were also tested in accordance with AS/NZS 1530.3.

1. SUNTUF SOLARSMART, SOLARSMART, SunSKy, SunSky 1001, SunSky 2001, SunSky 3001 being 1.25mm and 0.8mm thick.

BCA Clause	SUNTUF SOLARSMART 0.8mm, 1.25mm	Test Report
Clause C1.14, Specification C1.10 Clause 7		Exova Warrington Fire
		Test Report 321258-00.1a 19112014 (0.80mm)
		Test Report 321258-00.1b 19112014 (1.25mm)
AS/NZS 1530.3:1999 Test		
Ignitability Index		0
Spread of Flame Index		0
Heat Evolved Index		0
Smoke Developed Index		1

2. SUNGLAZE being 4mm thick.

BCA Clause	SUNGLAZE 4mm	Test Report
Clause C1.14, Specification C1.10 Clause 7		Exova Warrington Fire
		Test Report 408711-00b.1 13042016
AS/NZS 1530.3:1999 Test		
Ignitability Index		0
Spread of Flame Index		0
Heat Evolved Index		0
Smoke Developed Index		2

3. SUNTUF corrugated ridged sheeting being 0.8mm thick.

BCA Clause	SUNTUFF Corrugated 0.8mm	Test Report
Clause C1.14, Specification C1.10 Clause 7		AWTA
		Test Report 7-567305-CV 02072009
AS/NZS 1530.3:1999 Test		
Ignitability Index		0
Spread of Flame Index		0
Heat Evolved Index		0
Smoke Developed Index		2

2 EVALUATION

This section assesses the suitability of the SUNPAL, SUNLITE and SUNLITE 7 Wall systems for use as roof lights, external walls, internal walls and ancillary elements against the requirements of the BCA Volume 1 and BCA Volume 2.

2.1 Rooflights

2.1.1 Class 1 Buildings

The requirements for roof lights for Class 1 residential buildings are detailed in the BCA Volume 2. The SUNPAL, SUNLITE and SUNLITE 7 Wall systems are permitted to be used in Class 1 buildings. The installation of the SUNPAL, SUNLITE and SUNLITE 7 Wall systems in Class 1 buildings must comply with the requirements outlined in Clause 3.7.2.8 of the BCA Volume 2.

FIGURE 1:

CLAUSE 3.7.2.8 OF THE BCA VOLUME 2

3.7.2.8 Roof lights

Combustible roof lights, skylights or the like installed in a roof or part of a roof *required* to have a *non-combustible* covering must—

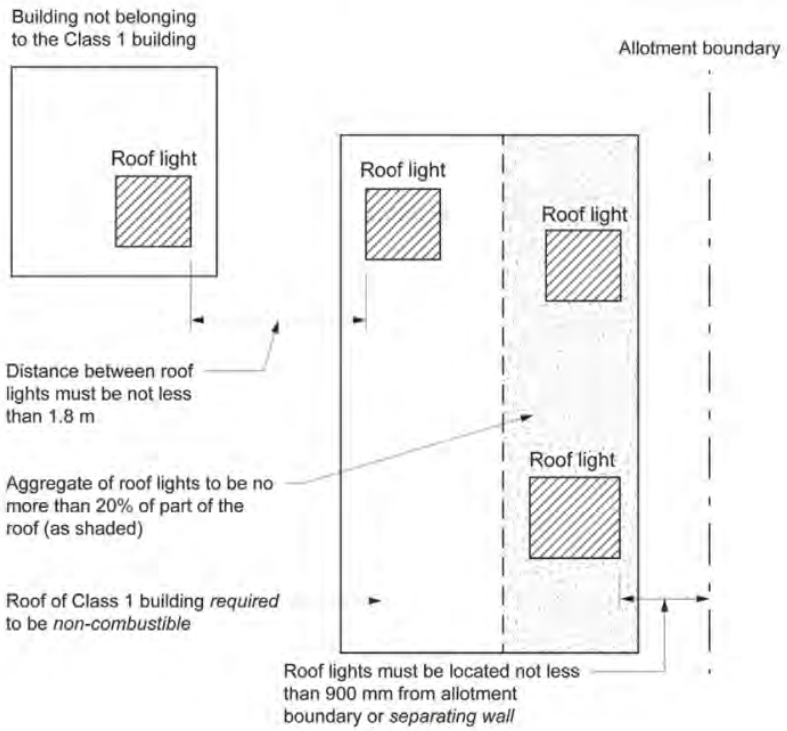
(a) have an aggregate area not more than 20% of the roof or part of the roof; and

