RESEARCH ANALYSIS

Compliance in building design

CLADDING SAFETY Victoria

VICTORIA State Government

Aboriginal acknowledgement

Cladding Safety Victoria respectfully acknowledges the Traditional Owners and custodians of the land and water upon which we rely. We pay our respects to their Elders past, present and emerging. We recognise and value the ongoing contribution of Aboriginal people and communities to Victorian life. We embrace the spirit of reconciliation, working towards equality of outcomes and an equal voice.

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Executive summary

In the fulfilment of its functions under the *Cladding Safety Victoria Act 2020*, CSV has reviewed in detail the original plans and permits for 1000 privately-owned apartment buildings.

During extensive and direct engagement with impacted owners and tenants, two of the frequently asked questions have been: why was combustible cladding used and who is responsible?

This report addresses the second of those questions with insights about more than 800 buildings where adequate information was available in designs and permits to yield a robust conclusion about the compliance of the external wall cladding.

An analysis of this data reveals widespread misapplication of Victoria's regulatory requirements for external wall cladding by the key professionals responsible for the design and permitting of buildings, namely the architects, draftspersons, fire safety engineers (FSEs) and building surveyors.

This review has focused on the following combustible cladding products that have been prioritised for funded rectification work:

- Aluminium composite panels (**ACP**); and
- Expanded polystyrene (**EPS**).

CSV found that combustible cladding was used in a non-compliant manner on **72%** of referred buildings where the cladding type was identifiable in building plans annexed to the building permit for construction. As buildings referred to CSV are necessarily affected by combustible cladding, the specification of EPS or ACP on these buildings plans is not surprising. However, this review reveals widespread misapplication of Victoria's regulatory requirements by the key professionals with overlapping responsibilities for the design and permitting of buildings, namely the architects, draftspersons, fire safety engineers (**FSEs**) and building surveyors.[1]

By failing to meet the standards required of professionals, these parties failed to meet their regulatory, and presumably their contractual, obligations.[2]

CSV's findings are included at **section 4** of this report, and a discussion of conclusions is at **section 5**. These findings confirm that the professionals engaged in the original design of these buildings failed to comply with regulatory requirements.

- **Architects and draftspersons** specified combustible cladding in **75%** of cases where adequate materials were available to reach robust conclusions about compliance or non-compliance
- **FSEs** prepared Fire Engineering Reports (**FERs**) for **71%** of buildings where ACP or EPS was specified in plans but assessed the cladding for suitability in only **15%** of buildings; and
- **RBSs** issued building permits in circumstances where ACP or EPS was specified in the building plans without determining a performance solution to address the combustible cladding.

The reasons for the specification of particular materials are not within the scope of this review. Architects, draftspersons, FSEs and building surveyors are required to deliver services in a competent manner and to a professional standard. This includes providing services and advice which are consistent with the law, including building standards. If a client or builder requests the use of a particular product, building designers are expected to have the appropriate expertise to provide advice on the suitability of that product. If an error is made by building designers, and appropriate compliance pathways are not adopted, the RBS should decline to issue a building permit. Alternatively, the RBS should determine a performance solution and list it on the building or occupancy permit, if satisfied that relevant performance requirements have been met.

Victoria's building control system places significant emphasis on the permit process to ensure that builders are issued with complete and compliant drawings so that they undertake and oversee building work which meets minimum safety standards. This report confirms that this system did not work with respect to combustible cladding.

For some time, CSV has anecdotally understood that poor building design led to the widespread specification and use of ACP and EPS in Victoria. CSV's review has confirmed that this was indeed the case, and that the issue is not isolated to a particular type of practitioner or isolated to a limited pool of the industry. Documentation reviewed by CSV demonstrates that responsibility for the specification of dangerous cladding is shared between consultants and building surveyors and is widespread across each discipline.

1 Under Victoria's privatised building regulatory system, building permit applications are nearly always considered and determined by private building surveyors (**PBS**). Whether municipal or private, the building surveyor responsible for determining an application for a building permit is the relevant building surveyor (**RBS**).

2 CSV does not have access to and has not reviewed the contractual arrangements between the parties. Nevertheless, it is expected that in many if not all cases, the key professionals would have been contractually obliged to provide services in a professional manner. Professionalism undoubtedly includes providing services which meet regulatory requirements.

1. Background

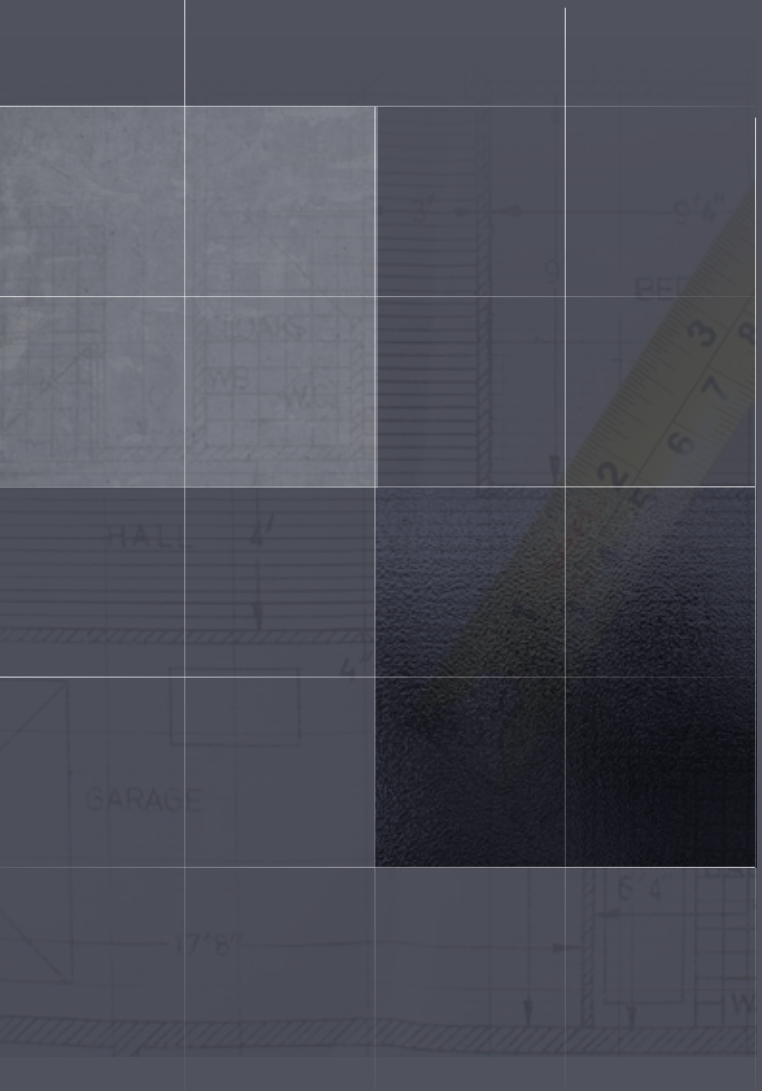
1.1 About the Cladding Rectification Program

Cladding Safety Victoria (**CSV**) is responsible for delivering the Victorian Government's $600 million Cladding Rectification Program (**CRP**). As of July 2024, CSV has funded cladding rectification work for more than 400 privately-owned apartment buildings affected by combustible cladding, with more than 330 private rectification projects now complete. This means that approximately 16,250 homes or 30,000 Victorians are now safe from the dangers of combustible cladding. CSV has also supported Government departments and agencies to rectify 130 public buildings.

In delivering the CRP, CSV has observed significant and widespread defects across buildings referred to the CRP, most notably in relation to balconies, as discussed in CSV's ***Research analysis on issues and risks associated with balcony defects***. These defects variously arose from poor design by professional consultants, poor construction and oversight by builders, and inadequate maintenance by owners.

CSV has also had the benefit of the plans and permits which led to the original construction of the referred buildings. Original building documentation has been critical for the delivery of the CRP. Original documents have enabled CSV to understand the design of referred buildings and to determine the appropriate funding for rectification works. CSV works closely with building owners and builders to support the mitigation of cladding risk and deliver cladding rectification work in a timely and efficient manner.

