CLADDING AND FIRE SAFETY: Could Grenfell happen here?

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Introduction

This paper addresses concerns about the fire safety of aluminium composite panel (**ACP**) cladding systems that have arisen globally following a number of high rise fires. We address:

What the concern is with ACP cladding and fire safety;

What the New Zealand building code and standards require and the adequacy of applicable standards and certifications in light of recent international and national investigations;

Where responsibility and liability may lie in relation to non-compliant cladding, including both legal liability and the response of the insurance industry;

Potential legislative and regulatory solutions being considered in Australia and the UK;

Practical steps that those in the building industry, the property market and the insurance industry can take pending further legislative or regulatory clarification.

What is the Problem?

1. In recent years, a number of fires on high rise buildings have occurred across the world. The rapid spread of fire on the exterior of these buildings has resulted in extensive property damage, homelessness and loss of life.

   (a) United Kingdom

   - The Grenfell Tower fire of June 2017 is known to have claimed the lives of 71 residents. The highrise apartment building was clad with aluminium composite panels (**ACP**) which burned and melted allowing the fire to spread vertically up the side of the building at a rapid rate.
   - ACP cladding has been identified as a contributing factor to the speed and severity of the fire.
   - Instructions not to evacuate, building defects, a lack of maintenance and the absence of working smoke detectors or sprinklers may also have contributed to the casualties.

   (b) China

   - In November 2010, at least 58 residents died as the result of a fire which engulfed a 28-storey ACP-clad building in Shanghai. The fire reportedly spread on the outside of the tower from the ninth to the 28th floor in **7 minutes**.

- In January 2011, fireworks ignited aluminium cladding on the exterior of a 37-storey building in Shenyang, China.

(c) Dubai

- Several fires spreading up the exteriors of residential and commercial buildings up to 79 storeys high, including the infamous Torch Tower fires of 2015 and 2017, have caused the UAE to ban non-fire rated aluminium cladding.

(d) Australia

- November 2014 - Lacrosse Apartment Building, Melbourne

(1) The fire started from a discarded cigarette on the balcony of one unit. The fire spread up the exterior of the building in less than **8 minutes**.

(2) The product used was Alucobest, an ACP product that is approximately 4mm thick with a polyethylene core binding the panels.

(3) Following this fire, the Victorian Cladding Taskforce was formed to investigate the fire performance of ACP and the risk these materials posed to life and property. The Taskforce is also investigating expanded polystyrene (EPS) cladding.[1]

(e) To date, New Zealand has not had any high rise fires contributed to by ACP cladding. However, recent ACP cladding investigations carried out by local bodies in Auckland, Wellington and Christchurch have found buildings in each of those centres clad with potentially flammable ACP products.[2]

2. ACP products are flat panels, generally 3-6mm thick, consisting of two thin aluminium sheets bonded to a non-aluminium core (such as polyethylene or a mineral product).

(1) Over the last 10 to 20 years, there has been a boom in the use of ACP products both in New Zealand and worldwide. ACP has been attractive to architects, engineers and developers because it is lightweight and malleable. It has also been popular for aesthetic reasons as it comes in a variety of colours and finishes. It has even been suggested that ACPs may contribute to the energy efficiency and weather proofing of an external wall.

(2) A key contributor to the concerns posed by ACP cladding has been the proliferation of imported building products in New Zealand and Australia from the 1990s onwards, many of which lack any New Zealand or Australian certification as to fire rating.

(3) The problem is that the polyethylene that comprises the core is a petroleum product and because ACP cladding is essentially a sandwich, the core is exposed vertically. In a recent ABC Four Corners documentary examining cladding products with a polyethylene core, Australian Fire Safety Engineer, Mr Tony Enright stated that:[3]

> *A kilogram of polyethylene will release the same amount of energy as a kilogram of petrol, and it gets worse than that because polyethylene is denser than petrol too, so a kilogram of polyethylene is like about … one and a half litres of petrol. If you look at a one metre by one metre square section [of polyethylene core ACP cladding] that will have about three kilograms, the equivalent of about five litres of petrol.*

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1 EPS is another type of combustible cladding that is under investigation in Australia. Like ACP cladding, EPS products come in a fire retardant as well as non-fire retardant form. In New Zealand, EPS is used in insulation panels. MBIE have not mentioned concern in relation to EPS products.

2 See https://www.radionz.co.nz/news/national/354194/13-auckland-buildings-found-to-contain-combustible-panels.

3 Four Corners "Combustible" (31 August 2017) ABC <http://www.abc.net.au/4corners/combustible/8859420>.

3. All ACP products, whether claimed to be fire-resistant or non-fire resistant, contain some percentage of polyethylene.

   (a) Some ACP products have 100% polyethylene core and are readily combustible (the type referred to by Australian Fire Safety Engineer Tony Enright).[4]

   (b) Some have a core that is a mixture of polyethylene and minerals that burns less quickly (typically approximately 30% polyethylene). These products, however, are still combustible although depending on what they are used with, cladding systems containing them may be compliant with international standards.

   (c) Some have a predominantly mineral core with only a small amount of polyethylene used as a binding agent (typically <7%). These products likely comply with existing building code requirements for fire rating.[5]

4. There are also some newer products with an aluminium honeycomb core that do not contain any polyethylene. Strictly speaking these are not ACP products.[6]

5. However, it can be difficult to know whether and the extent to which any given product does offer fire resistance and, if so, on what basis that is asserted.

   (a) The products look alike so it is hard to tell visually.

   (b) A building may have been issued a code of compliance certificate but be silent on compliance with the C3 provisions of the building code.

   (c) There is also a problem that even if a "fire resistant" product was specified in the plans, the product may have been changed during construction since non-fire resistant products are cheaper.

      - Many construction contracts permit substitutions of products by the contractor.
      - This reportedly occurred on the Grenfell building where fire resistant cladding was specified by the architect, but ACP cladding that was not fire resistant was installed by the contractor.
      - Anecdotally, this has occurred on more than one building in Auckland.

   (d) Finally, even if you know you are putting on what the manufacturer claims is a fire resistant product, it can be difficult to know what this means.

      - Promotional materials and product brochures employ terms such as 'fire retardant', 'fire resistant', 'flame retardant', 'non-combustible', and 'mineral core' without explaining what is meant by these terms and the explicit standards and tests such terms refer to or are based upon.
      - For example, one particular product was advertised in the product catalogue as having a "non-combustible mineral core". On inquiry, we were advised this means it has less than 30% of combustible ingredients within the core material compared to 100% combustible materials in its non-fire resistant equivalent. We note the fire-rated product does have certification that it meets some (but not all) of the fire resistance requirements of the building code discussed below. However, for the purposes of the building code, it is not "non-combustible" (in contrast to, say, concrete, which does not burn).

4 Id.

5 Ministry of Business, Innovation and Employment Reaction to fire performance of aluminium composite panels (May 2016) at 3.

6 Tony Enright, 'Product Assurance – ACP Cladding Review, Stage 2: Audit of CodeMark Certificates of Conformity' (19 November 2017).

What do the New Zealand Building Code and Standards say?

The building code

6. The requirements of the building code in relation to resistance to fire are set out in C1-C6 and Clause A3.

7. For ACP cladding, the key focus is on Clause C3 – fire affecting areas beyond the fire source; i.e., the spread of fire.

   (a) Functional requirements:

   - C3.1: Buildings must be designed and constructed so that there is a low probability of injury or illness to persons not in close proximity to a fire source.
   - C3.2: Buildings with a building height greater than 10 m where upper floors contain sleeping uses or other property must be designed and constructed so that there is a low probability of external vertical fire spread to upper floors in the building.
   - C3.3: Buildings must be designed and constructed so that there is a low probability of fire spread to other property vertically or horizontally across a relevant boundary.