(b) be not less than—

(i) 900 mm from a separating wall or the allotment boundary, other than the boundary adjoining a road alignment or other public space; and

(ii) 1.8 m from any roof light or the like in another building on the allotment other than an associated building or a detached part of the same building. (See Figure 3.7.2.10).

Figure 3.7.2.10 Location of combustible roof lights



Note to Figure 3.7.2.10: Roof lights depicted in Figure 3.7.2.10 are *combustible*.

Source: ABCB NCC Volume Two Amendment 1 – Building Code of Australia 2019

For roof lights installed in the vicinity of separating walls, the installation must comply with Clause 3.7.3.4 of the BCA Volume 2.

FIGURE 2:

CLAUSE 3.7.3.4 OF THE BCA VOLUME 2

3.7.3.4 Roof lights

Combustible roof lights, skylights or the like installed in a roof or part of a roof *required* to have a *non-combustible* covering must—

(a) have an aggregate area not more than 20% of the roof or part of the roof; and

(b) be not less than 900 mm from the vertical projection of a *separating wall* extending to the underside of the roof covering.

Source: ABCB NCC Volume Two Amendment 1 – Building Code of Australia 2019

2.1.2 Class 2-9 Buildings

The requirements for roof lights for Class 2-9 buildings are detailed in the BCA Volume 1. The SUNPAL, SUNLITE and SUNLITE 7 Wall systems are permitted to be used in Class 2-9 buildings within the building envelope of Type A, B and C construction.

The installation of the SUNPAL, SUNLITE and SUNLITE 7 Wall systems in Type A buildings must comply with the requirements outlined in Specification C1.1. Clause 3.6 of the BCA Volume 1.

FIGURE 3:

SPECIFICATION C1.1 CLAUSE C3.6 OF THE BCA VOLUME 1 – TYPE A CONSTRUCTION

3.6 Roof lights

If a roof is *required* to have an FRL or its covering is *required* to be *non-combustible*, roof lights or the like installed in that roof must—

(a) have an aggregate area of not more than 20% of the roof surface; and

(b) be not less than 3 m from—

(i) any boundary of the allotment other than the boundary with a road or public place; and

(ii) any part of the building which projects above the roof unless that part has the FRL *required* of a *fire wall* and any openings in that part of the wall for 6 m vertically above the roof light or the like are protected in accordance with C3.4; and

(iii) any roof light or the like in an adjoining *sole-occupancy unit* if the walls bounding the unit are *required* to have an FRL; and

(iv) any roof light or the like in an adjoining fire-separated section of the building; and

(c) if a ceiling with a *resistance to the incipient spread of fire* is *required*, be installed in a way that will maintain the level of protection provided by the ceiling to the roof space.

Source: ABCB NCC Volume One Amendment 1 – Building Code of Australia 2019

If a building's exit discharges to a roof of a building, Clause D2.12(b) requires that the SUNPAL, SUNLITE and SUNLITE 7 Wall systems be installed as roof lights at least 3 m away from the exit path of travel used to reach a road or open space.

FIGURE 4:

CLAUSE D2.12 OF THE BCA VOLUME 1

D2.12 Roof as open space

If an *exit* discharges to a roof of a building, the roof must—

(a) have an FRL of not less than 120/120/120; and

(b) not have any roof lights or other openings within 3 m of the path of travel of persons using the *exit* to reach a road or *open space*.

