



Australian Institute of
Building Surveyors

REPORT

Issues Relating to the Use of External Wall
Cladding Systems in Australia

June 2016

Purpose of this Report

By publishing this report, AIBS seeks to highlight a serious issue that could threaten the foundations of the building industry in Australia. AIBS also presents this report as a catalyst for greater collaboration with government, industry regulators and all other building industry stakeholders with the view to developing a solutions based approach to give greater confidence to the industry, consumers and practitioners.

Specifically, this report aims to:

1. Demonstrate that the National Construction Code (NCC) contains ambiguities with regard to external wall cladding systems;
2. Highlight that by reviewing and comparing the interpretation made by the Victorian Building Authority (VBA) with interpretations made by experienced professional building surveyors and design professionals adhering to good practice, it is possible to arrive at suitable outcomes that differ from the single interpretation on which the Industry Alert issued on 24 February 2016 was based;
3. Contribute to the development of positive solutions that will provide greater clarity in the NCC for the future of the building industry and management of the issues that have led to the current situation of buildings being deemed non-compliant;
4. Seek acknowledgement that there is a shared responsibility by all in the building regulatory system, including design practitioners and builders, not only building surveyors, that has led to the current situation;
5. Acknowledge that the NCC is a performance based code and is intended to encourage creative and innovative building design and construction techniques, systems and outcomes that will inevitably be many and varied; and
6. Provide constructive contributions to stakeholder discussions around solutions that reduce the risk of divergent or undesirable interpretation and application of the NCC to building design outcomes, particularly in the area of performance based designs.

AIBS submits that this report has great importance for AIBS members, all industry stakeholders and the general public.

This report is not an attempt to justify previous poor practice, nor is it intended to demonstrate compliance or provide advice to AIBS members and other building surveyors on how the NCC should be interpreted.

Background

In November 2014, a serious fire in the Lacrosse apartments in Melbourne's Docklands caused significant damage to the building and forced the evacuation of all residents.

An investigation into the fire by the Metropolitan Fire Brigade (MFB) determined that Alucobest, used as the building's external wall cladding and consisting of Aluminium Composite Panels (ACPs), caused the fire to spread rapidly. The MFB also determined that the type of cladding used did not comply with the current requirements of the Building Code of Australia (BCA), which is part of the National Construction Code (NCC).

As a result of the fire and the MFB investigation, the VBA undertook an audit of the use of external wall cladding in 170 high rise residential and public buildings in central Melbourne and surrounding inner suburbs. The audit was based on the VBA's interpretation of sections of the NCC which cover the use of external wall cladding systems on buildings.

The results of the VBA's External Wall Cladding Audit (the Audit) were published in February 2016. Among

the main findings of the Audit was the conclusion that there is a high level of non-compliant use of external wall cladding.

Following the Audit, the VBA issued an Industry Alert which contained directives on the use of external wall cladding. The Industry Alert focused on the use of combustible material, especially ACPs, when used as external wall cladding in buildings of Type A or B construction.

The VBA also stated that based on the findings of its Audit, it would commence a further audit of other buildings and building practitioners connected with the non-compliance which it said was detected in its Audit.

What are ACPs?

Aluminium Composite Panels (ACPs) are a type of material used in external wall cladding systems. ACPs have been used throughout Australia for over 30 years as a finish, lining or attachment to external walls. They are particularly sought after for their aesthetic appeal when applied to the external façade of buildings. In addition to being an architectural element for visual attractiveness, ACPs support weatherproofing requirements, thermal and acoustic properties and are an overall practical construction product.

Subject to certain considerations, ACPs are considered compliant with the Building Code of Australia/NCC.

The external cladding systems at the Lacrosse apartment building was constructed using ACPs, as are many other buildings throughout Victoria and nationally.

The National Construction Code

The NCC includes two (2) volumes of the Building Code of Australia. Each volume covers different types of constructions. The NCC regulates the design and construction of buildings throughout all Australian States and Territories. The NCC is overseen by the Australian Building Codes Board (ABCB).

The NCC outlines minimum building standards to ensure buildings are safe and occupiable. Buildings must be able to meet Performance Requirements and can do so through two compliance pathways – via Deemed to Satisfy (DTS) solutions or via Performance Solutions.

DTS provisions are a set recipe for materials, design and construction methods which building practitioners must follow to satisfy minimum community expectations. DTS provisions have been prescribed in the NCC since 1990 including requirements for levels of fire resistance and whether the materials are required to be non-combustible.

