

IGNIS ENGINEERING ADVISORY NOTE

Evaluation No.IGNS-5200 Issue 02 Revision 00 [2017]

Fairview Bonded Laminated Material Bushfire Compliance

1 Introduction

Ignis Solutions has been engaged to evaluate the application of the Fairview band of composite panels being a Bonded Laminated Materials including Vitrabond A2, FR and Vitracore G2 and how they complies with the requirements set by the National Construction Code – Volume One – Building Code of Australia 2019 (BCA) as well as AS 3959:2018.

2 NCC – Volume One – Building Code of Australia 2019 Compliance

The National Construction Code under Volume One for Class 2-9 buildings and Volume Two for Class 1 and 10 buildings sets requirements for Class 1, 2, 3 or Class 10a building or deck located in a designated bushfire prone area to comply with the requirements of AS 3959:2018.

Clause A4.4 of BCA Volume One and Two, respectively, details that the NCC overrules in any difference arising between it and any Standard, Rule, Specification or provision in a document listed in Schedule 4. AS 3959 is listed within Schedule 4. With respect to the term non-combustible, the definition and application of non-combustible under Clause C1.9 and Clause 3.7.1 of BCA Volume One 2019 and Two are deemed to apply where AS 3959 references non-combustible.

3 AS 3959:2018 Construction in Bushfire Prone Areas

AS 3959 is primarily concerned with improving the ability of buildings in designated bushfire-prone areas to better withstand attack from bushfire thus giving a measure of protection to the building occupants (until the fire front passes) as well as to the building itself.

Improving the design and construction of buildings to minimise damage from the effects of bushfire is but one of several measures available to property owners and occupiers to address damage during bushfire. Property owners should be aware that AS 3959 is part of a process that aims to lessen the risk of damage to buildings occurring in the event of the onslaught of bushfire. Other measures of mitigating damage from bushfire fall within the areas of planning, subdivision, siting, landscaping and maintenance.

It should be borne in mind that the measures contained in AS 3959 as well as this advisory note cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature and behaviour of fire, and extreme weather conditions.

AS 3959 is limited to sites where the Bushfire Attack Level (BAL) has been determined as BAL—



LOW, BAL—12.5, BAL—19, BAL—29, BAL—40 or BAL—FZ. BAL means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per metre squared, and the basis for establishing the requirements for construction to improve protection of building elements from attack by bushfire.

4 External Wall AS3959 Compliance

AS 3959-2018 Clause 5.4, 6.4, 7.4, 8.4 and 9.4 for BAL 12.5, BAL 19, BAL 29, BAL 40 and BAL FZ respectively details the requirements for external walls. The exposed components of an external wall that are less than 400mm from the ground or less than 400mm above decks, carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110mm in width from the wall requires specific requirements for compliance in accordance with AS 3959 for BAL 12.5 to BAL 19. This requirement is that the material must be tested in accordance with AS 1530.8.1 or be non-combustible. Within this location Vitracore G2 panel can be used. Outside of this location Vitrabond A2 or FR can be used. This is because AS 3959 does not provide construction requirements for the exposed components of an external wall that are 400mm or more from the ground or 400mm or more above decks carport roofs, awnings and similar elements or fittings having an angle less than 18 degrees to the horizontal and extending more than 110mm in width from the wall in BAL 12.5 to BAL 19.

Exposed parts of an external walls of BAL 29 or 40 under Clause 8.4 of AS 3959 requires that material must be tested in accordance with AS 1530.8.1, be non-combustible or a combination of the requirements. This applies to the entire wall.

Exposed parts of an external walls of BAL FZ under Clause 9.4 of AS 3959 requires that materials must be tested in accordance with AS 1530.8.2 from the outside, be non-combustible, a system with a Fire Resistance Level (FRL) of 30/30/30 or a combination of the requirements. It is recommended that within a BAL FZ location that the external wall incorporate an FRL of at least 30/30/30 between the building frame and external Vitracore G2 panel.

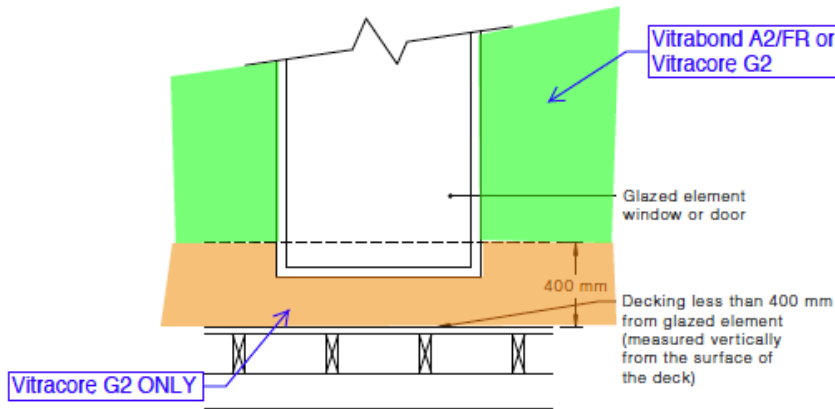
The Vitrabond A2/FR or Vitracore G2 Panel is permitted to be used in the areas detailed above in accordance with AS 3959.



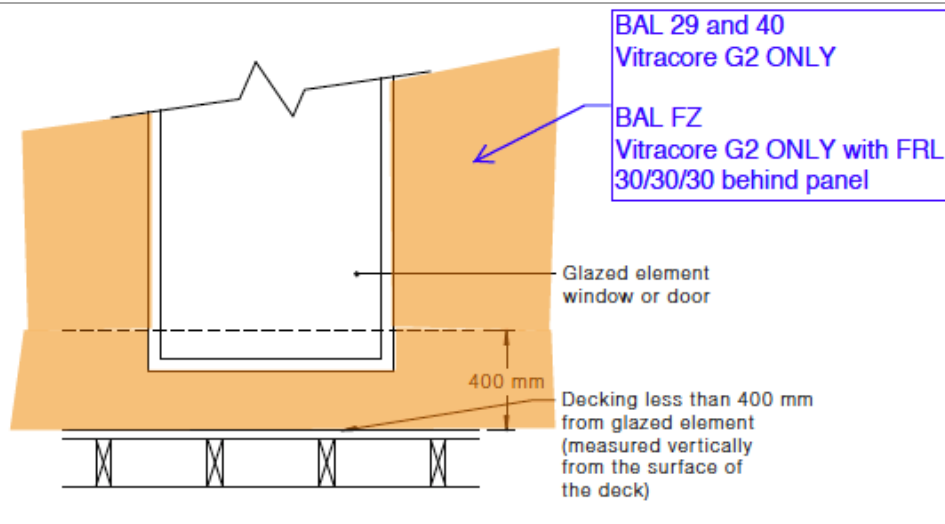
5 External Wall AS3959 Graphic Compliance

The following graphic details in each BAL the location requirements of external walls.

BAL 12.5 to BAL 19 – Elevation View



BAL 29, 40 and FZ – Elevation View



6 Conclusion

In the opinion of Ignis Solutions, the Vitrabond A2/FR as well as the Vitracore G2 product can be used as part of the external wall of a building located in a designated bushfire prone area depending on the BAL value requirements. The panels are to be mechanically fixed, either direct screw or cassette in accordance with Fairview installation instructions.

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