Source: ABCB NCC Volume One Amendment 1 – Building Code of Australia 2019

For SUNPAL, SUNLITE and SUNLITE 7 Wall systems installed as roof lights in buildings of Type B and C construction, Specification C1.1 Clause 4.1 (d)(iv) and Clause 5.1 (d)(iv) require that internal walls which are required to have a FRL in respect to integrity and insulation extend 450 mm past the SUNPAL, SUNLITE and SUNLITE 7 Wall roof lights that are installed above them.

FIGURE 5:

SPECIFICATION C1.1 CLAUSE 4.1(D) OF BCA VOLUME 1 FOR TYPE B CONSTRUCTION

(d) any *internal wall* which is *required* to have an FRL with respect to *integrity* and *insulation*, except a wall that bounds a *sole-occupancy unit* in the topmost (or only) *storey* and there is only one unit in that *storey*, must extend to—

(i) the underside of the floor next above if that floor has an FRL of at least 30/30/30; or

(ii) the underside of a ceiling having a *resistance to the incipient spread of fire* to the space above itself of not less than 60 minutes; or

(iii) the underside of the roof covering if it is *non-combustible* and, except for roof battens with dimensions of 75 mm x 50 mm or less or *sarking-type material*, must not be crossed by timber or other *combustible* building elements; or

(iv) 450 mm above the roof covering if it is *combustible*; and

Source: ABCB NCC Volume One Amendment 1 – Building Code of Australia 2019

FIGURE 6:

SPECIFICATION C1.1 CLAUSE 5.1(D) OF BCA VOLUME 1 FOR TYPE C CONSTRUCTION

(d) in a Class 2 or 3 building, an *internal wall* which is *required* by Table 5 to have an FRL must extend—

(i) to the underside of the floor next above if that floor has an FRL of at least 30/30/30 or a *fire-protective covering* on the underside of the floor; or

(ii) to the underside of a ceiling having a *resistance to the incipient spread of fire* to the space above itself of not less than 60 minutes; or

(iii) to the underside of the roof covering if it is *non-combustible*, and except for roof battens with dimensions of 75 mm x 50 mm or less or *sarking-type material*, must not be crossed by timber or other *combustible* building elements; or

(iv) 450 mm above the roof covering if it is *combustible*; and

Source: ABCB NCC Volume One Amendment 1 – Building Code of Australia 2019

2.2 External Walls

The SUNPAL, SUNLITE and SUNLITE 7 Wall systems are permitted for use as external walls that are not required to be fire resisting or loadbearing within the building envelope of Type C construction. As the SUNPAL, SUNLITE and SUNLITE 7 Wall systems are combustible, when installed as part of an external wall they are considered to be openings on the external wall. The SUNPAL, SUNLITE and SUNLITE 7 Wall systems must comply with the requirements outlined in Clause 3.2 of the BCA Volume 1.

FIGURE 7:

CLAUSE C3.2 OF THE BCA VOLUME 1

C3.2 Protection of openings in external walls

Openings in an *external wall* that is *required* to have an FRL must—

(a) if the distance between the opening and the *fire-source feature* to which it is exposed is less than—

(i) 3 m from a side or rear boundary of the allotment; or

(ii) 6 m from the far boundary of a road, river, lake or the like adjoining the allotment, if not located in a *storey* at or near ground level; or

(iii) 6 m from another building on the allotment that is not Class 10,

be protected in accordance with C3.4 and if wall-wetting sprinklers are used, they are located externally; and

(b) if *required* to be protected under (a), not occupy more than 1/3 of the area of the *external wall* of the *storey* in which it is located unless they are in a Class 9b building used as an *open spectator stand*.

Source: ABCB NCC Volume One Amendment 1 – Building Code of Australia 2019

Clause C3.4 of the BCA Volume 1 details the acceptable methods of protection of openings when required. The SUNPAL, SUNLITE, and SUNLITE 7 Wall systems are classified as a *Window* in the BCA Volume 1. Appropriate methods of protection for the SUNPAL, SUNLITE and SUNLITE 7 Wall systems are outlined in Clause C3.4(ii).

