

# CERTIFICATE

Engineering Evaluation Certificate

No. 6114 I01R01

**ISSUED** 21 May 2018

**EXPIRY** 30 April 2019



Technical assessments of  
products for compliance under  
the National Construction Code.

This engineering certificate  
serves as a certificate from a  
professional engineer in  
accordance with Clause  
1.2.2(a)(iii) of the National  
Construction Code Volume Two  
Building Code of Australia 2016

PRESENTED TO

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ENGINEERING BODY

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## Product Description

Stratco Cooldek® insulated roofing panels consist of an Expanded Polystyrene core with low Fire Hazard Properties bonded to non-combustible profiled steel sheets. The profiled steel sheets are available in a variety of styles.

## Scope

The Stratco Cooldek® Insulated Panels are evaluated for use as roof panels in Class 1 buildings within Bushfire Attack levels of Low to 29.

## National Construction Code – Volume Two – Building Code of Australia 2016

The Stratco Cooldek® Insulated Panels comply with the following Deemed-to-Satisfy Provision:

### 3.7.4.0 Bushfire areas.

**AS 3959:2009 Amdt 1, Amdt 2 and Amdt 3 Construction of buildings in bushfire-prone areas**

## Reference Documents

This certificate is based on the following documents:

- AS 3959:2009 Amdt 1, Amdt 2 and Amdt 3 Construction of buildings in bushfire-prone areas
- Ignis Solutions Product Compliance Schedule (attached)
- Stratco Cooldek® Flashing Guide

## Conditions and Limitations

- This certificate is to be read, considered and used in line with the attached product compliance schedule.
- The Stratco Cooldek® is to be installed in accordance with the Stratco Cooldek Flashing Guide
- Connection of the Stratco Cooldek® insulated panels are not to have gaps greater than 3mm. Any gaps greater than 3mm is to be sealed with a fire rated mastic with an FRL of at least -/60/60 minutes.
- Stratco Cooldek® fire protection flashing profile for the roof and gutter end must be applied in bushfire prone areas.
- This bushfire evaluation is primarily concerned with enhancing the ability of the proposed structure to better withstand the impacts of a bushfire including, ember attack and radiant heat and in doing so provides a measure of protection to the structure itself. The measures prescribed cannot guarantee that the proposed structure will survive a bushfire event on every occasion. This is primarily due to the degree of vegetation management, the unpredictable behaviour of fire, and extreme weather conditions.
- This certificate is prepared in good faith and with due care for information purposes only for compliance with the referenced documents, and should not be relied upon as providing any warranty or guarantee. In particular, attention is drawn to the nature of the installation and materials by others and the limitations these impose in determining with accuracy the state of the structure, the products, its services or equipment and life safety.

**Benjamin Hughes-Brown**

FIEAust CPEng NER APEC Engineer IntPE(Aus) CMEngNZ

Chartered Professional Engineer FPAA Professional Engineer

CPEng, NER (Fire Safety / Mech) 2590091, RPEQ11498, BPE-C10-1875, EF-39394,

TDJ-CC6504 MFireSafety (UWS), BEng (UTS), GradDipBushFire (UWS), DipEngPrac (UTS), DipEng (CT)

The following schedule details the collective requirements between section 5 (BAL 12.5), 6 (BAL 19) and 7 (BAL 29). Not all elements of the collective requirements of sub section 6 of each requirement of roofs is relevant.