On the other hand, Performance Based solutions can be unique for individual buildings in order to encourage innovative design and compliance and these can be achieved by using one or more of the assessment methods available in the NCC.

Revisions to the NCC have gradually moved towards Performance Based solutions where there is no obligation to adopt any particular material, component, design factor or construction method.

The sections of the NCC that are particularly relevant to the issues raised in this report are Clause C1.1 Specification C1.1 Clause 2.4, Clause C1.10 and Clause C1.12.

The NCC clearly states that a combustible material may be used as a finish or lining to a wall or a roof or in a sign, sun-screen or blind, awning or other attachment subject to satisfying certain criteria. Some external wall cladding systems, including ACPs, contain combustible materials.

For further details on the above sections of the NCC and the various reasonable interpretations of those sections, please refer to the AIBS Technical Discussion Paper on the Use of External Wall Cladding Systems. Copies are available by contacting ceo@aibs.com.au

What is the Issue?

The sections of the NCC which determine what type of external wall cladding systems can be used, in what situations they can be used and how the material can be attached to the external walls of a building may be interpreted in a variety of ways. These sections of the NCC also cover whether different types of external wall cladding systems are combustible or non-combustible and in what situations combustible and non-combustible material can be used.

The Australian Institute of Building Surveyors is aware of widespread concern among building practitioners that these sections of the NCC lack clarity and therefore are open to interpretation by building practitioners and building industry regulators. This is of particular concern to building surveyors who operate in a commercial and competitive environment in which building designers and developers are commonly motivated to preference design and construction solutions that minimize construction costs.

In its Audit report, the VBA acknowledged confusion about the relevant sections of the NCC, stating: *“There are many types of external cladding material in use throughout the Victorian building industry but whether one is fit for purpose over another is not always properly understood by architects, designers, building surveyors and builders.”*

The VBA further acknowledged that *“practitioners have differing degrees of understanding of the requirements of the BCA and specification for components of an external wall.”*

There is further recognition that the NCC contains a level of ambiguity, with the Australian Building Codes Board (ABCB) identifying certain sections in the NCC for review through *“Actions to be taken on Fire Safety in High Rise Buildings”* which stemmed from the Building Minister’s Forum (BMF) held on 19 February 2016.

While AIBS supports the work commenced by the ABCB to address this issue to prevent confusion in the future, there is concern that building surveying professionals who may have applied a different, yet valid, interpretation previously, will continue to shoulder the responsibility for what is now deemed non-compliant and the shortfalls in the regulatory system based on the VBA Audit, interpretation and subsequent findings.

The VBA Audit is arguably flawed in that it is based only on one single, interpretation of relevant sections of the NCC. However, the overarching issue is that the NCC is able to be interpreted as having different meaning about what is compliant and what is not. It is unfortunate that the VBA Audit was based on assumptions and interpretations of the relevant parts of the NCC which are open to debate. Moreover the VBA did not consult with the key body representing the Permit Authority (the Relevant Building Surveyor - the Authority having Jurisdiction), to consider the interpretation of the code. The reason for this is unclear.

AIBS believes that this has given rise to unfair criticism of building surveyors for not being compliant with the VBA interpretation of the NCC when there are other quite sound and reasonable interpretations that could, and have, been made in the past. This has created a perception, real or perceived that all building surveyors who now find themselves associated with buildings that have been declared non-compliant are somehow unprofessional and have not acted in good faith in the past.

While this causes uncertainty for individual building surveyors, it leads to broader problems for all involved in the industry when a regulator such as the VBA arrives at an interpretation of the NCC that differs from the interpretation of experienced and conscientious practitioners.

In Victoria, the VBA interpretation of the relevant sections of the NCC and its continued inflexibility on this matter now means that –

- Many industry practitioners have been unfairly criticised in the public domain for failing to comply with the NCC, as interpreted by the VBA;
- Public confidence in the Victorian building industry has been severely eroded due to criticism in the news media by the VBA of builders and building surveyors and VBA statements regarding buildings now deemed by the VBA to be non-compliant;
- There is uncertainty in the construction industry on use of materials including concern by product

manufacturers on permitted use of materials to satisfy non-combustibility, waterproofing, acoustic and energy efficiency provisions;

- Owners and Owners Corporations have concerns regarding risks of re-insurance and/or increased premiums due to alleged non-compliance; and
- Developers, builders, owners and property purchasers are questioning compliance prior to settlement due to buildings being publically branded as non-compliant.