FIGURE 8:

CLAUSE C3.4 OF THE BCA VOLUME 1

C3.4 Acceptable methods of protection

(a) Where protection is *required*, doorways, *windows* and other openings must be protected as follows:

(i) Doorways—

(A) internal or external wall-wetting sprinklers as appropriate used with doors that are *self-closing* or *automatic* closing; or

(B) –/60/30 fire doors that are *self-closing* or *automatic* closing.

(ii) *Windows*—

(A) internal or external wall-wetting sprinklers as appropriate used with *windows* that are *automatic* closing or permanently fixed in the closed position; or

(B) –/60/– fire *windows* that are *automatic* closing or permanently fixed in the closed position; or

(C) –/60/– *automatic* closing fire shutters.

(iii) Other openings—

(A) excluding voids — internal or external wall-wetting sprinklers, as appropriate; or

(B) construction having an FRL not less than –/60/–.

(b) Fire doors, fire *windows* and fire shutters must comply with Specification C3.4.

Source: ABCB NCC Volume One Amendment 1 – Building Code of Australia 2019

The SUNPAL, SUNLITE and SUNLITE 7 Wall systems are permitted to be used as signage to external walls in buildings of Type A, B and C construction. The SUNPAL, SUNLITE and SUNLITE 7 Wall systems is not to be used as part of the external wall as a wall lining on the interior or exterior. (see Section 2.4.1 of this report).

2.3 Internal Walls

2.3.1 Internal and Ceiling Linings

From the AS 5637.1 assessment conducted by Ignis Solution the SUNPAL 18mm system been evaluated and deemed suitable for use in Class 2-9 buildings within the building envelope for sprinklered and unsprinklered buildings of Type A, B or C construction. The SUNPAL 18mm system achieved a Group 1 classification.

BCA Clause	SUNPAL 18mm	Test Report
Clause C1.10, Specification C1.10 Clause 4		IGNL-4179-06R I01R00 Test Report 12012021
AS ISO 9705:2003 Test		
Group Number		1
$SMOGRA_{RC}$		68.51 (m^2/s^2 x1000)

The group number achieved by the SUNPAL system is deemed to be representative of the group numbers of the SUNLITE and SUNLITE 7 Wall systems based on their identical material composition and similar construction. The table below outlines the suitability of the SUNPAL, SUNLITE and SUNLITE 7 Wall systems in various building classifications and areas.

TABLE 1:

SUITABILITY OF SUNPAL, SUNLITE, SUNLITE 7 WALL SYSTEMS IN VARIOUS BUILDING CLASSIFICATIONS

Class of Building	Fire-isolated exits and control rooms	Public corridors	Specific areas	Other areas
Class 2 or 3, Unsprinklered (Excludes accommodation for the aged people with disabilities, and children)	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling
Class 2 or 3, Sprinklered (Excludes accommodation for the aged people with disabilities, and children)	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling
Class 3 or 9a, Unsprinklered (Accommodation for the aged, people with a disability, children and health-care buildings)	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling
Class 3 or 9a, Sprinklered (Accommodation for the aged, people with a disability, children and health-care buildings)	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling
Class 5,6,7,8 or 9b schools, Unsprinklered	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling
Class 5,6,7,8 or 9b schools, Sprinklered	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling
Class 9b other than schools, Unsprinklered	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling
Class 9b other than schools, Sprinklered	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling
Class 9c, Sprinklered	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling	Suitable Wall or ceiling

Source: ABCB NCC Volume One Amendment 1 – Building Code of Australia 2019 and Ignis Solutions

When used as roof linings the SUNPAL, SUNLITE and SUNLITE 7 the ceiling system below the roof lining must be installed such that they provide resistance to the incipient spread of fire.