   (b) Performance requirements C3.4-C3.9 include:

   - C3.5: Buildings must be designed and constructed so that fire does not spread more than 3.5 m vertically from the fire source over the external cladding of multi-level buildings.
   - C3.7: External walls of buildings that are located closer than 1 m to the relevant boundary of the property on which the building stands must either:

     (a) be constructed from materials which are not combustible building materials, or

     (b) for buildings in importance levels 3 and 4, be constructed from materials that, when subjected to a radiant flux of 30 kW/m2, do not ignite for 30 minutes, or

     (c) for buildings in Importance Levels 1 and 2, be constructed from materials that, when subjected to a radiant flux of 30 kW/m2, do not ignite for 15 minutes.[7]

   (c) Clause A3 of the building code outlines building importance levels to be assigned to buildings. A building is given an importance level (1-5) determined by risk to human life, the environment, economic cost and other risk factors in relation to its use.

   (d) Importance level 2 will normally cover multi-storey residential and commercial buildings.

Demonstrating compliance

8. In order to demonstrate compliance, cladding products must comply with the fire performance requirements of the building code through:

   (a) Acceptable Solutions C/AS1 to C/AS7, depending on the type of building the product is used on:

   - C/AS1 applies to houses, townhouses and small multi unit buildings as well as outbuildings.

7 In addition, C3.4 addresses performance of internal linings; C3.6 addresses radiation levels at and 1 m beyond boundaries; C3.8 addresses fire cells; and C3.9 addresses redundancy of fire safety systems.

- C/AS2 includes, among other structures, permanent accommodation, e.g., apartments, and so would cover high-rise residential apartment buildings.
- C/AS5 includes, among other structures, commercial offices, and so would include high rise office buildings.

and / or,

(b) Verification Method C/VM2, or

(c) Providing certification for the product, or

(d) Presenting an alternative solution.

Acceptable Solutions / Verification Method

9. In January 2017, the New Zealand Ministry of Business Innovation and Employment (MBIE) amended Acceptable Solutions C/AS2–7 placing a restriction on the use of combustible external cladding systems.

(a) Prior to this amendment, buildings up to 25m high with sprinkler protection required no testing of the external cladding system. Now, all cladding systems for buildings over 7m in height must undergo a fire test.

(b) Lacrosse (where the fire started on a balcony) demonstrated that New Zealand's traditional approach to fire safety, i.e. centred round fires starting inside the building which could be controlled with sprinkler systems and evacuation plans, did not fully address combustible cladding and the rapid spread of fire up the exterior of a building.

10. Generally, the Acceptable Solutions and Verification Method C/VM2 refer to one or more of three tests to demonstrate compliance:

(a) ISO 5660.1:2002 (small scale test),

(b) AS/NZS 3837:1998 (small scale test), and

(c) NFPA 285:2012 (full scale test). NFPA is a US standard

- Testing is designed to expose an element of the building to a certain level of heat for a period of time. The element passes the test if it survives the heat for the prescribed period of time without catching fire.
- The small scale tests involve exposing a 100x100x50mm piece of the material to 50/kW/ m2 irradiance to determine the heat release rate of the material. This is determined by measuring the oxygen consumption and the measure of time before the product ignites.
- The full scale test involves exposing a two-storey test structure to fire and testing the spread of fire on the exterior of the structure, the spread from one storey of the structure to the other, and whether the fire can be contained in the space where it started.

11. C/AS1, 2 and 5 include Appendix C7.1.1. This addresses the properties of external wall cladding systems and provides:

(a) These shall be determined in accordance with the ISO 5660 test;

(b) In addition to meeting the general requirements of ISO 5660 Part 1, testing shall be in accordance with certain specified requirements relating to heat applied, duration of test and the like.

12. C7.1.5 requires that cladding with a combustible core between metal facings where the metal has a melting point of less than 750^{o}C must be tested without the metal facing.

(a) The comment to C7.1.5 explicitly notes that aluminium has a melting point of less than 750°C.

(b) This means that ACP cladding must be tested without the metal casings sandwiching the polyethylene centre.

(c) Because of its combustibility, a pure polyethylene centre will **NOT** comply with ISO 5660.

(d) Some ACP products with mineral based cores using only small amounts of polyethylene for binding may comply with ISO 5660.

Is the current testing regimen adequate?

13. One question raised by commentators following the Lacrosse and Grenfell fires was whether small scale tests such as ISO 5660 are really designed to achieve an acceptable fire rating for cladding products, where a major concern is the speed of inter-storey spread of a fire.

14. It has been argued that only full scale testing of the combustibility of cladding as part of a wall structure can measure this.

(a) The ABC Four Corners documentary opined that there is no such thing as an ACP product that complies with Australian standard AS 1530.[8]

(b) The test under AS 1530, as demonstrated in the Four Corners documentary, showed ACP cladding with a PE core as failing the combustibility test in mere minutes with the fire resistant cladding faring better, but still not passing the standard to be deemed a non-combustible building material.

(c) Furthermore, the tests provided for under AS 1530 are premised on a test of components and are not designed to test the combustibility of ACP cladding as part of a wall structure.

15. Concerns raised with adequacy of the current testing regimen in Australia led the Australian Building Code Board (ABCB) to adopt an out of cycle amendment to the National Construction Code (NCC) in relation to fire safety and the combustibility of external walls.[9] The changes were adopted by the States and Territories in March of this year.

16. Among the changes is the introduction of a new verification method (CV3) as a means of demonstrating compliance with CP2 for avoiding the spread of fire via an external wall.

17. CV3 refers to a new testing standard, AS 5113-2016 “Fire propagation testing and classification and classification of external walls of buildings” which is a full scale façade testing procedure based on international standards ISO 13785.2 and BS 8414 Parts 1 and 2 – either test can be used to satisfy the first limb of AS 5113.

18. However, even full scale testing standards have come under criticism for not fully representing the situation in which a cladding system being tested will be installed. For example, following Grenfell, the Association of British Insurers (ABI) commissioned the Fire Protection Association to undertake a study of BS 8414. The February 2018 study report identified five key areas of concern:

(a) The BS 8414 test uses a wood fire whereas fires in most modern buildings include plastic components which the study showed increased the height and intensity of flames.

(b) The BS 8414 test assumes “perfect encapsulation” – apart from a window, the cladding system test model was installed essentially as a sealed unit without any other breaches such as vents, ducts and pipes which the UK permits to be installed through the external

8 This test is a small scale test using a cone calorimeter, similar to ISO 5660.1.

9 Australian Building Codes Board. (2016). National Construction Code Volume One, Amendment 1 - Building Code of Australia Class 2 to Class 9 Buildings.

façade without fire-stopping. These features can provide a path to communicate fire into a cladding system's void.

(c) The BS 8414 test perfect encapsulation also potentially under-reflects the flow of oxygen through as-installed cladding, thus under-estimating potential spread due to chimney effects.

(d) The BS 8414 test includes cavity barriers – these are made of intumescent material – i.e., material that expands in heat – and are intended to block heat / fire travelling up through the cavity. However, it is not clear that cavity barriers will expand in time where there is the possibility of exposure to direct flame in the cavity.

(e) As per Tony Enright, NFPA 285 also includes cavity barriers. These are not commonly installed in New Zealand, meaning the results of this test will not replicate fires in actual buildings.

(f) The BS 8414 test contemplates that there will be no detailing differences between certification and in-use application. This may well not be the case.