The VBA Audit has exposed deficiencies in the way in which the building industry in Australia has been operating for many years. It is evident that these issues have existed for some time, but have not been properly addressed or resolved.

It is clear that ‘gaps’ have existed in the regulatory system for a long time and this failing is not the responsibility of a single body or agency, but is a shared responsibility of industry regulatory bodies that have not adequately addressed the issues in the past.

The problem of alternative and undesirable interpretations of this and other performance based provisions of the (NCC) BCA and the regulations by various building practitioner classes, including building surveyors, has been known and recognised by industry regulators for many years. A report as far back as 1998 titled *“Privatisation and Performance-Based Regulations”* by the Building Control Commission, and in the mid 2000’s the publication of a non-DTS cladding fact sheet from the Building Commission both identified issues in the system, yet nothing has apparently been done to amend the regulatory text to remove any ambiguities or risks associated with misunderstanding, misinterpretation or misapplication.

Building surveyors alone should not be expected to shoulder the burden of accusations of non-compliance, when most have in good faith, endeavoured to meet the regulatory requirements and best practice. This is a serious issue with implications reaching far outside Victoria into every Australian State and Territory. Its effects will be felt throughout the industry supply chain and in particular, the ongoing viability of the building regulation framework and all those who operate within it.

It is also important to recognize that the audit results, if given full credence, highlight a very serious practitioner competency crisis. On the basis of the audit results, if extrapolated as a representative sample, we can determine that up to half of the building designers, architects, engineers, fire safety professionals, building surveyors and builders who practice in this area are apparently not demonstrating the requisite competencies required to properly interpret and apply the NCC to their practise disciplines. Such a conclusion can be drawn and should raise serious concerns with policy makers.

AIBS has been raising concerns about the poor quality of building design documentation with the policy makers and the VBA (formerly Building Commission) for many years.

This issue is extremely complex. However, the VBA Audit has added yet another layer of uncertainty and complexity to the situation which is now being monitored closely by practitioners and regulators in other States.

AIBS supports the role of the VBA in the auditing of all relevant buildings to ensure the public safety and the requirement for immediate attention of those identified with safety issues. However, those buildings currently deemed non-compliant, but deemed safe to occupy, should be re-audited taking into account alternative appropriate interpretations other than provided in the VBA Industry Alert.

Failure to review the compliance of those buildings deemed safe to occupy against the single interpretation of the VBA could lead to the collapse of the building regulation system in Victoria. As a result of the VBA Audits and any subsequent future audits, the Relevant Building Surveyor would be required to notify their insurer of any of the buildings that are now deemed to be non-compliant.

Given the number of buildings already identified, and possibly identified as non-compliant in the future against the single interpretation of the VBA Industry Alert, there is a very real chance that because of the high number of building surveyors possibly affected, PI Insurance for building surveyors could become prohibitively expensive, or unobtainable, leading to the collapse of the private building regulation system. If this was to occur, there is no substitute or viable system that could be implemented in the short term and

the building industry in Victoria could come to a stop.

This situation would undoubtedly expose the failures and inactions of legislators and industry regulators over many years to refine and develop the private building permit system to ensure it remained viable and meet the requirements of a modern industry.

Indeed, there is evidence that the industry in Victoria is heading towards such an outcome unless urgent action is taken.

The AIBS analysis

In response to the uncertainty created by the VBA Audit and Industry Alert, AIBS undertook its own analysis of the relevant sections of the NCC and the use of various external wall cladding systems. The analysis involved:

- Consulting a representative group of the AIBS membership in Victoria (private and local government), the AIBS Board & National Technical Committee;
- Reviewing the VBA Industry Alert and Audit Report and relevant reference documentation and reports;
- Considering the changes that have been made to the legislation and the NCC over an approximately 20 year period; and
- Examining how building practises in Victoria have changed in response to changes to the NCC and how the legislation has been interpreted by industry experts.