2.3.2 Internal Walls

The SUNPAL, SUNLITE and SUNLITE 7 Wall systems are combustible, do not provide fire resisting and are not load bearing. The SUNPAL, SUNLITE and SUNLITE 7 Wall systems may be used as partitions within buildings where the partitions are not required to be non-combustible, fire-resisting and load bearing.

2.4 Ancillary Elements

2.4.1 Non-required Signs

The SUNPAL, SUNLITE and SUNLITE 7 Wall systems achieving a Group 1 classification are permitted to be affixed to external walls as a non-required sign. Clause C1.14(h) requires that the SUNPAL, SUNLITE and SUNLITE 7 Wall sign may not extend beyond one storey and may not extend beyond one fire compartment and must be separated vertically by at least 2 storeys from other signs permitted by Clause C1.14(h).

FIGURE 9:

CLAUSE C 1.14 OF THE BCA VOLUME 1

C1.14 Ancillary elements

An *ancillary element* must not be fixed, installed or attached to the internal parts or external face of an *external wall* that is *required* to be *non-combustible* unless it is one of the following:

(a) An *ancillary element* that is *non-combustible*.

(b) A gutter, downpipe or other plumbing fixture or fitting.

(c) A flashing.

(d) A grate or grille not more than 2 m^2 in area associated with a building service.

(e) An electrical switch, socket-outlet, cover plate or the like.

(f) A light fitting.

(g) A *required* sign.

(h) A sign other than one provided under (a) or (g) that—

- (i) achieves a *group number* of 1 or 2; and
- (ii) does not extend beyond one *storey*; and
- (iii) does not extend beyond one *fire compartment*; and
- (iv) is separated vertically from other signs permitted under (h) by at least 2 *storeys*.

(i) An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that—

- (i) meets the relevant requirements of Table 4 of Specification C1.10 as for an internal element; and
- (ii) serves a *storey*—
  - (A) at ground level; or
  - (B) immediately above a *storey* at ground level; and
- (iii) does not serve an *exit*, where it would render the *exits* unusable in a fire.

(j) A part of a security, intercom or announcement system.

(k) Wiring.

(l) A paint, lacquer or a similar finish.

(m) A gasket, caulking, sealant or adhesive directly associated with (a) to (k).

SA C1.15

Source: ABCB NCC Volume One Amendment 1 – Building Code of Australia 2019

2.4.2 Awnings

From AS/NZS 1530.3 testing conducted by Exova Warringtonfire the SUNLITE 10mm system has been deemed suitable for use as an awning, sunshade, canopy, blind or shading hood.

BCA Clause	SUNLITE 10mm	Test Report
Clause C1.14, Specification C1.10 Clause 7		Exova Warringtonfire Test Report 424748-00a.2 06062016
AS/NZS 1530.3:1999 Test		
Ignitability Index		0
Spread of Flame Index		0
Heat Evolved Index		0
Smoke Developed Index		2

The following Palram Australia products were also tested in accordance with AS/NZS 1530.3.

1. SUNTUF SOLARSMART, SOLARSMART, SunSky, SunSky 1001, SunSky 2001, SunSky 3001 being 1.25mm and 0.8mm thick.

BCA Clause	SUNTUF SOLARSMART 0.8mm, 1.25mm	Test Report
Clause C1.14, Specification C1.10 Clause 7		Exova Warrington Fire
		Test Report 321258-00.1a 19112014 (0.80mm)
		Test Report 321258-00.1b 19112014 (1.25mm)
AS/NZS 1530.3:1999 Test		
Ignitability Index		0
Spread of Flame Index		0
Heat Evolved Index		0
Smoke Developed Index		1

2. SUNGLAZE being 4mm thick.

BCA Clause	SUNGLAZE 4mm	Test Report
Clause C1.14, Specification C1.10 Clause 7		Exova Warrington Fire
		Test Report 408711-00b.1 13042016
AS/NZS 1530.3:1999 Test		
Ignitability Index		0
Spread of Flame Index		0
Heat Evolved Index		0
Smoke Developed Index		2