19. The ABI / FRP study, issued on 22 February 2018, concluded that "the BS 8414 test … may not give designers, specifiers or insurers confidence that cladding tested to it will ensure the level of building fire safety that is currently inferred by its use."[10]

20. The study report was provided to Dame Judith Hackitt's Review of Building Regulations and the Grenfell Inquiry. In its submission, the ABI called for an end of all but non-combustible materials in construction and a testing regime that more accurately reflects real world construction conditions.[11]

21. It remains unclear how MBIE will respond to these developments in terms of review of the existing New Zealand testing regimen.

Product Certification

22. The product certification regime was set up under the Building Act 2004.

(a) Sections 268-269 permit the proprietor of a building product or method to apply to an accredited certification body for certification of that product or method as complying with the building code in the certified respects.

(b) The certification body is required to conduct an annual audit of the building product or method to which the certification relates in order to confirm continued compliance (Building Act s 270).

23. Councils are required to accept these certifications as proof of compliance – section 19(1)(d) of the Building Act 2004 requires the building consent authority to accept as establishing code compliance a current product certificate issued under section 269, if every relevant condition in that product certificate is met.

24. In New Zealand, accredited certification is provided through CodeMark. CodeMark is a trans-Tasman product certification scheme operating under MBIE. Manufacturers can apply to CodeMark to have a product certified as meeting the requirements of the New Zealand building code in accordance with section 269 of the Building Act.

(a) MBIE promotes accreditation as providing a marketing advantage to manufacturers by providing assurance to consumers that a product complies with the building code.

10 Association of British Insurers 'Cladding Approvals: A review and investigation of potential shortcomings of the BS8414 standard for the approval of cladding systems such as those commonly used on tall buildings' (22 February 2018), at page 44.

11 Id.

(b) Certified products are listed on MBIE's product register.

(c) CodeMark certificates do not remove the need for building consent or building consent authority inspections during the building process.

25. It is important to read CodeMark certificates carefully to see precisely what product is being certified and for which of the building code performance standards.

(a) CodeMark certificates only certify the specific product(s) mentioned in relation to the specific provisions of the building code noted on the certificate.

(b) Not all products of a manufacturer are necessarily certified.

(c) The products that are certified may only be certified in relation to some of the building code provisions.

(d) There may be limitations noted on the certificate

26. Example A: CodeMark certificate for "PSP's AlucoBuild & Alpolic/fr ACM Panel Cladding System":

(a) AlucoBuild is not certified for protection from fire at all.

(b) Alpolic/fr is certified to comply with C3.4(a) (relating to internal surfaces and linings) and C3.5 (buildings to be designed and constructed so that fire does not spread more than 3.5m vertically from the fire source over the external cladding of multi-level buildings).

27. Example B: CodeMark certificate for Symonite (Alubond) Cladding Systems.

(a) This covers three Alubond products: Alubond; Alubond FRB1 and Alubond FRA2.

(b) Alubond is not certified for protection from fire at all.

(c) Alubond FRB1 and Alubond FRA2 are certified to comply with C3.5 (vertical fire spread of less than 3.5 m over cladding), C3.7(a), (b) and (c) (fire requirements for external buildings located closer than 1 m to the boundary of the property on which the building stands); and clause 5.8 of C/AS1-C/AS7 (external wall cladding system tested in accordance with Appendix C C7.1 – ISO 5660 – and also satisfies specified requirements).

28. From reviewing these certificates, it is apparent that the Alubond and the Alpolic fire rated products are both certified for C3.5 but beyond that they have different certifications. Exactly what that means and how they compare may well be unclear to a layperson and you may need to consult a fire engineer for advice.

Is the certification process adequate?

29. Recently, concerns have been raised about the sufficiency of certain CodeMark certificates. Following Grenfell, MBIE commissioned Tony Enright to undertake an audit of ACP cladding certifications issued by CodeMark. His 19 November 2017 audit report (**Enright Report**) was leaked to the media in April 2018.[12] The Enright Report recommended suspending 6 CodeMark certificates relating to 13 products (which comprise the most commonly used ACP products in the New Zealand market).

(a) Of particular concern were 6 'FR' products which claim to be non-combustible or fire-resistant. Tony Enright notes that these claims are untrue as all 6 products have a core with 20-30 percent PE making it impossible for the products to meet the non-combustibility standard and unlikely to be fire resistant.

12 Phil Pennington 'Leaked report urges suspension of aluminium composite panels on high-rises' 4 April 2018 <https://www.radionz.co.nz/news/national/354048/leaked-report-urges-suspension-of-aluminium-composite-panels-on-high-rises>.

(b) Other deficiencies with the CodeMark certificates found by the audit reportedly include:

- Certificates issued without evaluations by a Certification Body;
- Lack of supporting information as to claimed compliance with building code requirements;
- The use of and reliance on out-dated testing;
- The use and reliance on testing that does not represent construction conditions in New Zealand – for example testing done with cavity barriers which are not commonly used in New Zealand; and
- The omission of relevant limitations and other conditions on certificates.

30. Mr Enright has also audited the equivalent Australian certifications for the products and has recommended their withdrawal. In the Enright Report, he comments that the AS 5113 standard is more stringent than the New Zealand standards and so the certificates more clearly fall short.

31. CodeMark (New Zealand) and CertMark (Australia) have defended their certifications. It is worth noting that shortly after the Grenfell fire, CertMark advised that its certificates pertain only to the product when tested in accordance with a small scale test such as ISO 5660.1:2002 or AS/NZS 3837:1998, and do not certify compliance as part of a building wall where other factors such as combustible insulation, poorly installed cavity barriers, vents in the wall, and other deficiencies may present.[13]

32. On 26 July 2018, MBIE announced that it has now suspended the certifications for the six ACP products that were the subject matter of the Enright report.[14] MBIE has stated that it has suspended the certificates due to inadequate supporting evidence of compliance rather than identified concerns about safety. Manufacturers now have the opportunity to obtain / provide the necessary supporting evidence. If they fail to do so, MBIE may revoke the CodeMark certificates.

33. In the meantime, Auckland Council and other Building Consent Authorities (BCAs) can no longer accept CodeMark certificates as product compliance with the building code. BCAs are now required to consider product use on a case-by-case basis when assessing a building consent, including those for which a building consent application has been received but not yet issued.

Alternative Solutions

34. MBIE notes that the performance requirements of building code clauses C3.5 (vertical flame spread not more than 3.5m) and C3.7 (no ignition when subjected to specified heat flux for specified period) are quantitative.[15] Accordingly, an alternative solution could demonstrate direct achievement of these minimum requirements. Alternatively, a solution could show that the product had satisfied a standard or test method that was equivalent to or more rigorous than C/AS1 to C/AS7 or C/VM2.

13 CertMark International, 'CMI Advisory note: Combustible Facades' June 28 2017 < https://certmark.org/articles/2017/06/cmi-advisory-note-combustible-facades>.

14 The following products have been suspended under section 271 of the Building Act 2004: CMA-CM40035 (Alucobond Cladding Systems); CMA-CM40075-I01-R01 (Apolic FR ACM Panel Cladding); CMA-CM40100 (Larson FR); CMA-CM40094 (Symonite (Alubond) Cladding Systems); CMA-CM40111-I02-R03 (Symonite Cladding Systems (Reynobond FR)); and CMA-CM40193-I01-R01 (Vitrabond FR Cladding System).

15 Above n 5, Reaction to fire performance of aluminium composite panels at 12.

Who is Responsible – exposure of Designer, Manufacturer, Importer, Contractor, Certifier / Council, Building Owner?

35. So who is likely to be held responsible for the costs of remediating buildings that have non-compliant ACP panels if that is what is required? In many cases, buildings will have been constructed more than 10 years ago and so will fall outside the longstop cut-off under the Building Act. In those instances the cost will likely fall and stay on current and future owners.