2. Terminology, methodology and limitations



2.1 Terminology

For the purposes of this paper:

- Building designers or consultants refers to architects, draftspersons and engineers but does not include surveyors[3]
- Professionals includes consultants and surveyors; and
- Head contractors are specifically referred to as either head contractors or builders.

2.2 Methodology

The purpose of this report is to share insights about the professionals involved in the specification, assessment and permitting of combustible external wall cladding.

To prepare this report, CSV reviewed many documents including building plans and permits received with the referral of buildings affected by combustible cladding. CSV reviewed the documents to identify the professionals involved and key elements of the designs and building permits.

This process included:

- Review of building permits to identify the professionals responsible for the project.
- Review of architectural and building plans and associated documents to identify the type of cladding specified. External wall cladding was categorised as follows:
  - ACP where building plans specified "aluminium composite panel", "ACP" or named a known brand of ACP;
  - EPS where building plans specified "expanded polystyrene", "styrene", "expanded foam" or similar, or named a known brand of EPS;
  - Other where the specified material was a product other than ACP or EPS.[4]
- Review of FERs to determine whether the specified cladding was assessed for suitability by an FSE.
- Review of building and occupancy permits to identify whether a performance solution (previously, alternative solution[5]) relating to the use of combustible cladding was listed.
- Review of occupancy permits to identify year that construction was complete. Where an occupancy permit was not available this information was estimated using the available building permit documentation.

CSV recorded the use of ACP or EPS as **non-compliant** if CSV was able to verify the following:

- Building plans specified the use of an ACP or EPS product; and
- A performance solution was not developed for the use of the specified product.

In the relatively rare cases where performance solutions were developed by FSEs in relation to the proposed use of ACP or EPS, this report also provides insights about whether the regulatory requirements were completely satisfied in determinations issued by RBSs and listed in the associated building or occupancy permits.

3 Notably, the definition of building designer under the *Building Act 1993* (**the Act**) expressly excludes architects whose registration and conduct are governed pursuant to the *Architects Act 1991*. Engineers are now governed by the *Professional Engineers Registration Act 2019*. However, an all-encompassing definition of "building designer" has been adopted for ease of reference in this paper.

4 Materials categorised as "other" include materials such as fibre cement sheets and timber products. Notwithstanding that timber is self-evidently combustible, the pathway to demonstrate compliance of timber cladding was invariably not established in the documents reviewed. This report focuses on specifications of ACP and EPS which were prioritised for auditing in the Statewide Cladding Audit by the Victorian Building Authority (**VBA**).

5 Terminology applicable during the construction of the majority of buildings in CSV's data set was 'alternative solution'. For ease of reference CSV has used current terminology of 'performance solution".

2.3 Limitations and assumptions

The products used as external wall cladding materials can sometimes be installed as linings or attachments. Whereas cladding is integral to the make-up of a wall system, a lining or attachment is not. The National Construction Code (**NCC**) provides different compliance pathways for different applications of the same product. This means that the test for compliance of a material applied as a cladding is different to the test for the same material applied as a lining or attachment.[6]

CSV has not undertaken a detailed evaluation of whether the product was installed as a cladding, lining or attachment. Rather, CSV has evaluated the way the product was specified on the plans, which was usually as a cladding. This accords with CSV's knowledge of the installation of the products across apartment buildings, which was ordinarily as a cladding.[7]

CSV's review was limited to the type of wall cladding specified in building plans. CSV did not consider other compliance issues that may have been present in the documents reviewed. For the purposes of this report, CSV did not determine whether the specified external wall cladding product was subsequently substituted during construction.

CSV's review was limited by the availability of information. CSV did not necessarily have a full set of building design documents for each building but relied on those documents which formed part of the building permit and were lodged with the local Government authority by the RBS pursuant to regulatory requirements. As these are the materials relied upon by the RBS in determining applications for building permits, these documents should at a minimum demonstrate compliance with the NCC. Where CSV did not have key information, CSV did not draw a conclusion in relation to that building.

CSV reviewed records for a total of 1000 buildings. Insufficient information was available for a compliance assessment of the external wall cladding in 196 cases. In some cases, multiple buildings were constructed as a project under one set of documentation. These are counted within CSV's data set as individual buildings and are reflected in the conclusions individually.

CSV's review is limited to buildings referred to CSV which are classified as Class 2 under the NCC, generally described as residential apartment buildings. CSV has limited information about buildings outside of this scope and was therefore unable to undertake a comparison of design and permit compliance where buildings were not so classified or referred.

6 This also means that any third-party compliance certifications for a product will generally not apply to all the potential applications of a product. Compliance certifications attaching to a product will generally be specific to applications of that product. Professionals should take care to ensure any third-party certifications relied upon relate to the intended use of a product.

7 On the occasions the product may have been specified or installed as a lining or attachment, CSV did not typically identify any evidence that the appropriate compliance pathway was adopted.

3. Context

3.1 The importance of the building permit process

Victoria's building permit process is generally provided by Part 3 of the *Building Act 1993* (**the Act**) and Part 4 of the *Building Regulations 2018* (**the Regulations**). The permit process is intended to be the regulatory control to ensure that only buildings designed in accordance with accepted building standards are constructed. Australia's accepted building standards are provided by Volumes 1 and 2 of the NCC, which are collectively termed the Building Code of Australia (**BCA**). The BCA is incorporated into Victoria's legal framework by the Regulations.[8]

When the building permit process works as intended, it ensures that Victoria's built environment meets the minimum safety standards provided by the NCC. The primary control mechanism for achieving this outcome is that an RBS must not issue a building permit unless satisfied that the building work and the building permit will comply with the Act and the Regulations (incorporating the BCA).[9]

The regulatory system places significant emphasis on the building permit process to ensure that builders are issued with compliant drawings so that they can, in turn, undertake and oversee building work which complies with the requirements of the BCA.

If the system fails, a builder will be erroneously issued with a permit for works which, if carried out, will not comply with the requirements of the NCC. Indeed, as this report demonstrates, this occurred for most buildings ultimately referred to CSV.[10]

The Act provides that a builder must not carry out works which do not comply with the Act, the Regulations (incorporating the BCA) and the building permit. This report does not consider the steps which a reasonable builder should take to discharge these potentially competing obligations in circumstances when the builder is issued with approved but non-compliant plans.[11] The appropriate steps will likely turn on the facts of each matter, including the contractual and employment arrangements particular to each project and builder.

Many qualified and registered professionals can be involved in the design, preparation and review of building plans and related documents, notably building designers, FSEs and surveyors. Subject to the procurement model for the project in question, developers and builders may also be involved during the design phase. However, and notwithstanding the input of developers and builders during the design phase, the responsibility for preparing compliant designs and permits rest with the professionals engaged for those services.

8 *Building Regulations 2018* (Vic), r 10.

9 *Building Act 1993* (Vic), s 24.

10 The issuance of a permit for non-compliant works is a failing of the building control system – widespread permits for non-compliant and unsafe works which compromise the fire safety of buildings are undoubtedly serious and systemic examples of such failures.

11 Section 16 of the *Building Act 1993* makes it an offence to carry out building work if the building work is not in accordance with the Act, Building Regulations and building permit. Where that permit itself is not compliant, the builder will be unable to undertake works in accordance with section 16.

The following diagram is a simplification of the building permit process.

Development of designs

- **Building designer** prepares plans and documents with a view to achieving compliance with all BCA requirements, including sufficient detail for construction.