3. SUNTUF corrugated ridged sheeting being 0.8mm thick.

BCA Clause	SUNTUFF Corrugated 0.8mm	Test Report
Clause C1.14, Specification C1.10 Clause 7		AWTA
		Test Report 7-567305-CV 02072009
AS/NZS 1530.3:1999 Test		
Ignitability Index		0
Spread of Flame Index		0
Heat Evolved Index		0
Smoke Developed Index		2

The Palram products tested above are all made of the same material being an extruded resin internal structure sandwiched by 50-micron UV sheets. The products differ only in internal structure due to the use of different extrusion moulds. Based on the results of the various tests detailed above and the SUNLITE 10mm test it is deemed that the SUNPAL, SUNLITE and SUNLITE 7 Wall system would achieve the results below.

SUNPAL, SUNLITE, SUNLITE 7 Wall	
Ignitability Index	0
Spread of Flame Index	0
Heat Evolved Index	0
Smoke Developed Index	2

The AS/NZS 1530.3 results above comply with the requirements of Clause C1.14(i)(i) allowing the SUNPAL, SUNLITE and SUNLITE 7 Wall to be used as awnings, sunshades, canopies, blinds or shading hoods.

Clause C1.14(i) requires that the SUNPAL, SUNLITE and SUNLITE 7 Wall awning, sunshade, canopy, blind or shading hood serve a storey at ground level or immediately above a storey at ground level. The SUNPAL, SUNLITE and SUNLITE 7 Wall systems cannot be affixed above or surrounding an exit, where it would render the exit unusable.

FIGURE 10:

CLAUSE C 1.14 OF THE BCA VOLUME 1

C1.14 Ancillary elements

An *ancillary element* must not be fixed, installed or attached to the internal parts or external face of an *external wall* that is *required* to be *non-combustible* unless it is one of the following:

(a) An *ancillary element* that is *non-combustible*.

(b) A gutter, downpipe or other plumbing fixture or fitting.

(c) A flashing.

(d) A grate or grille not more than 2 m^2 in area associated with a building service.

(e) An electrical switch, socket-outlet, cover plate or the like.

(f) A light fitting.

(g) A *required* sign.

(h) A sign other than one provided under (a) or (g) that—

(i) achieves a *group number* of 1 or 2; and

(ii) does not extend beyond one *storey*; and

(iii) does not extend beyond one *fire compartment*; and

(iv) is separated vertically from other signs permitted under (h) by at least 2 *storeys*.

(i) An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that—

(i) meets the relevant requirements of Table 4 of Specification C1.10 as for an internal element; and

(ii) serves a *storey*—

(A) at ground level; or

(B) immediately above a *storey* at ground level; and

(iii) does not serve an *exit*, where it would render the *exits* unusable in a fire.

(j) A part of a security, intercom or announcement system.

(k) Wiring.

(l) A paint, lacquer or a similar finish.

(m) A gasket, caulking, sealant or adhesive directly associated with (a) to (k).

SA C1.15

Source: ABCB NCC Volume One Amendment 1 – Building Code of Australia 2019

3 DEFINITIONS AND REFERENCES

3.1 Definitions

Within the BCA a hierarchy of defined terms is established. The first level is defined terms as per Clause A1.1 of the BCA. The second level is the reference standard and the third is the Australian Macquarie Dictionary.

Flammability Index means the index number as determined by AS 1530.2.

Fire hazard properties means the following properties of a material or assembly that indicate how they behave under specific fire test conditions:

(a) Average specific extinction area, critical radiant flux and Flammability Index, determined as defined in Schedule 3.

(b) Smoke-Developed Index, smoke development rate and Spread-of-Flame Index, determined in accordance with Schedule 6.

(c) Group number and smoke growth rate index ($SMOGRA_{RC}$), determined in accordance with Specification C1.10 of Volume One.

Group number means the number of one of four groups of materials used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining, or attachment to a wall or ceiling.