36. In non-time-barred cases, however, liability is likely to be similar to the 'whole supply chain' approach in 'leaky building' claims for defective building work. Depending on the facts, liability for the loss / damage will likely be apportioned between the contractor, architect / fire engineer and certifier/ council and potentially the product manufacturer.

37. The bases of liability of parties involved in a construction project for defects have been well established in the leaky building context and I will not repeat them here. Several developments over recent years, however, warrant particular mention.

Obligations under the Building Act 2004

38. Builder responsibilities are set out in section 14E of the Building Act 2004 and include that the building work shall comply with the building consent, plans and specifications.

39. The legislation also provides that residential building contracts entered into on or after 1 January 2015 contain implied warranties that:

    (a) Building work will be carried out competently and with reasonable care and skill,

    (b) Building work will be carried out in accordance with the building consent, plans and specifications,

    (c) Building work will comply with all laws including the Building Act and building code,

    (d) Materials used will be suitable for purpose,

    (e) If the household unit is to be occupied upon completion of the building work, it will be suitable for occupation.[16]

        - Non-fire-resistant ACP cladding might well be deemed not fit for purpose.
        - If the consent documentation specified fire-rated ACP cladding and the contractor substituted non fire-rated ACP cladding, then there would also be a breach of the warranty that that the building work had been carried out in accordance with the plans, specifications and consent documents.

40. Where owners are commercial on-sellers, the above warranties are also implied into their contract for on-sale.

    (a) An on-seller is a person who builds a household unit or arranges to have one built for the purposes of on-selling it, or purchases such a unit in trade. This is similar to the common law concept of developer.

    (b) In this event, the contract of sale between the on-seller (developer) and the subsequent purchaser is taken to be a contract for the building work *already carried out or still to be carried out* on that residential unit.

    (c) The contract of sale is taken to incorporate *as the obligations of the on-seller* the obligations of the building contractor under a residential building contract.

16 Building Act 2004 ss 362H to 362II.

41. The warranties apply for 10 years and apply to contracts entered into on or after 1 January 2015 (for contracts prior to that, old sections 396-99 also set out warranties and continue to apply to all contracts entered into between 30 November 2004 and 1 January 2015).

42. Section 362J of the 2004 Act expressly provides that any subsequent owner may take proceedings for breach of the implied warranties.

43. You cannot contract out of the right of a purchaser to bring proceedings except to the extent that a breach of the warranties (i.e. the defective building work) is actually known (i.e. disclosed) to the purchaser or the purchaser reasonably should have known of it at the time they entered into the relevant contract (s 362K).

Potential Obligations under the Health and Safety at Works Act

44. Owners of ACP clad commercial buildings have obligations under health and safety legislation.

    (a) Under the Health and Safety at Works Act a commercial property owner is a Person Conducting a Business or Undertaking (**PCBU**).[17]

    (b) As a PCBU the commercial owner has a duty of care to ensure, so far as reasonably practicable, the health and safety of everyone involved with or affected by work on or at the property.[18]

45. The question may be asked as to whether, on any given building, non-fire-rated ACP cladding poses an unacceptable risk to the health and safety of people working in the building, exposing the building owner to potential liability.

46. Equally, residential buildings on which building work is undertaken will be workplaces and owners of those buildings will be PCBUs in relation to that work, required, at a minimum, to consult to ensure appropriate health and safety precautions are taken – e.g., no open flame tools used on the cladding.

Product Liability

47. Manufacturers and suppliers of ACP cladding will almost certainly face exposure in relation to claims arising from use of non-fire-rated ACP cladding in buildings.

48. Section 14G(2) of the Building Act 2004 (came into effect on 28 November 2013) provides that a product manufacturer or supplier is "responsible for ensuring that the product will, if installed in accordance with the technical data, plans, specifications and advice prescribed by the manufacturer, comply with the relevant provisions of the building code".

49. However, these obligations are only imposed on manufacturers or suppliers who state that their product will comply with the relevant provisions of the code (14G(1). Not every manufacturer / supplier (and very few foreign manufacturers / suppliers) makes such statements. It may be prudent to ask the supplier for a product technical statement which should include a statement as to what provisions of the code the product complies with. If they decline to provide one, BEWARE.

50. Quite apart from statutory obligations, in recent years, in the leaky building context, we have seen claims brought against manufacturers of cladding sheets for panelised cladding systems alleging that these cladding sheets have inherent defects.

    (a) In *Carter Holt Harvey Ltd v Minister of Education*,[19] the Supreme Court refused to dismiss claims, alleging defective cladding installed on school buildings, brought by the Minister of Education against the cladding manufacturer.

17 Health and Safety at Works Act 2015, s 17.

18 Section 36.

19 [2016] NZSC 95.

- The Court considered there was an arguable case that a cladding manufacturer owed duty of care to purchasers of buildings with defective cladding.
- The Supreme Court also held that the contract of supply of the products was not a contract for "building work" under the Building Act and so was not subject to the 10 year longstop provisions of that Act.[20]
- For actions to which the Limitation Act 2010 applies, the claims would, however, be subject to the 15 year longstop of that legislation.

(b) In *Cridge v Studorp*,[21] the High Court certified a class action against James Hardie New Zealand Ltd (**JH**) brought by owners of leaky homes clad with JH cladding who alleged that the products had inherent defects such that they were bound to cause water ingress and could not be installed in real world conditions in a manner to avoid that.

- The issues certified were:
  (1) Whether JH owed the owners a duty of care in tort,
  (2) Whether JH had breached that duty,
  (3) Whether statements made in JH technical literature were misleading and deceptive for the purposes of the Fair Trading Act
- The Court of Appeal declined to strike out the class certification, observing that:[22]

> Although manufacturers have been held to owe a duty of care to consumers ever since *Donoghue v Stevenson*, there has never been a concluded claim in New Zealand for pure economic loss against a cladding manufacturer. To that extent, *but to that extent only*, the duty pleaded is a novel one. (Emphasis added)

- The Court of Appeal also considered that issues of proximity, policy, breach and misleading statements in technical literature could be determined by reference to common factual matrix.

51. These cases could well pave the way for class actions against manufacturers and suppliers of ACP cladding, alleging (non-exhaustively) negligence, negligent misstatement, and statutory liability, e.g., under the Fair Trading Act.

The Australian Experience

52. In Australia, disciplinary and civil proceedings have been brought against various construction professionals responsible for the construction of the Melbourne Lacrosse Apartments.

(a) Disciplinary proceedings:

- The Victoria Building Authority (VBA) referred the following practitioners responsible for the project to the Building Practitioners Board: the fire safety engineer, the registered builder and the relevant building surveyor.
- The architect's conduct was also referred to the Architects Registration Board of Victoria. The Architects Registration Board has determined not to proceed with any action against the architect.

(b) Civil proceedings

20 At [129] – [131].

21 [2016] NZHC 2451.

22 [2017] NZCA 376 at [27].

- The owners of the Lacrosse building commenced proceedings in the Victorian Civil and Administrative Tribunal against the builder and various consultants involved in the construction process for the use of Alucobest cladding on the exterior of the building.
- The owners have claimed more than $15 million in damages from the builder for the role ACP cladding played in the rapid spread of fire responsible for the extensive property damage.
- The litigation is ongoing and it is forecasted that the claim will proceed to trial in September 2018.

What are the Insurance Implications?

53. Obligation to disclose

    (a) Insureds have a duty to disclose material information to their insurers. This obligation is ongoing and extends to new information learned after the policy is in place and changes to the material facts. Insureds have a duty to notify their insurer of any changes which may alter the assessment of risk.