Assessment of compliance

- **Appropriately qualified practitioners** may be engaged to assess compliance with the BCA and prepare performance solutions

Issue of building permit

- Building permit is issued if the **RBS** is satisfied that the building work and permit will comply with the Act and the Regulations (incorporating the BCA)

Construction

- **Builder** is responsible for building in accordance with the Act, Regulations (incorporating the BCA) and the building permit
- **RBS** is responsible for mandatory inspections during construction

Occupancy

- **RBS** issues occupancy permit if building suitable for occupancy
- Occupancy permit lodged with Municipal Building Surveyor (**MBS**)

Maintenance and compliance

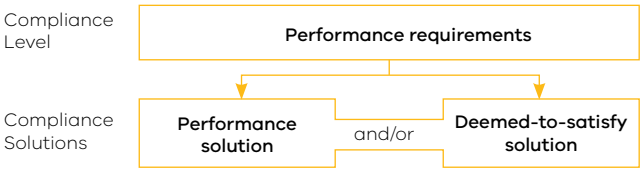
- **OC** required to maintain essential safety measures
- **MBS** responsible for monitoring compliance for life of building

3.2 Compliance pathways

BCA compliance is achieved if building elements comply with the applicable performance requirement. Performance requirements are satisfied by either a deemed-to-satisfy (**DTS**) solution, a performance solution (previously an "alternative solution") or a combination of the two approaches.

Simply put, a properly justified and documented performance solution confirms that a proposed design element meets the performance requirements notwithstanding that the element does not meet the DTS pathway.

Another way of saying this is that an element may be acceptable even if it does not meet the prescriptive rule, subject to the advice of an appropriate expert about whether overall objectives are met.



Source: Australian Building Codes Board

At the relevant times, the performance requirements for external wall cladding on Class 2 buildings included the following:

- A building must have elements which will, to the degree necessary, maintain structural stability during a fire appropriate to [various characteristics of the building, fire scenarios and the relevant safety systems of the building].
- A building must have elements which will, to the degree necessary, avoid the spread of fire to exits, sole-occupancy units and public corridors, between buildings, and in a building.
- To maintain tenable conditions during occupant evacuation, a material and an assembly must, to the degree necessary, resist the spread of fire and limit the generation of smoke and heat, and any toxic gases likely to be produced, appropriate to [various characteristics of the building, occupants, fire scenarios and the relevant safety systems of the building].[12]

At all relevant times, the BCA provided that the DTS solution for external walls for Type A and Type B[13] construction would be met if each element of the wall system was non-combustible as per AS1530.1.[14] [15]

12 See BCA, Volume 1, Section C. While the BCA has been amended from time to time, and these references are subject to change, the performance requirements under these provisions have been fundamentally the same for the relevant period.

13 The Type of construction provides the minimum type of fire-resisting construction required and is determined by reference to the building's rise in storeys and class. All building plans and permits assessed in the preparation of this report were for Class 2 buildings having a rise in storeys of three or more and were therefore required to be Type A fire-resisting construction.

14 Contrary to incorrect commentary about a change in regulatory requirements for combustible cladding, the test for combustibility remained effectively unchanged during the relevant period.

15 This requirement also applied to cladding products installed on low-rise timber-framed buildings in respect of which some surveyors have erroneously argued that a concession which permitted the use of combustible timber framing also permitted the use of combustible cladding. The Australian Building Codes Board indicated in an Advisory Note released in July 2019 that the concession was never intended to apply to permit combustible external wall cladding. This position was affirmed by the VBA in a Practice Note 15, released on 11 December 2020.

3.3 Performance solutions for combustible external wall cladding

By its very nature, combustible cladding could not (and cannot) satisfy the test for combustibility provided by AS1530.1. This means that the product could not meet the DTS pathway for compliance. The alternative compliance pathway could be met only if the product satisfied the performance requirements, and the RBS issued a performance solution determination. This would have required justification by an appropriately qualified professional that the relevant performance requirements were achieved in the proposed design even though the cladding was combustible.

In the case of combustible cladding, the appropriate professional to justify departure from the DTS solution would have been an FSE. The FSE's justification would need to have been accepted by the RBS in their determination of a performance solution. The RBS would need to have listed the performance solution in the building permit for the work and, ideally, the occupancy permit for the completed building. Given the unacceptable risk identified on hundreds of referred buildings which have subsequently been rectified by CSV, such justification by an FSE and acceptance by an RBS would likely have been at least without foundation, if not wholly unreasonable, particularly with respect to the most combustible materials such as ACP products with 100% polymer filler.

In any case, and as demonstrated in **section 4** of this Report, CSV's review of the available documentation confirms that these steps invariably did not occur.

3.4 Widespread practice

In the high-profile decision of the Victorian Civil and Administrative Tribunal (**VCAT**) following the cladding fire at the Lacrosse Building in 2014[16], it was argued that most consultants and surveyors practising generally in building at the relevant times had misinterpreted the requirements of the BCA (the 'peer professional opinion' defence), leading to the widespread adoption of cladding materials across Victoria. In the Lacrosse case, VCAT considered the relevant peer professional opinion to be unreasonable and declined to accept this argument as a defence. Notwithstanding, the submission on behalf of the consultants acknowledges that the use of these materials was widespread and had not been questioned by the relevant professionals.

16 *Owners Corporation No 1 of PS613436T v LU Simon Builders Pty Ltd* [2019] VCAT 286, and the related appeal *Tanah Merah Vic Pty Ltd v Owners Corporation No 1 of PS613436T* [2021] VSCA 72.

3.5 Design phases

The development of compliant designs is critical to the delivery of a building that is safe. Design itself is a multi-phased process, which may include the following phases:

PRE-DESIGN	• site feasibility, inspection, planning
CONCEPT /SCHEMATIC DESIGN	• initial design, sketches, 3D models • site measure, photos, determination of setback and envelope
DESIGN DEVELOPMENT	• prepare drawings to issue to consultants • increase level of detail in drawings
CONTRACT DOCUMENTATION	• prepare drawings sufficient for tender • coordinate and integrate information from consultants into architectural drawings
CONTRACTOR SELECTION	• issue tender • contactor appointment and inclusion of design documents, which may or may not be complete, in construction contract
CONTRACT ADMINISTRATION	• supervision of work to ensure conformance with design • coordination of services of other specialist consultants • completion of design by building designers, where design is incomplete in order to obtain building permit

3.6 Roles and responsibilities of the key professionals

The design and construction of a building is complex and usually requires the engagement of multiple professionals to develop designs, assess compliance, provide advice and deliver the project. Building standards, including those in the NCC can be difficult to interpret and understand, and require careful consideration and application to ensure buildings are compliant. It is for this reason that the regulatory framework allows only qualified and registered persons to carry out certain important functions. If these were less important functions, the regulatory framework would not impose this restriction.

At all relevant times, draftspersons and surveyors were required to deliver services in a competent manner and to a professional standard.[17] This obligation extended to FSEs under the Act until 1 July 2021, following commencement of the *Professional Engineers Registration Act 2019* and the *Code of Conduct for Professional Engineers,* which requires that professional registered engineers:

- Know and comply with the law; and
- Deliver good practice professional engineering services.

Surveyors are additionally prohibited from issuing a building permit unless satisfied that the work and permit will comply with the Act and the Regulations (including the BCA).[18]

17 *Building Regulations 1994* (Vic), r 15.2; *Building Regulations 2006* (Vic), r 1502; *Building Regulations 2018* (Vic), r 265.

18 The Act, s 24(1).

Between at least 1993 and 2015, when most referred buildings were designed, the regulatory framework for architects similarly required them to perform their work in a competent manner and to a professional standard.[19] Professionalism in architectural services undoubtedly includes producing drawings for buildings which will comply with all relevant laws, including the BCA. This does not mean that all plans must comply with the DTS provisions of the BCA. However, architects need, at least, to understand whether a performance solution is required and may be achievable, and they should address this with the other consultants and the RBS. Since 2015, the regulatory framework for architects has expressly provided that they must act with reasonable care and must comply with all relevant laws.[20]

Good building outcomes rely on good performance by the parties involved. Notwithstanding minor (and recent) differences in the regulatory requirements amongst the different professionals, it is beyond reasonable argument that the key professionals have the following minimum responsibilities:

PROFESSIONAL ROLE	MINIMUM PROFESSIONAL RESPONSIBILITIES
Building designers (inc. architects, draftspersons and engineers)	• Produce designs and building plans that comply with all laws, including the BCA. • Provide advice about compliance pathways for building elements that do not meet DTS. • Produce drawings and plans for construction with a level of specificity to enable relevant building practitioners to understand and implement the design.
Engineers including fire safety engineers	• Provide accurate advice about their area of engineering to ensure designs are compliant and safe. • Consider if the building as a whole is designed to meet fire safety regulations and standards. • Identify errors in design which may give rise to risks.
Building surveyors	• Review building plans for compliance with laws, including the BCA. • Must not issue a building permit unless designs are assessed as compliant.