AS 3959 Roof Requirements BAL low to BAL 29	Compliance
<b>1 General</b>	
1(a) The roof sheets and roof-covering accessories shall be non-combustible	<ul style="list-style-type: none"> <li>The roof covering being the metal skin is non-combustible. AS 3959 does not detail requirements for insulation.</li> </ul>
1(b) The roof/wall junction shall be sealed, to prevent openings greater than 3mm	<ul style="list-style-type: none"> <li>Stratco Cooldek® fire protection flashings are to be fitted to the front/gutter end and top/roof end.</li> <li>The Stratco Cooldek® roof panel is designed to sit directly on top of a wall at the roof/wall junction preventing openings. Where a profiled ceiling is used, fire flashings must be installed to prevent openings.</li> <li>Should gaps greater than 3mm remain they are to be sealed with               <ul style="list-style-type: none"> <li>fire rated mastic; or</li> <li>A mesh or perforated sheet with a maximum aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium; or</li> <li>Mineral wool; or</li> <li>Other non-combustible material; or</li> <li>A combination of any of the above.</li> </ul> </li> </ul>
1(c) Roof ventilation openings, such as gable and roof vents, shall be fitted with ember guards made of non-combustible material or a mesh or perforated sheet.	<ul style="list-style-type: none"> <li>Stratco Cooldek® fire protection flashings are to be fitted to the front/gutter end and top/roof end. Any ventilation openings are to be fitted with ember guards made of non-combustible material or a mesh or perforated sheet.</li> </ul>
<b>2 Tiled roofs</b>	Not relevant
<b>3 Sheet roofs</b>	
3(a) Sheet roofs are to be fully sarked in accordance with Clause 5.6.2, 6.6.2, 7.6.2, 8.6.2 or 9.6.2.	<ul style="list-style-type: none"> <li>Due to the nature and design of the Stratco Cooldek® roof system, the panels provide a weatherproof profiled roof, insulated core and a prefinished ceiling. Therefore the use of sarking for weatherproofing, additional insulation and ember attack redundancy due to gaps is not required.</li> </ul>
3(b) Sheet roofs shall have any gaps greater than 3mm (such as under corrugations or ribs) sealed at the fascia or wall line and at valleys, hips and ridges by-	<ul style="list-style-type: none"> <li>Should a gap greater than 3mm occur in the panel joints the following is to be applied:               <ul style="list-style-type: none"> <li>A mesh or perforated sheet with a maximum aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium; or</li> <li>Mineral wool; or</li> <li>Other non-combustible material; or</li> <li>A combination of any of the above.</li> </ul> </li> </ul>
<b>4 Veranda, carport and awning roofs</b>	<ul style="list-style-type: none"> <li>Veranda, carport and awnings if part of the main roof of the house are to comply with the requirements above.</li> <li>If the veranda, carport or awning roof is detached from the house roof, being a class 10 structure the above requirements do not apply when the structure is separated from the subject building by one of the following:               <ol style="list-style-type: none"> <li>A distance of not less than 6m from the building required to comply with this standard</li> <li>A wall that extends to the underside of the non-combustible roof covering and has an FRL of not less than 60/60/60</li> <li>A wall that extends to the underside of a non-combustible roof covering and is of masonry,</li> </ol> </li> <li>AS 3959 details that a veranda, carport or awning roof separated from the main roof space by an external wall shall have a non-combustible roof covering. The only part of the roof requirements that is regulated in areas of BAL-29 is the exposed component of the roof.</li> <li>The Stratco panels have a steel facing that is considered non-combustible by the BCA. The steel facing is the exposed component of the roof panel and therefore the use of the panel is compliant with AS 3959-2009 for up to BAL 29.</li> </ul>
<b>5 Roof penetrations</b>	
5(a) Roof penetrations shall be adequately sealed.	<ul style="list-style-type: none"> <li>This requirement applies for any penetration through the Stratco Cooldek® roof. Sealing shall be via an approved system or fire rated mastic with an FRL of at least -/60/60 minutes.</li> </ul>
5(b) Openings in vented roof lights, roof ventilators or vent pipes shall be fitted with ember guards made from a mesh or perforated sheet with a maximum aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium (this does not apply to exhaust flues of heating or cooking devices within closed combustion chambers).	<ul style="list-style-type: none"> <li>This requirement applies for any penetration through the Stratco Cooldek® roof.</li> </ul>
5(c) Any glazing within the roof shall be Grade A safety glass complying with AS 1288.	<ul style="list-style-type: none"> <li>This requirement applies for any penetration through the Stratco Cooldek® roof.</li> </ul>
5(e) Flashing elements of tubular skylights may be of a fire-retardant material.	<ul style="list-style-type: none"> <li>This requirement applies for any penetration through the Stratco Cooldek® roof.</li> </ul>
5(f) Evaporative cooling units are to be fitted with non-combustible butterfly closers as close as practicable to the roof level or the unit shall be fitted with non-combustible covers with a mesh or perforated sheet with a maximum aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium.	<ul style="list-style-type: none"> <li>Any evaporative cooling unit fixed to the Stratco Cooldek® roof is to comply with the requirements as detailed by AS 3959.</li> </ul>
<b>6 Eaves linings, fascias and gables</b>	Suitable in BAL Low, 12.5 and 19. Excludes BAL 29
<b>7 Gutters and downpipes</b>	Not relevant