    (b) Australian insurance companies have indicated that there are implications for owners in existing buildings who discover that non-compliant cladding material has been used and do not disclose this to their building insurance company.[23]

54. With respect to buildings that do have ACP cladding, the general response of the insurance industry in Australia has been either to stop insuring ACP clad buildings or to raise premiums.

    (a) There have been instances in Australia where insurance cover has been declined following the disclosure of ACP cladding.[24] Indeed, we understand that that there are now only a very limited number of insurers willing to provide cover for buildings with non-fire-rated ACP cladding.

    (b) The Insurance Council of Australia (**ICA**) has noted that the use of non-compliant materials such as ACP cladding means that insurers are unable to rely on the safety of buildings, meaning that premiums will skyrocket to account for the increased risk.[25] Anecdotally, it appears premiums for buildings that can obtain cover have been doubled or tripled.

    (c) The Australian Institute of Building Surveyors has noted that insurers have started to insert exclusion clauses into professional indemnity insurance contracts, exposing consultants and contractors to potential personal liability for extensive property damage.[26]

55. In November 2017, Australian insurers agreed upon a Residual Hazard Identification Protocol to be used to assess risk in buildings clad with ACP products on a consistent, industry-wide basis. The Protocol comprises three steps to be taken:

    (a) Step 1 involves identifying what percentage of PE is present in the core of the panel. Four main categories have been identified; 50-100% PE, 30% PE, 7% PE and 0% PE

23 Owners Corporation Network Committee Hansard (19 July 2017) at 44 cited in Commonwealth of Australia Aluminium composite cladding: Non-conforming building products (September 2017) at 2.29.

24 Id.

25 Insurance Council of Australia Submission 152 at 2 cited in Commonwealth of Australia Aluminium composite cladding: Non-conforming building products (September 2017) at 2.27.

26 Australian Institute of Building Surveyors Committee Hansard (19 July 2017) at 20 cited in Commonwealth of Australia Aluminium composite cladding: Non-conforming building products (September 2017) at 2.30.

(note this is typically an aluminium honeycomb or similar core). Where it is unclear which product has been used, samples of the ACP, sarking and insulation must be tested.

(b) Based on the percentage of PE in the product, the exposure of the building must then be assessed. Exposure relates to both the health and safety of the occupants and the business interruption risk and risks to image / reputation.

(c) Depending on the fire risk, required remedial actions (if any) are then considered.

56. The Association of British Insurers has provided written evidence to the UK Independent Review on Building Regulations and Fire Safety. Among other things, the ABI evidence submits that:

(a) The use of combustible materials on cladding should be prohibited

(b) It is "doubtful that that the current testing regime accurately reflects how [ACP] panels re installed on the external envelope of a building in reality".

(c) Sprinkler systems should be mandated in certain properties.

(d) Building regulations need to be reviewed and should not just focus on health and safety but also improve property protection.

(e) The report concludes that "a building which has been constructed or refurbished with the bare minimum fire protection measures is not an attractive risk for insurers to provide cover for."

57. British insurance broker, Howden, has noted that Post-Grenfell insurers are asking more detailed questions before renewing PI policies and are likely to want information over the last 12 years.

(a) Insureds are being asked to disclose past projects or circumstances which may give rise to a claim. Common questions in PI renewals include:[27]

- Have you worked on, designed, installed, procured or specified any cladding for projects where Aluminium Composite Panels have been used?
- Please advise if you have been involved in any way with the testing, specification or sign off of any cladding system
- Please provide details of the five largest cladding projects that you have worked on, designed, installed, procured or specified.
- Do any of these projects exceed 18 metres in height?

(b) Further, insureds are being asked by present and former clients to comment on the cladding used on specific buildings and whether it complies with building regulations.

(c) Fire engineers asked to carry out fire risk assessments should disclose this to their insurer.

58. In New Zealand, the response has been less clear-cut. As noted earlier, following the Grenfell fire, New Zealand councils have been undertaking assessments of buildings with ACP cladding.

(a) Anecdotally, it is understood that, following inspection, a number of buildings with non-fire-rated cladding but which are, among other things, fully sprinklered, have been issued letters indicating councils will take no further action at this time.

27 Matt Farman, 'What insurers now ask policyholders, Post-Grenfell'< http://www.howdengroup.co.uk/en/knowledge-base/professional-indemnity/2016/the-new-questions-insurers-ask-post-grenfell/ >.

(b) Again, anecdotally, it is understood there have been significant raises in premiums for buildings where non fire rated ACP cladding has been disclosed to insurers (notwithstanding council no further action letters).

(c) It is also possible that insurers in New Zealand could follow suit of Australian insurers and insert exclusion clauses in PI policies (these are already common with respect to leaky buildings).

59. Finally, depending on policy wording, payment after fires may be limited to replacement of damaged panels, leaving owners to bear the cost of replacing the undamaged panels and components of the system themselves.

Where to from Here? Are there solutions?

Legislative and Regulatory Proposals

60. A number of proposals have been put forward in the various investigations undertaken as a result of the Lacrosse and Grenfell Towers. Some have been accepted; others are still under consideration.

The ABCB

61. As already discussed, the NCC 2016 Volume One has been amended out of cycle to introduce Verification Method CV3 which requires full scale façade testing in accordance with AS 5113.

(a) In addition, to the requirements previously mentioned:

- Where the external wall contains a cavity, there must be cavity barriers in place at the perimeter of each floor and the cavity barriers must have been installed when the external wall was tested under AS 5113.
- Buildings classified as Type A (3 or more storeys, high risk buildings – high rise apartment buildings, accommodation for elderly, people with disabilities, children, schools, hospitals) must be sprinklered throughout and all balconies must be sprinklered (regardless of floor size and depth). A more stringent requirement attaches to buildings greater than 25m in height which are required to have monitored stop valves. The valves increase the reliability of the sprinkler system and reduce the likelihood of the system failing during maintenance.
- Type B buildings (2-3 storeys, multi unit residential, public buildings including hoispitals and schools) must either be sprinklered throughout or have openings in the external wall separated by a slab or horizontal construction.

(b) The Amendment is accompanied by the following documents:

- The ABCB Advisory Note – Fire Performance of External Walls and Cladding clarifies the distinction between building components that are integral to an external wall and those which are ancillary, the Deemed-to-Satisfy Provision that applies to ancillary elements, bonded laminated materials subject to C1.9 (e)(vi), the Australian standard for automatic fire sprinklers, and Verification Methods for testing external wall assemblies for fire spread.
- A non-mandatory Evidence of Suitability Handbook. While adherence to the Handbook cannot prove compliance, it is developed to assist in interpreting and meeting the performance requirements of the NCC.

The Australian federal government

62. Following an extensive inquiry, the Senate Economic References Committee (the Committee) made 8 recommendations to the Australian Federal Government.

(a) The Committee's first recommendation was a total ban of the importation, sale and use of all PE core ACP products.

- In its response to the recommendations, the Senate declined to support a ban on ACP products on the basis that PE core ACP has valid usage (i.e. signage and low-rise buildings), products would be difficult to identify at the border, valuable border control resources would be diverted away from a ban on importation would divert border control resources, panels could be imported as raw materials.
- Instead, the Senate expressed support for the Queensland legislation which distributed responsibility along the supply chain as opposed to unduly focusing on manufacturers.

(b) Several of the recommendations were supported in theory but could not be implemented due to constitutional restraints. These included establishing a national licensing scheme, nationally consistent measures for accountability, a penalties regime for non-compliance and imposing a nationally consistent duty of care standard.