Smoke growth rate index ($SMOGRA_{RC}$) means the index number for smoke used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining or attachment to a wall or ceiling.

Specific areas are defined respective of building class. Definitions are given below:

(a) Class 2 and 3 buildings – a sole-occupancy unit.

(b) Class 5 buildings – open plan offices with a minimum floor dimension/floor to ceiling height ratio > 5.

(c) Class 6 buildings – shops or buildings with a minimum floor dimension/floor to ceiling height ratio > 5.

(d) Class 9a health-care buildings – patient care areas.

(e) Class 9b theatres and halls – an auditorium.

(f) Class 9b schools – a classroom.

(g) Class 9c buildings – resident use areas.

Sprinklered means a building fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5 of the BCA 2019 Volume 1.

3.2 References

The following information sources were used in the evaluation of the product. These references should be read in conjunction with this report.

[1] National Construction Code – 2019 – Volume One – Building Code of Australia Class 2 to 9 Buildings.
[2] National Construction Code – 2019 – Volume Two – Building Code of Australia Class 1 Buildings.
[3] Guide to the Building Code of Australia 2019 – Volume One, Class 2 to Class 9 Buildings', Australian Building Codes Board, 2019 (the Guide).
[4] International Fire Engineering Guidelines, Australian Building Codes Board, Canberra, 2005.
[5] AS 5637.1:2015 Determination of fire hazard properties – wall and ceiling linings.
[6] AS ISO 9705:2003 Fire tests – full scale room test for surface products.
[7] Ignis Labs AS ISO 9705:2003 Test Report IGNL-4179-06R I01R00, issued 12 January 2021.
[8] Ignis Solutions AS 5637.1 Assessment Report IGNS-8367 I01R01, issued 18 January 2021.
[9] Exova Warringtonfire AS/NZS 1530.3 Test Report 424748-00a.2, issued 06 June 2016.

[10] Exova Warringtonfire AS/NZS 1530.3 Test Report 321258-00.1a, issued 19 November 2014.
[11] Exova Warringtonfire AS/NZS 1530.3 Test Report 321258-00.1b, issued 19 November 2014.
[12] Exova Warringtonfire AS/NZS 1530.3 Test Report 408711-00b.1, issued 13 April 2016.
[13] AWTA AS/NZS 1530.3 Test Report 7-567305-CV, issued 02 July 2009.

4 SUMMARY

From the evaluation conducted in this report against the BCA Volume 1 and BCA Volume 2 the SUNPAL, SUNLITE and SUNLITE 7 Wall element have been deemed suitable in the following applications:

(a) For use as roof lights within Class 1 buildings limited by the requirements outlined in Clause 3.7.2.8 and Clause 3.7.3.4 of the BCA Volume 2.

(b) For use as roof lights within Class 2-9 buildings of Type A, B and C construction limited by the requirements outlined in Specification C1.1 Clause 3.6 and Clause D2.12(b) of the BCA Volume 1.

(c) For use as internal wall and ceiling linings within unsprinklered and sprinklered Class 2-9 buildings of Type A, B or C construction (refer to Table 1).

(d) For use as internal walls that act as partitions that are not required to be fire-resisting, non-combustible and loadbearing.

(e) For use on external walls as windows in buildings of Type C construction, limited by the requirements outlined in Clause C3.2 and Clause C3.4 of the BCA Volume 1.

(f) For use as non-required signage affixed to external walls limited by Clause 1.14(h) of the BCA Volume 1.

(g) For use as an awning, sunshade, canopy, blind or shading hood limited by Clause 1.14(i) of the BCA Volume 1.

Any proposal to use the SUNPAL, SUNLITE and SUNLITE 7 Wall systems on external walls other than the uses permitted in applications (e), (f) and (g) or the modification of the BCA DtS provisions outlined in this evaluation must be brought to the attention of Ignis Solutions through written correspondence. Ignis Solutions takes no responsibility for compliance matters relating to fire safety that have not been discussed or brought to our attention.

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