Finally, when engaged as head contractor, the builder coordinates and supervises tradespeople. Under the supervision of the head contractor, tradespeople undertaking building work are obliged to do so in compliance with the Act, the Regulations (incorporating the BCA) and the building permit. [21]

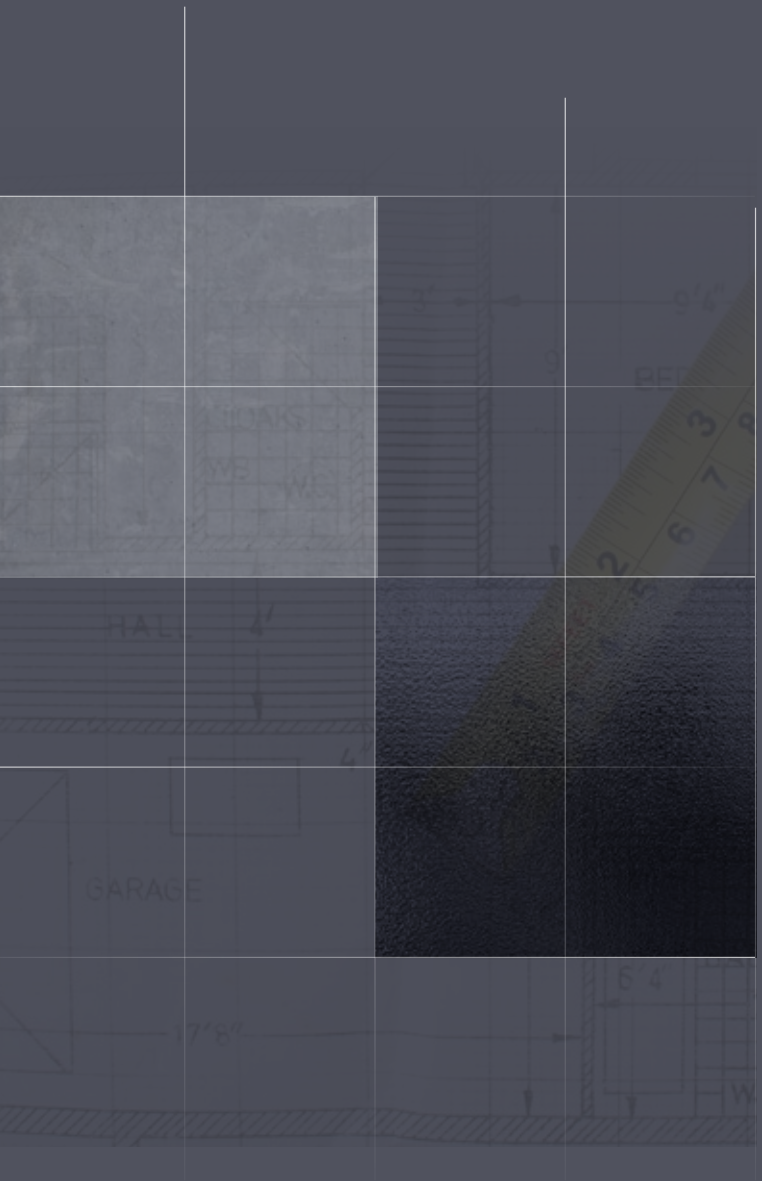
Where building plans lack specificity, a builder should liaise with the designer(s) and surveyor to ensure that all requirements are met.

19 *Architects Regulations 1993,* r 5; *Architects Regulations 2004,* r 6.

20 *Architects Regulations 2015,* r 6 and schedule 1, clause 1.

21 The Act, s 16(2).

4. Key findings

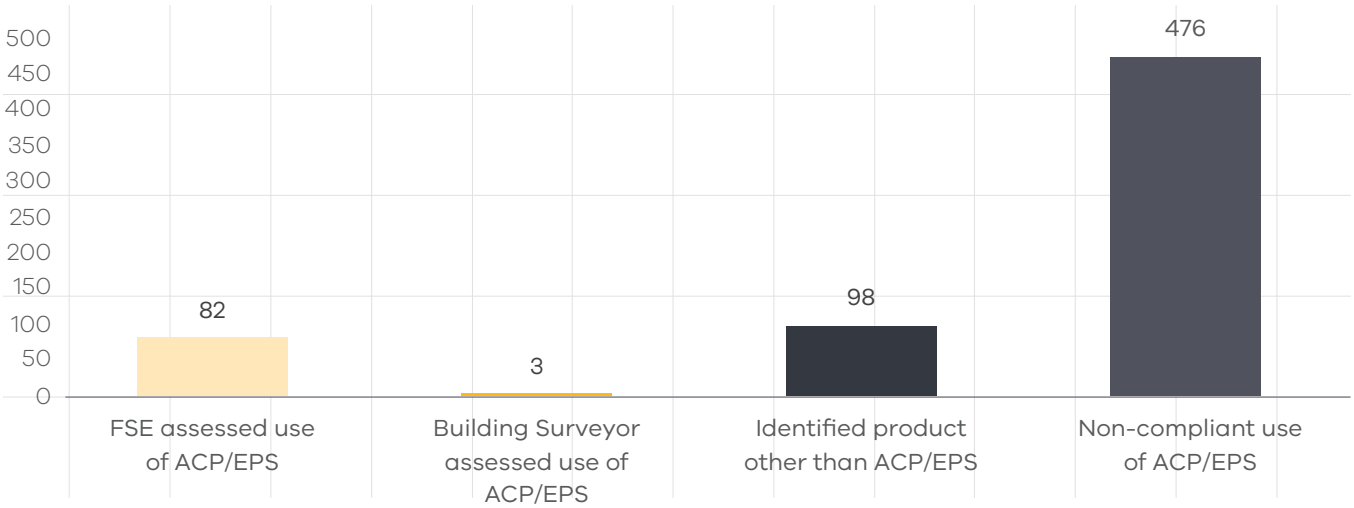


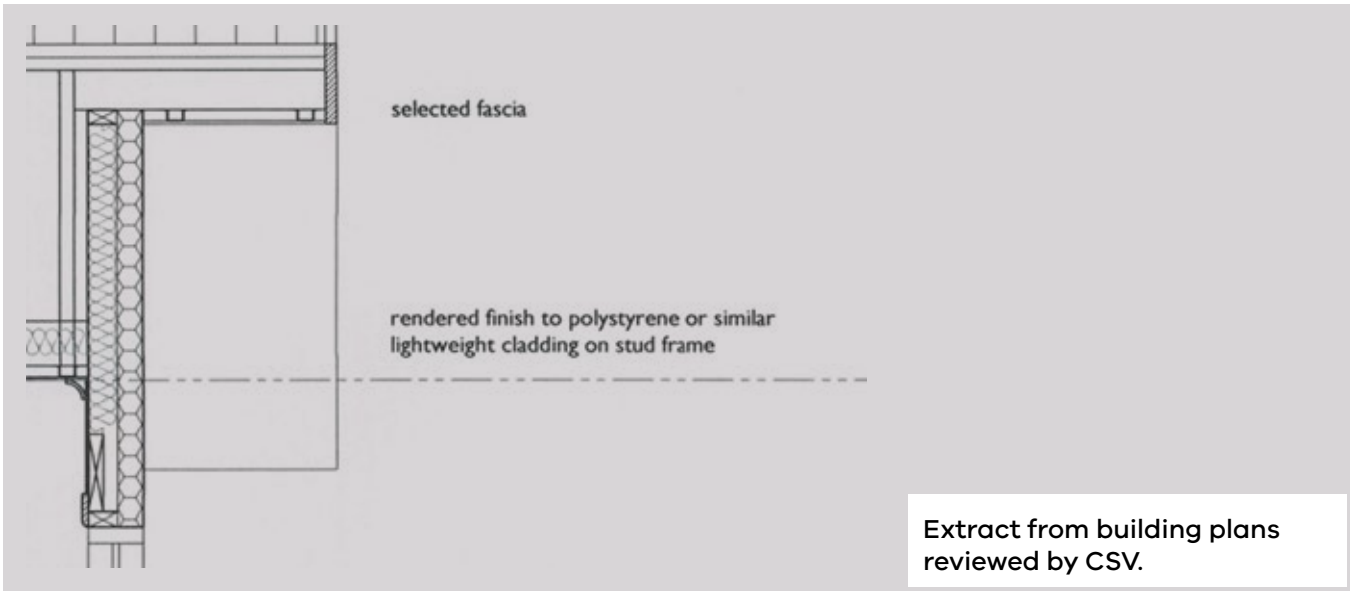
4.1 Non-compliant uses of combustible cladding