Australian States and Territories

63. A number of Australian States have enacted legislation to ban non-conforming building products.

(a) Victoria: Following the recommendations of the Victoria Cladding Taskforce, the Minister for Planning issued a guidance document which creates the presumption that a Type A or Type B building clad with ACP will not comply with the NCC unless there is convincing evidence otherwise satisfactory to the building surveyor / inspector.

- When considering whether to issue a building permit in relation to a building of Type A or Type B Construction, the relevant building surveyor should not be satisfied that proposed building work which includes the installation of a Prescribed Combustible Product as part of an External Wall (including as an attachment) would comply with the Act and Regulations unless the application for the building permit includes a determination of the Building Appeals Board that the installation of the Prescribed Combustible Product in relation to that application complies with the Act and Regulations.

(b) New South Wales: The NSW government enacted the Building Products (Safety) Act 2017.

- The Act grants powers to the Secretary to issue product bans and introduces penalties for contravening product bans and for misrepresenting a banned product or for falsely representing that a product is suitable for use in a certain building.
- On 15 August 2018, the NSW government issued a ban under section 9(1) of the Act to prohibit the use of ACP products with a core compromised of greater than 30 polyethylene in any external cladding.
- The Act also provides that information regarding affected buildings (those containing non-confirming ACP or other banned products) must be disseminated to the building owner, occupiers, relevant enforcement agency, fire services and the public if deemed necessary. Further, the Secretary may order remediation of affected buildings placing the burden on the building owner to rectify the building to eliminate or minimise the risk to safety.

(c) Queensland: Rather than enacting legislation to ban products, the legislation enacted in Queensland imposes duties and penalties on all parties in the supply chain.[28] The objective is to avoid over-reliance on the inspector at the end of the building process. The legislation defines those in the chain of responsibility to clarify where responsibility falls. Penalties apply where a party fails to comply with the statutory duty, or for failure to notify the Commissioner about the use of non-complying products.

(d) Tasmania: The Tasmanian Aluminium Composite Panel Audit Summary noted that of the 43 buildings where ACP cladding was identified, only one building, Launceston General Hospital, presented an unacceptable risk and required remediation. The Tasmanian Government's response reflects the low incidence of ACP cladding and general lack of high-rise buildings in Tasmania. The Hospital was clad with ACP in breach of the original approved design documentation and specification. In response to the audit, the Tasmanian government proposed to restrict the use of ACP, audit building surveyors and increase NCC compliance training.

(e) Western Australia and South Australia are have commenced audits. It is yet to be seen whether legislative responses in these states will follow.

(f) Australian Capital Territory has yet to commence an audit.

The UK response

64. The independent Grenfell Inquiry into the Grenfell Fire is still in its early stages. Following hearing all relevant evidence, a report will be presented to the Prime Minister.

65. The Independent Review of Building Regulations and Fire Safety (known as the Hackitt Inquiry) was formed to review the regulatory framework in the United Kingdom. The Hackitt Inquiry is ongoing but its interim report concluded that the current regulatory system for ensuring fire safety in high-rise residential buildings was overly complex, the roles and responsibilities of parties in the supply chain were unclear, the penalties imposed on parties for non-compliance are too weak and do not ensure compliance, and product certificates were unclear and it was not evident that products had undergone robust and reliable testing.

66. In April 2018, a report commissioned by the Metropolitan Police and prepared by the Building Research Establishment (**BRE**) was leaked to the media.[29] The report's key finding was that had the 2014 - 2016 refurbishment of the Grenfell Tower not been carried out, it is unlikely that the fire would have spread from the fourth floor where it originated. It was during this refurbishment that the polyethylene core ACP cladding was installed on the Tower's exterior.

67. As originally constructed, the Tower provided high levels of passive fire protection. The building was constructed of concrete and timber or metal fame windows.

(a) Several other aspects of the refurbishment failed to meet fire safety requirements.

- The installation of the windows permitted fire spread across the flats.
- The cavity barriers were the wrong size and were poorly installed and did not perform their function.
- The insulation was combustible and provided a medium for fire spread up the building.
- Many of the fire doors were not functioning.

28 The Building and Construction Legislation (Non-conforming Building Products – Chain of Responsibility and Other Matters) Amendment Act 2017.

29 Building Research Establishment (BRE) Global Client Report, 'Grenfell Tower Fire Investigation – On-Site Investigation' (31 January 2018) < https://www.standard.co.uk/news/london/shock-grenfell-dossier-reveals-disastrous-refurbishment-turned-tower-into-a-tinderbox-a3814866.html>.

- The fire fighting access to the building and the active fire protection measures were deficient. There was no wet rising main, sprinkler system or functioning smoke detectors.

68. The Ministry of Housing, Communities and Local Government (**MHCLG**) has established the Building Safety Programme to address fire safety concerns regarding high-rise multi residential buildings (over 18m in height). As part of this, the government is making ACP testing facilities available to owners of high risk buildings.[30]

New Zealand Response

69. Essentially, New Zealand is still in the fact-finding stage. As noted, following Grenfell, New Zealand local authorities have undertaken investigations to see how many buildings have ACP cladding.

(a) As of July 2018, Auckland Council had reviewed more than 215 buildings of which 116 have been confirmed as having polyethylene core ACP panels.[31]

(b) In Wellington 113 buildings have to date been identified as having some form of ACP cladding (mostly in the central city), and there may be more.[32]

(c) In Christchurch 7 buildings have been identified as requiring further investigation, none of them residential.[33]

(d) The Auckland Council has reported that none of the buildings it has reviewed to date are considered to pose a risk to safety. The buildings audited had one or more of the following mitigating factors:

- The use of ACP on the building was limited and / or used for decorative features.
- The building is fully sprinklered and other fire safety systems are present.
- The buildings have thorough and regular maintenance regimes.
- Use of spandrels to reduce the vertical spread of fire.
- The absence of external openings to the building.

(e) Wellington Council has also reported that it has found nothing of concern in the buildings it has investigated. In Christchurch, council has asked owners of the buildings requiring further investigation to conduct a safety review.

(f) As noted, based on the peer-reviewed Enright report, MBIE has suspended certain CodeMark certifications of ACP cladding products, pending provision of appropriate supporting data and reports.

70. While, as discussed, some limited tightening of the acceptable solutions has occurred, to date New Zealand has not adopted any new standards or legislation to address ACP cladding concerns.

Possible Insurance solutions

71. Another possible response would be to increase the use of Inherent Defect Insurance (**IDI**) (also known as latent defect insurance).

72. This is a type of cover where the owner of a building is insured for inherent or latent defects in the design or construction of the building discovered after completion. The policy normally

30 See <https://www.gov.uk/government/publications/safety-checks-on-private-residential-blocks>.

31 See <https://www.radionz.co.nz/news/national/354194/13-auckland-buildings-found-to-contain-combustible-panels>.

32 Id.

33 Id.

lasts for approximately 10 years giving owners recourse under the policy for something like the equivalent of the current Building Act longstop period.

(a) From the building owner's perspective, it offers the benefits of:

- A (hopefully) prompt pay-out, so that remediation work can start without delay and, crucially, before an actual fire occurs.
- No need to prove negligence in order to recover.

(b) Instead the insurer will assert subrogation claims against responsible parties.

73. Although used in Europe, IDI is relatively new to the New Zealand market. It normally takes the form of building guarantee insurance in which the builder guarantees against latent defects for up to ten years and the guarantee is then underwritten by an insurer. The policy is transferable to subsequent owners of buildings. In some instances, it will contain a waiver of subrogation rights as against the builder, although rights against other parties (e.g. designer and council) will remain. Not all latent defects may be covered – for example, the ten year guarantee may be limited to structural defects. So it is important to check the guarantee / policy.