Main Findings

As a result of the analysis, we found that:

1. The use of some types of external wall cladding systems can increase the risk of fire or the likelihood of more rapid spread of fire;
2. The sections of the NCC covering the use of external wall cladding systems are open to various different interpretations by building practitioners and state and territory regulators and the use of combustible and non-combustible materials in external wall cladding systems requires urgent attention in order to provide greater clarification;
3. The NCC requires external walls to be constructed of non-combustible materials but other sections of the NCC specifically allow for the use of combustible materials depending on the type of material involved and where in the building the material is used, particularly in relation to exits to be used in case of fire;
4. The VBA Audit and subsequent Industry Alert are based on just one possible interpretation of the NCC;
5. The VBA did not consult widely and seek specialist advice, especially from key stakeholders such as building surveyors, before forming the basis and terms of reference for its Industry Alert;
6. There is an urgent need to review the sections of the NCC that deal with the use of different types of external wall cladding systems that are combustible or non-combustible in order to reduce the risk of fires such as one at the Lacrosse apartments;
7. As a result of the VBA Audit and Industry Alert, building surveyors have been unfairly criticised and there is now a serious loss of public confidence in the building industry and the building regulatory framework in Victoria;
8. There is now widespread uncertainty in the building design and construction industry supply chain, particularly in Victoria. This uncertainty will restrict innovative design solutions and limiting certain materi-

als to inorganic material, often not the preferred solution in sustainable building design; and

9. AIBS members report receiving an increase in enquiries from the public based on the reporting of incidents such as the Lacrosse fire in the media. In addition to this, there is a marked increase of self-proclaimed 'experts' in the area publically providing their interpretations, resulting in greater confusion amongst the general public.

Conclusions

Approval of the use of combustible, deemed non-combustible and non-combustible materials in the NCC is very complex, unnecessarily so, and requires an extremely detailed and professional understanding of the NCC, its administration and enforcement.

No matter how familiar with the relevant sections of the NCC building practitioners may be, the sections can and have, been interpreted in diverse and different ways by practitioners acting professionally and in good faith, when compared with the interpretation used by the VBA as the basis of its Audit and Industry Alert.

At the time of reporting, the VBA has not accepted that there is more than one single valid interpretation of the NCC, nor has the VBA undertaken a review of its Industry Alert to incorporate this fact. Buildings currently deemed non-compliant, but deemed safe to occupy, have not been re-audited.

Failure to review the compliance of those buildings deemed safe to occupy against the single interpretation by the VBA could lead to the collapse of the building regulation system in Victoria.

As a result of the VBA Audit and any subsequent future audits, the Relevant Building Surveyor (RBS) may be required to notify their insurer if any of the buildings with which they were involved that are now deemed to be non-compliant.

Given the number of buildings already identified as non-compliant and those that may be possibly deemed non-compliant in the future based on the VBA Industry Alert, there is a real likelihood that due of the high number of building surveyors affected, PI Insurance for building surveyors could become either prohibitively expensive, or not obtainable. In this instance, as there is no replacement for the current private system that could be implemented in the short term, the building industry in Victoria could come to a stop.

While the current situation remains unresolved, building practitioners and especially building surveyors will continue to be unfairly accused of non-compliance with the NCC.

Further, the building industry in Victoria will remain in a state of uncertainty with the potential for this malaise to spread to other states.

The overarching issue that requires urgent attention is that the wording of the NCC must be reviewed to provide clarification of those sections relating to this issue.

There is a demonstrated need for the VBA to collaborate with industry to develop and implement a credible and proactive audit regime that feeds into a quality and relevant industry training program.

Currently, changes to the NCC are being considered by the ABCB and are welcomed. However the ABCB, industry regulators and building practitioners have yet to accept that they all have a shared responsibility for the lack of clarity in the system in the past that has led the industry to this current crisis.

The Way Forward

In order to address issues raised in this report, AIBS recommends:

1. That the VBA, all building industry practitioners and the ABCB join AIBS in publically acknowledging there is shared responsibility for the building regulation system that has not clearly addressed the area of external wall cladding systems in the past;
2. That all building practitioners join AIBS in supporting the current work of the ABCB in addressing the issues of external cladding systems to provide greater clarity in the NCC through “Actions to be taken on Fire Safety in High Rise Buildings”;
3. That the VBA works with AIBS to establish a joint taskforce to address the possible impact to the building regulatory system from non-compliant buildings as identified in the VBA Audits and in future audits. This would include reviewing other interpretations as identified in the AIBS Technical Discussion Paper on External Cladding Systems;
4. That the VBA review and reaudit all buildings currently deemed non-compliant but safe to occupy as per the joint taskforce findings;
5. That the VBA collaborates with AIBS, as key stakeholders, to develop and implement a credible and proactive audit regime that feeds into a quality and relevant industry training program; and
6. The ABCB and the VBA collaborate with AIBS to develop a comprehensive training and education program to be delivered nationally in the area of external cladding systems.

For further information and correspondence regarding this report, please contact ceo@aibs.com.au