CSV reviewed the original plans and permits for 1000 referred buildings. Adequate information was available to yield robust conclusions for about 804 buildings. Amongst this set, cladding compliance could be determined in 659 cases. Contrary to the requirements of the BCA, CSV found that there was no performance solution for the specification of ACP or EPS as a cladding product in 72% of these cases.[22]

Chart 1 summarises CSV's findings with respect to the use of ACP or EPS on buildings reviewed.

Chart 1: Use of combustible cladding (n=659)





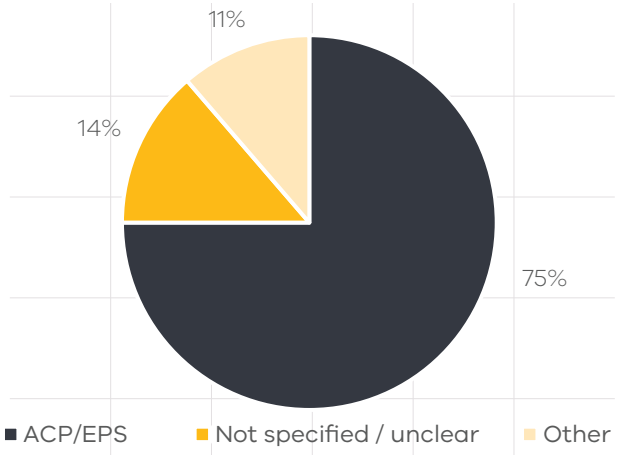
Extract from building plans reviewed by CSV.

22 As explained in **section 3**, specification and installation of combustible cladding on Class 2 apartments buildings having a rise in storeys of three or more, without justification by an FSE, is non-compliant. Furthermore, assessment of the ACP or EPS by an FSE does not necessarily mean that compliance was achieved, as explained in **section 3.3** and **section 4.4** (**Chart 10**).

4.2 Specification of combustible cladding in building design

Amongst the 804 buildings where adequate documents were available, and as shown in **Chart 2**, CSV was able to identify the type of wall cladding specified by building designers for 694 buildings (86%). ACP or EPS cladding was specified on 603 of these buildings (75%).

Chart 2: Material specified (n=804)

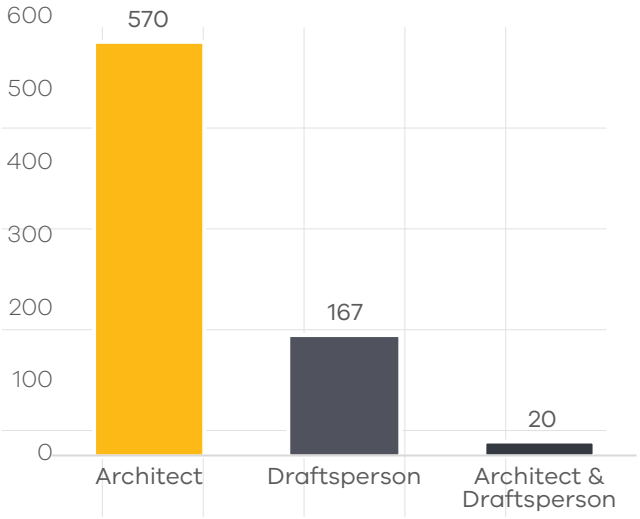


In 110 buildings (14%), the type of cladding was unclear or not specified on the relevant building plans and permits available to CSV. It is therefore uncertain how the building surveyor could have been satisfied that the building work would comply with the BCA, as required by section 24 of the Act.

In 91 buildings reviewed (11%), cladding other than ACP or EPS was specified. Materials categorised as "other" include materials such as fibre cement sheets and timber products.[23]

The building designer was identified in 757 of the 804 buildings where sufficient documents were available (94%).[24] As shown in **Chart 3**, an architect was identified on the building permit or available plans for 570 of these buildings (75%). A draftsperson alone was identified on 167 building permits or plans (22%).

Chart 3: Building designer identified (n=757)