74. Only a limited number of building guarantee products are presently available in New Zealand and typically apply to individual homes, rather than multi unit residential apartment buildings or commercial high rise buildings where ACP cladding poses the biggest problem. They include:

(a) The Home Buyers Building Warranty Insurance offered by Stamford Insurance. This is underwritten by Lloyd's of London and typically provides 2 years cover for all defects and 10 years cover for structural defects (including weathertightness).[34]

(b) Members of the Registered Master Builders Association (**RMBA**) can provide a Master Build Guarantee – this comes in a variety of forms, the standard guarantee is 2 years all defects, 10 years structural defects (including weathertightness).[35] The guarantee scheme is self-insured and is operated by Master Build Services, a business owned by RMBA.

(c) Members of New Zealand Certified Builders (**NZCB**) can provide Halo Guarantee Insurance which typically covers both structural (including weather-tightness) and non-structural defects for 10 years. Halo is managed by a broker and underwritten by Lloyd's of London.[36]

(d) For builders who are not RMBA / NZCB members, Builtin is the leading independent provider of building guarantees. These are typically 2 years non-structural defects and 10 years structural (including weathertightness).[37] Until recently, the guarantees were underwritten by CBL Insurance. However, when CBL was placed into interim liquidation earlier this year, the policies were taken over by Stamford.[38]

75. Unless members of NZCB or RMBA, smaller builders may be unable to procure building guarantee insurance for you, so your local builder may not have this. Where policies do apply, homeowners typically have to demand that the builder perform the remediation work and the

34 See <http://stamfordinsurance.co.nz/building-warranty-insurance/>.

35 See <http://www.masterbuilder.org.nz/RMBA/Master_Build_Guarantee/About_the_Guarantee/>.

36 See <https://www.nzcb.nz/guaranteed-peace-of-mind/>.

37 See <https://builtininsurance.co.nz/10-year-guarantees-benefits-homeowners-builders/>.

38 Stamford Insurance steps in to protect clients of CBL Insurance - NZ Herald , 6 March 2018: <http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12007492>.

policy only kicks in if the builder refuses or cannot do so. However, there is no need to prove fault or negligence.

76. From time to time, MBIE has considered making building guarantee insurance compulsory. This was first considered in 2009 after the onset of the leaky building crisis, but abandoned in favour of an education based approach under which owners could decide whether they wanted a building guarantee / insurance. More recently, in 2017, MBIE again considered the issue as a measure to protect homeowners in the event caps on council liability were adopted. To date, nothing has come from this.

77. Australian states have variously mandated some form of building guarantee insurance. However, this is typically of a "last resort" variety, under which home owners are forced to pursue potentially culpable parties before being able to claim under their policy. This removes the chief benefit of IDI – no need to prove fault to obtain a remedy.

78. It remains to be seen whether the ACP cladding issue will impact attitudes towards IDI and building guarantee insurance. The response from the insurance industry will doubtless be clarified over the upcoming years.

Practical Steps in the Meantime

79. In the meantime, there is the question of what you should do if you have a building that has ACP cladding / are considering buying a unit in a building that may have ACP cladding, or are being asked to insure such a building.

80. The following are among the steps it may be prudent to take:

(a) Check what sort of ACP cladding it is – if it has a CodeMark certification that may provide useful information, but check the specific code clauses the product is certified for and that the certificate is current. In particular, check the MBIE register to see if the certification is current or if it is one of the products for which certification has been suspended. Check the Enright report for the specifics of the problems identified with each product.

(b) Make sure the product installed is what was specified in the consent documentation – get the supplier / manufacturer to inspect.

- In that regard, there needs to be tighter control over the process of contractors substituting materials with 'equivalents'.
- If you are a developer, it may be prudent to address this contractually by a clause either prohibiting substitution or requiring equivalent certification to the original product.
- In a situation where substitution is permitted, contractors could be required to get approval from the Engineer to the contract, fire engineer or other appropriate consultant that the proposed product is truly equivalent and also Council approval.[39]

(c) If the ACP cladding is not certified by CodeMark, BEWARE:

- Check if the supplier / manufacturer has provided a product statement. If not, ask for one.
- Consider getting a fire engineer to assess any claims of being fire-resistant made in the product statement or technical literature.
- Do NOT accept a foreign certification (i.e. a certification to a foreign standard or a certification by a foreign body not accredited by MBIE). Check with MBIE as to

39 For advice on substitution see MBIE, Building Performance, Quick Guide to Product Substitution available on the MBIE web site.

whether any foreign standard is recognised in New Zealand and get the opinion of a fire engineer as to any such certification.

(d) If you are a developer / owner, consider hiring a builder who will provide you with building guarantee insurance.

(e) If you are an owner and your building has polyethylene core ACP cladding but has building guarantee insurance that might apply, consider whether you can make a claim.

(f) If you are purchasing a unit in a building where you know the cladding is polyethylene core ACP, check/ensure Council has inspected and given a no action letter.

- To date, these are not normally included on LIMs, so purchasers will need to ask the owner / Body Corporate. Auckland Council has released a list of buildings with ACP cladding so check that.

(g) Check if the building insurer has been notified and what the policy response has been.

(h) Check / ensure the building is fully sprinklered -- less risk of danger to life.

- Note, however, that the BRE on site investigation report into the Grenfell disaster, commissioned by the Metropolitan Police Service questioned whether sprinklers would have prevented the Grenfell fire.
- BRE observed that the fire started inside a fridge freezer adjacent to a window that was opened and that it was possible that the metal chassis of the fridge might have shielded the fire from an overhead sprinkler system (this possibility is to be tested as part of a reconstruction).
- Because of the proximity of the open window, the fire was able to spread rapidly to the exterior. BRE noted that in a block of flats sprinkler systems are only designed to discharge water to a maximum of four units at the same time and pumps, tanks, pipes and other components are sized accordingly. BRE therefore considered that once the fire had spread to the façade and taken hold on the interior of more than four units, a sprinkler system would be unlikely to have made a difference to the spread of the fire.
- BRE were therefore of the view that a sprinkler system installed to current UK standards could only have significantly altered the outcome of the fire if it had prevented the fire from leaving the flat of origin and igniting the cladding.
- Note: In New Zealand, we understand sprinkler systems are designed to supply 8 to 10 heads simultaneously. Depending on the size of the apartment, this would likely cover one to two, possibly three apartments. Essentially, the function of sprinklers is to contain the fire in the unit /area in which it starts for sufficient time to allow occupants to escape and the fire department to arrive and combat the fire.

(i) Check / ensure (if possible) balconies are sprinklered – the Lacrosse fire was started by a cigarette on an unsprinklered balcony.

(j) Consider having smoke detectors installed on balconies.

(k) Consider having body corporate rules limit smoking on balconies and / or use of equipment that will cause sparks – applies to barbeques and renovations.

(l) Incorporate recladding with a compliant product as part of the building's long term maintenance plan.

(m) Possibly consider as an interim measure replacing the cladding on the ground floor.

81. Many purchasers (like some insurers) may choose to reject buying into any building that has non-fire-rated ACP cladding.

82. Others may consider that if the relevant council is comfortable issuing a no further action for now letter (and the building has sprinklers and some or all of the other measures mentioned above), from a safety perspective the risk is low.

83. The issue then is the economic one – here the big ticket items are insurance and long term cost of replacement cladding. So long as both of these can be managed, ultimately, the risk profile may be acceptable.

84. It is important to recognise, however, that there remain major uncertainties:

    (a) Future legislative / regulatory changes that might lead Councils to rethink no action letters;

    (b) Changes to applicable testing standards / protocols that again may impact

        - No action letter stance
        - Future costs of remediation

    (c) The position taken by the insurance industry may change.