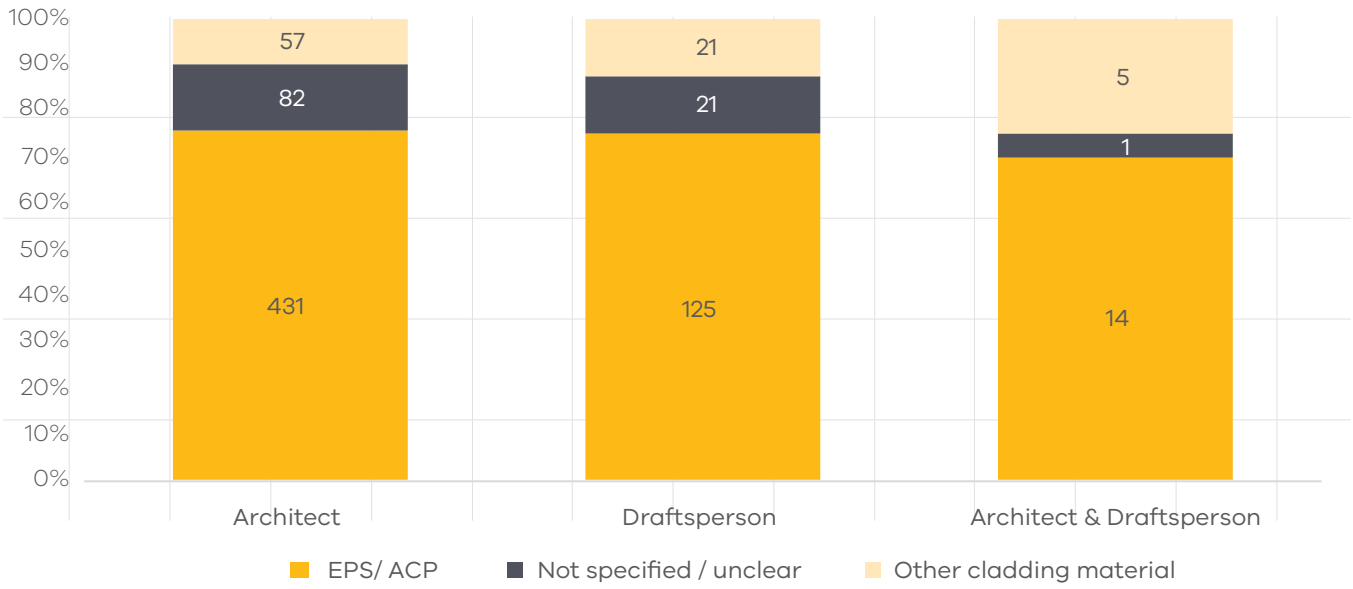


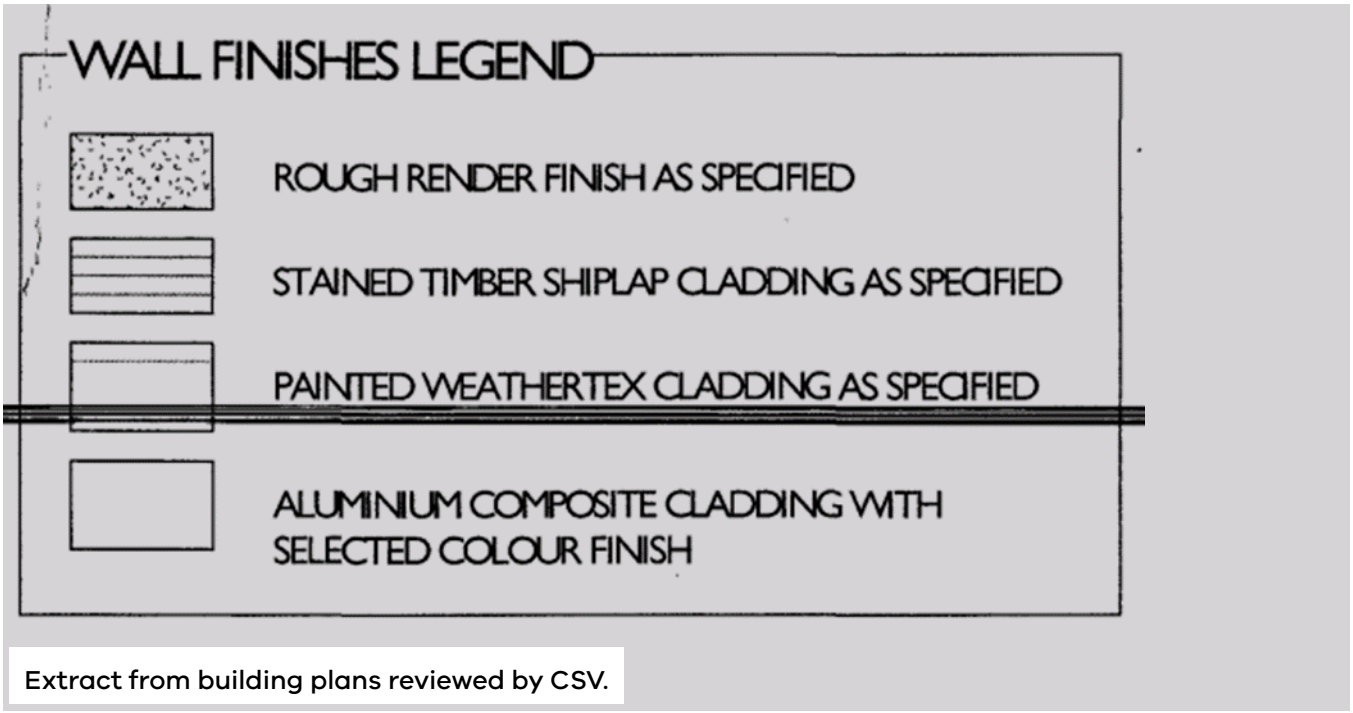
23 Timber is self-evidently combustible. The pathway to demonstrate compliance for timber cladding is the same as the compliance pathway for ACP and EPS but was equally overlooked in the permits reviewed. Notwithstanding, this report focuses on specifications of ACP and EPS which were prioritised for audit in the Statewide Cladding Audit by the VBA.

24 In the remaining buildings, neither the building permit nor plans identified the building designer.

Where a building designer could be identified, **Chart 4** demonstrates that both architects and draftspersons specified ACP or EPS cladding on building plans in similar proportions.

Chart 4: Building designer cladding specification (n=757)



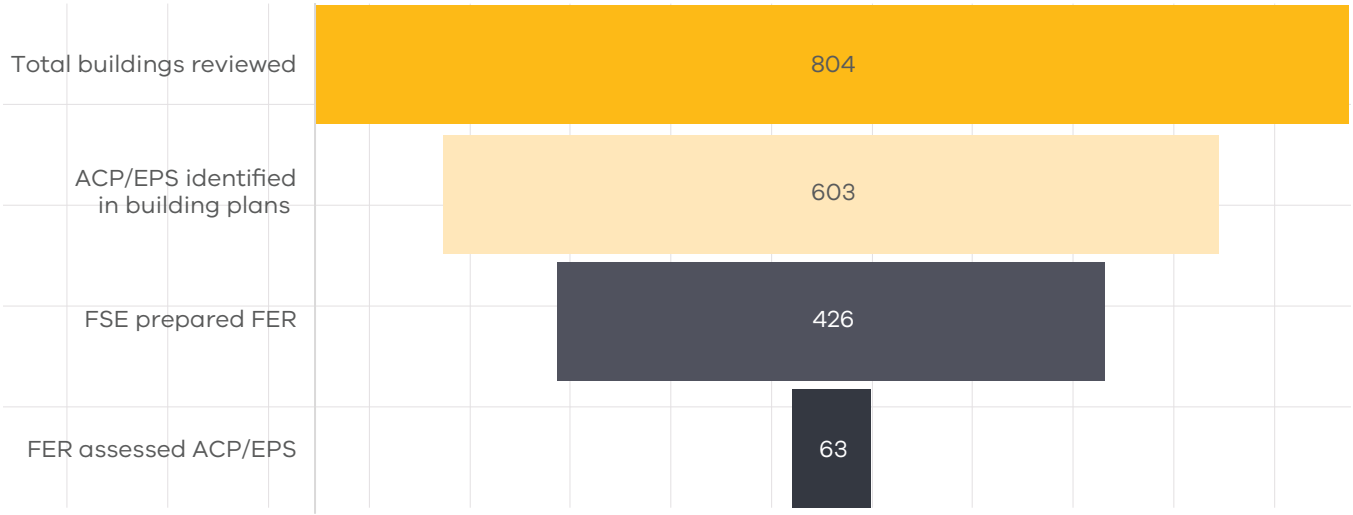


Extract from building plans reviewed by CSV.

4.3 Assessment of combustible cladding for compliance

ACP or EPS cladding was specified on 603 buildings (75%). **Chart 5** demonstrates that a FSE prepared a FER for 426 of these buildings (71%). The FSE assessed the suitability of the combustible cladding against the performance requirements for 63 of these buildings (15%).

Chart 5: FSE assessment of specified ACP/EPS (n=804)

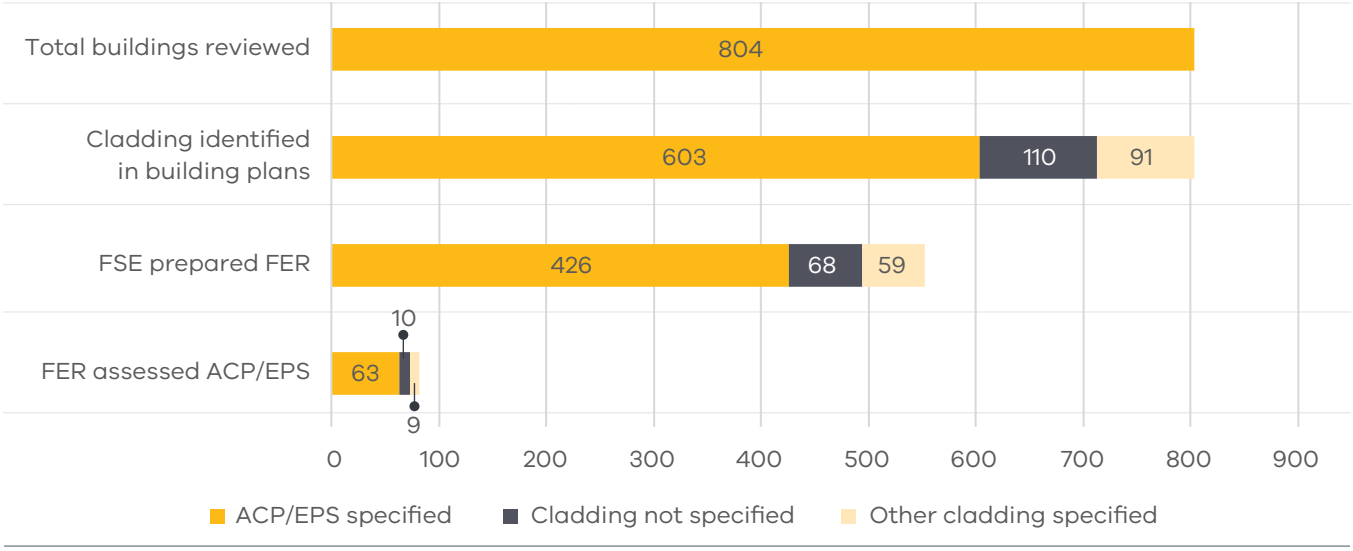


As shown earlier in **Chart 2,** the type of cladding was unclear or not specified in 110 cases (14%). A type of cladding "other" than ACP or EPS was specified in 91 cases (11%). As shown in **Chart 6,** an FSE was engaged in many of these cases (68 and 59 cases, respectively).