Concluding Comments

85. New Zealand does have ACP clad high rise buildings. Some of them are pure polyethylene core of the type that was used both on Grenfell and Lacrosse.

86. It is unlikely that a disaster with loss of life on the scale of Grenfell will happen here.

87. Modern high rise buildings in New Zealand are required to have sprinklers. This means it is unlikely that a fire starting in the interior of a building will spread to the exterior as happened in Grenfell. Having said that, it is possible that a fire starting close to an open window could spread to the exterior before being put out by sprinklers.

88. In addition, in the event of a fire, evacuation of residents is the norm in New Zealand. This was not the case in Grenfell.

89. This does not, however, mean that a Lacrosse fire could not happen here, although it is perhaps less likely because sprinklers on inset balconies are common.

90. We are, however, in a situation where significant doubts have been raised about the sufficiency of internationally accepted standard tests for fire safety of ACP cladding systems. Quite apart from any questions raised by the Enright audit as to the reliability of the certification process, certifications can only be as good as the tests they are relying on.

91. Both Australia and England are in the process of reviewing these issues and a broad raft of solutions are being considered or implemented. New Zealand is still in the process of determining the extent to which ACP cladding has been used on buildings, but MBIE is paying close attention to the various investigations, proposed remedies and solutions actually implemented by overseas jurisdictions. It remains to be seen what (if any) further action will be taken.

So, WATCH THIS SPACE . . .

CODEMARK™

CERTIFICATE OF CONFORM

This is to certify that

PSP's AlucoBuild® & Alpolic/fr ACM Panel Cladding System

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Product description

Aluminium Composite Panel consisting of 2 skins of aluminium sandwiching a proprietary core.

Products:

- AlucoBuild®
- Alpolic /fr ACM

Product purpose or use

Decorative and protective cladding system for internal and external use

Certificate holder

PSP
320 Rosedale Road, Albany
Auckland, New Zealand
Ph: +64 9 415 2800
http://www.psp.co.nz/

CodeMark certification body

CertMark Australasia Ltd
(ACN 154 3036 804)
JAS-ANZ Accreditation No. Z4450210AK
Address: PO Box 231 Tuakau NZ 2121
Website: www.certmark.co.nz

Complies with the Building Code of New Zealand:

AlucoBuild

1. NZBC Structure B1.3.1, B1.3.3
2. NZBC Durability B2.3.1 (b)
3. NZBC External Moisture E2.3.2, E2.3.3, E2.3.5.
4. NZBC Hazardous Building Materials F2.3.1

Alpolic®/fr

1. NZBC Structure B1.3.1, B1.3.2
2. NZBC Durability B2.3.1 (b)
3. NZBC Protection from Fire C3.4(a), C3.5
4. NZBC External Moisture E2.3.2, E2.3.3, E2.3.5
5. NZBC Hazardous Building Materials F2.3.1

Subject to the following conditions and limitations:

1. Studs should be sized as normal to suit the wind loadings, vertical loading and stud height in accordance with NZS 3604:2011 Section 8, buildin parts of buildings outside of the NZS 3604:2011 must be subjected to specific engineering design
2. The risk score of 0-20, has been calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and can be situated in up to and inclu 'Very High' wind zones as described in NZS 3604:2011 Building Wind Zones.
3. If being installed on vertical surfaces or sloping surfaces for tops of parapets, sills and balustrades, there must be a minimum slope of 10°.
4. The system may be installed in conjunction with aluminum window and door joinery that is installed with vertical jambs and horizontal heads and provided that such joinery meets NZS 4211:2008, for the relevant building wind zone or alternatively joinery must be specifically designed suitably qualified engineer
5. Installation must be carried out in accordance with PSP Technical Manual June 6, 2012.
6. Installation of components and accessories supplied by PSP must be carried out only by personnel trained and certified by PSP
7. Framing designed is to conform to the requirements of NZS 3604:2011, or NASH 3405:2006. Buildings or parts of buildings outside the scope of 3604:2011 or NASH 3405:2006 must be to a specific design in accordance with relevant material standards and AS/NZS1170:2011.

John Thorpe
Director
CertMark Australasia Pty Ltd

1/11/2013
Date of issue

CMA-CM40075
Certificate Number

- This certificate is issued by an independent certification body accredited by the product certification accreditation body appointed by the Chief Executive of the Department of Building and Housing under the Building Act 2004. The Department of Building and Housing does not in any way warrant, guarantee, or represent that the building method or product the subject of this certificate conforms with the New Zealand Building Code, nor accept any liability arising out of the use of the building method or product. The Department of Building and Housing disclaims, to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages, and costs arising as a result of the use of the building method(s) or product(s) referred to in this certificate.
- It is advised to check that this Certificate of Conformity is currently valid and not withdrawn, suspended or superseded by a later issue by referring to the MBIE website, http://www.mbie.govt.nz/
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CERTIFICATE OF CONFORMI

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This is to certify that

Symonite (Alubond) Cladding Systems

Product Description

Aluminium Composite Panel consisting of 2 skins of aluminium sandwiching a proprietary core.

Products:

- Alubond
- Alubond FRB1
- Alubond FRA2

Product Purpose or Use

External decorative wall cladding for timber frame or timber frame infill construction used as partial or complete cladding system.

Certificate Holder

Symonite Panels Limited
24G Allright Place, Mt Wellington
PO Box 124000, Penrose, Auckland
Ph: 09 570 7077 | Fax: 09 574 6910
www.symonite.co.nz

CodeMark Certification Body

CertMark Australasia Ltd
(ACN 154 306 804)
JAS-ANZ Accreditation No. Z4450210AK
PO Box 231 Tuakau NZ 2121
www.certmark.co.nz

Complies with the Building Code of New Zealand:

1. NZBC Structure: B1.3.1, B1.3.2 and B1.3.4
2. NZBC Durability: B2.3.1(b)
3. NZBC External Moisture: E2.3.2, E2.3.3 & E2.3.5
4. NZBC Hazardous Building materials: F2.3.1

Alubond FRB1 and Alubond FRA2 also comply with:

1. NZBC Protection from Fire: C3.5, C3.7(a), (b) and (c)
2. NZBC Protection from Fire: 5.8 C/AS1 – C/AS7 (Acceptable Solution)

Subject to the following conditions and limitations:

1. This certificate provides third parties with compliance to NZBC Clauses and standards specified within this c provided that all components of design, fabrication and installation are overseen and approved by Symoni Limited.
2. Design is where Symonite Panels Limited develop project specific shop drawings. These shop drawings are from architectural concepts from which a building consent has been issued.
3. Only to be installed by a suitably qualified tradesperson trained by Symonite specifically to install Symonite Cladding Systems.

John Thorpe
Director
CertMark Australasia Pty Ltd

21/08/2013
Date of issue

CMA-CM40094
Certificate Number

- This certificate is issued by an independent certification body accredited by the product certification accreditation body appointed by the Chief Executive of the Ministry of Business, Innovation & Employment (MBIE) under the Building Act 2004. MBIE does not in any way warrant, guarantee, or represent that the building method or product the subject of this certificate conforms to the New Zealand Building Code, nor accept any liability arising out of the use of the building method or product. MBIE disclaims, to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages, and costs arising as a result of the use of the building method(s) or product(s) referred to in this certificate.
- It is advised to check that this Certificate of Conformity is currently valid and not withdrawn, suspended or superseded by a later issue by referring to the MBIE website, http://www.mbie.govt.nz/
- This certificate may only be reproduced in its entirety