Chart 6 also demonstrates that:

- In 10 cases, the FER assessed the use of ACP or EPS even though the cladding was not identifiable on the plans which formed part of the building permit; and
- In 9 cases, the FER assessed the use of ACP or EPS even though a cladding other than ACP or EPS was specified on the plans which formed part of the building permit.

Chart 6: FER assessment of cladding (n=804)



It is not immediately apparent why the FSE would assess combustible cladding where cladding was not identifiable on the plans which form part of the building permit, or why the FSE would assess a cladding product other than that which was specified on the plans. This incongruity may be explained by a failure by the RBS to lodge the latest plans or FERs with local Government pursuant to regulatory requirements. If correct, this administrative error in document management means that it is not possible to be certain which product was in fact approved in the building permit.

Chart 2 is replicated below against **Chart 7.** These charts demonstrate that for 603 buildings where ACP or EPS was specified as the cladding material:

- A performance solution was prepared for matters other than combustible cladding for 362 buildings (60%) but the FSE failed to turn their attention to the combustible cladding
- A performance solution was prepared addressing the suitability of combustible cladding for 66 buildings (11%); and
- No performance solution was prepared for 175 buildings (29%).

One explanation may be that FSEs limited their assessments to the briefs put to them, rather than considering the buildings in their entireties and the risks associated with the overall design.

Chart 2: Material specified (n=804) (from Page 17)

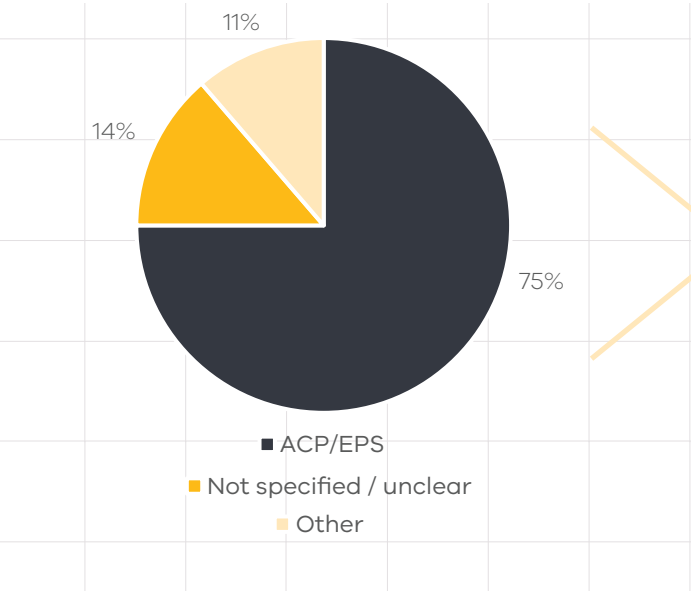


Chart 7: FSE assessment of ACP/EPS (summary) (n=603)

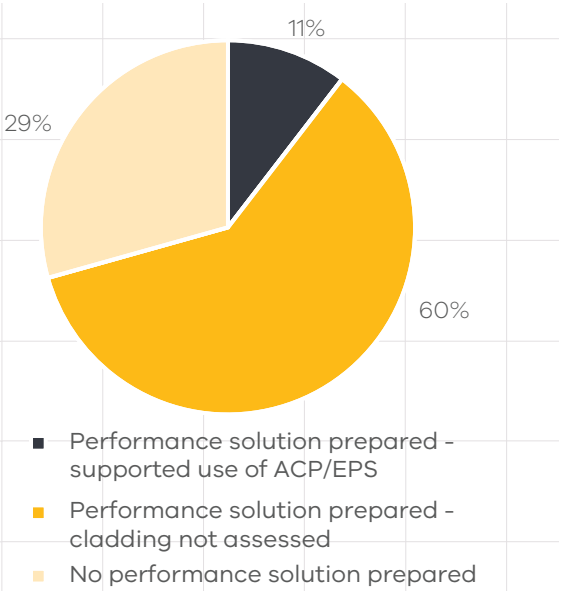
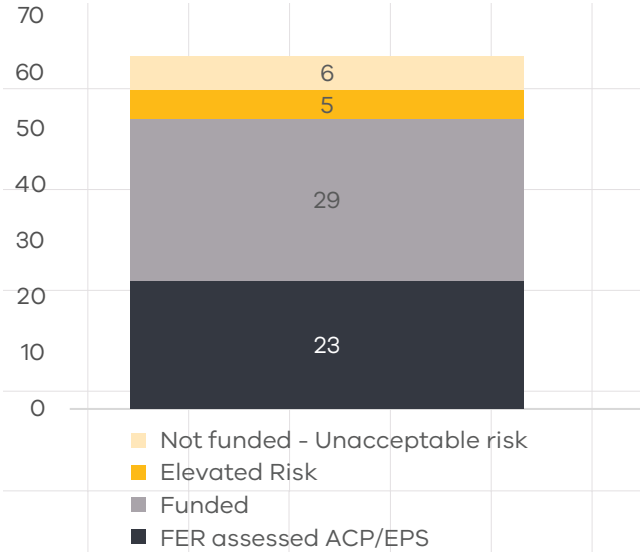


Chart 8 demonstrates that CSV funded cladding rectification work for 29 buildings even though the FER purported to justify the use of ACP or EPS which had been specified in the plans (46%). This is because despite assessment of the use of combustible cladding against the performance requirements, a risk to life safety associated with the use of that cladding was determined by CSV as warranting rectification works.[25]

Chart 8: FER assessed ACP/EPS - funding status (n=63)



25 Notably, CSV did not fund rectification works for six prima facie unacceptable risk buildings where an FSE originally justified the use of the cladding. A decision not to fund rectification works does not necessarily represent an endorsement of the original FSE justification. CSV assesses cladding risk on Class 2 buildings by having regard to the contiguous spread of combustible cladding across multiple sole-occupancy units and the availability of sprinkler protection. Notwithstanding the prima facie unacceptable risk arising from the contiguous spread of cladding for these six buildings, on closer examination the risk may have been considered reduced by one of several reasons, including the identification of a product with reduced combustibility or the existence of sprinklers.

4.4 Regulatory oversight

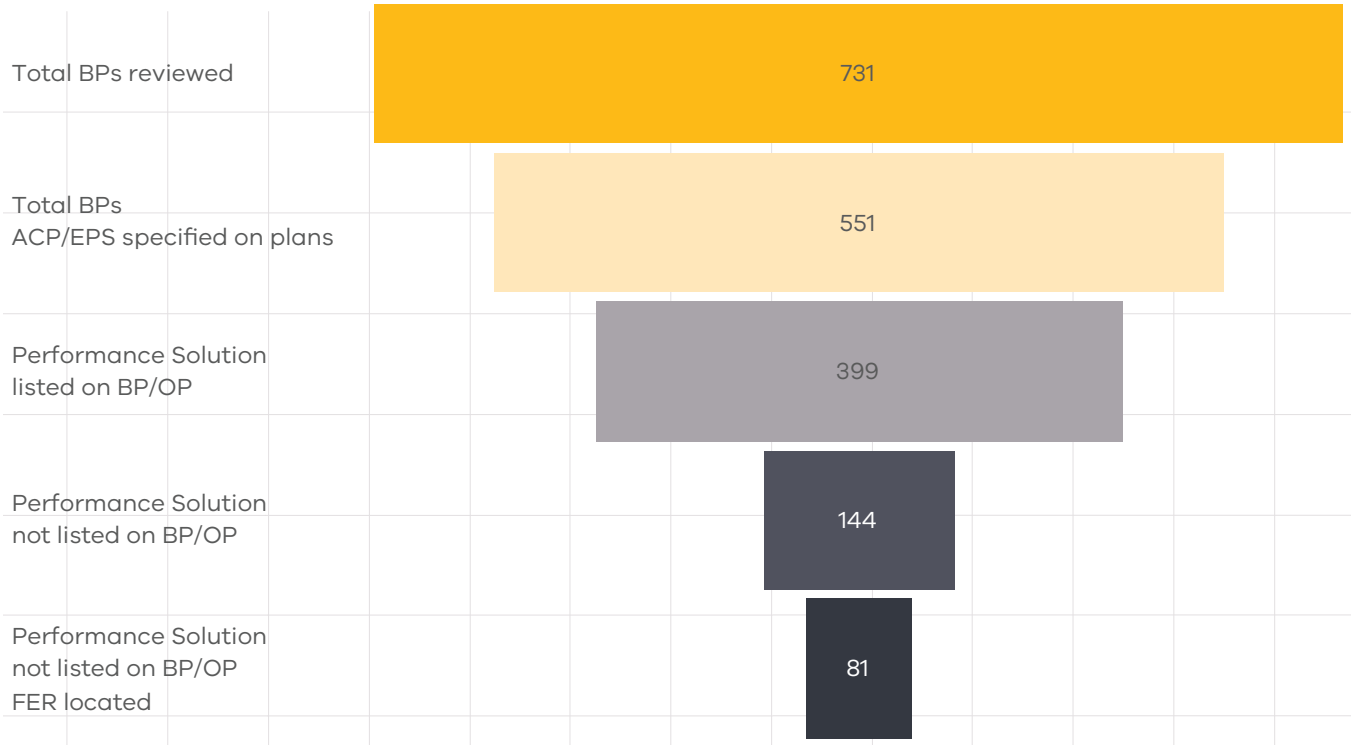
There are several methods an RBS may use to determine that a performance solution complies with a fire performance requirement of the BCA.[26] Irrespective of the method adopted, the RBS is required to record details of the performance solution and the relevant performance requirements on the building or occupancy permit.

CSV reviewed permits for 731 buildings to identify whether performance solutions relating to the use of ACP or EPS as external wall cladding had been listed.[27] **Chart 9** shows that for buildings where permits were reviewed:

- ACP or EPS was specified on plans for 551 buildings (75%)
- Performance solutions were listed addressing a variety of matters on building or occupancy permits for 399 buildings (55%)
- Performance solutions were not listed on either building or occupancy permits for 144 buildings (20%)
- Performance solutions were not listed on either building or occupancy permits for 81 buildings (11%) even though FERs were located assessing departures from DTS requirements and assessing suitability for performance solutions.

This reveals a commonplace failure to list performance solutions on the relevant building or occupancy permits as required by the Regulations.

Chart 9: Performance Solution specified on BP/OP (n=731)



26 See, for example, section 238, the Act; and regulation 121, the Regulations.

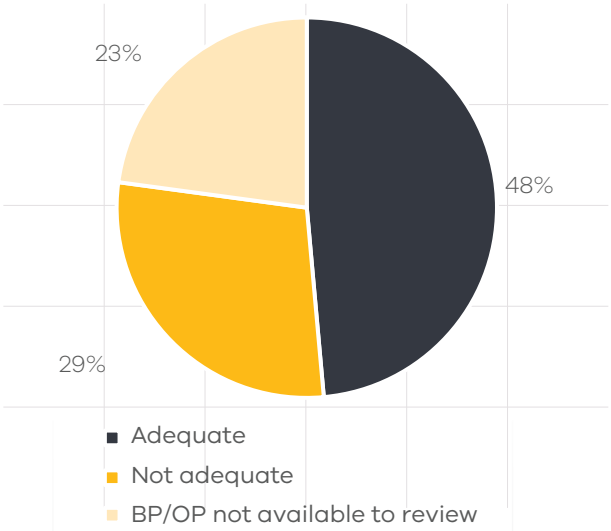
27 CSV has a copy of the building permit in relation to 730 of the buildings within the CSV data set (see **Appendix A: CSV's data set** of this report).

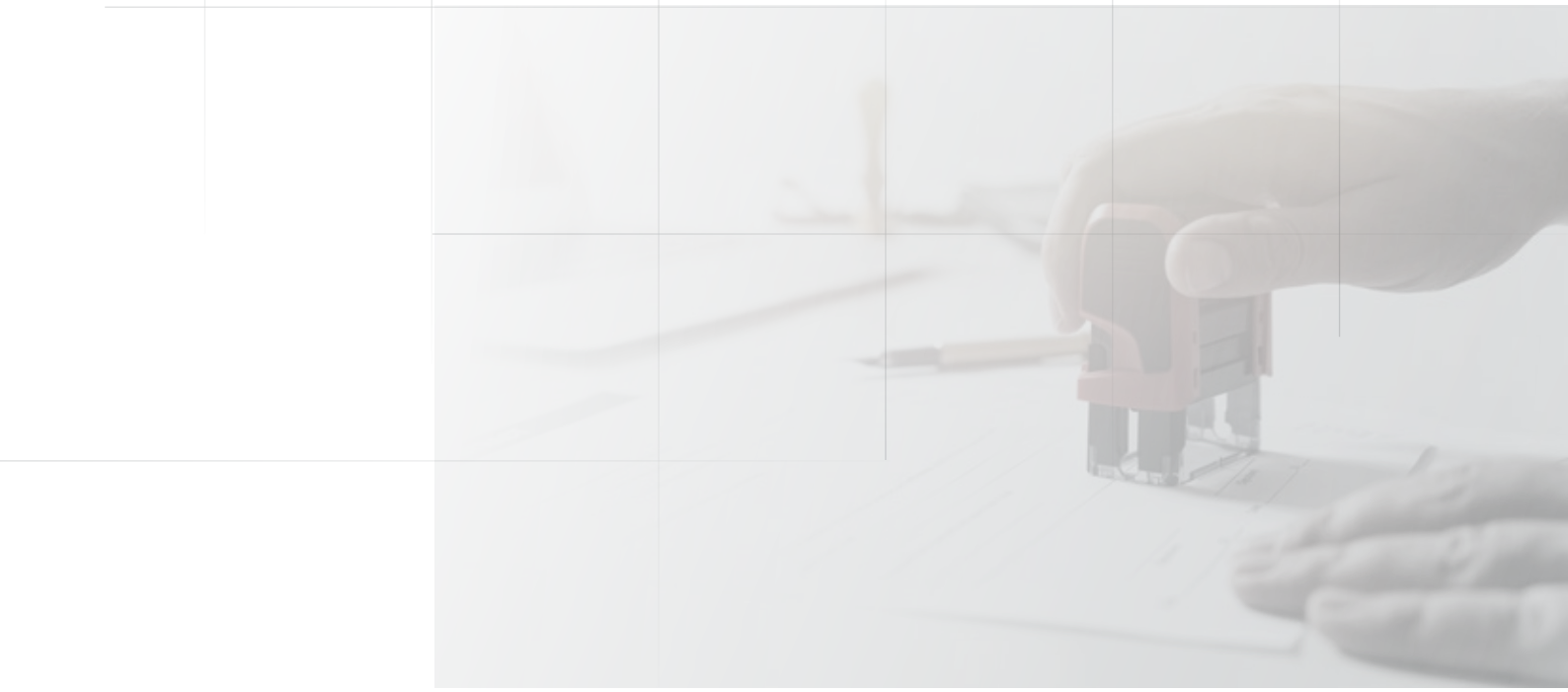
CSV reviewed a sample of 35 buildings and occupancy permits where an FSE prepared a FER assessing ACP or EPS as suitable for use as external wall cladding. As shown by the results in **Chart 10**, CSV found that a corresponding performance solution:

- was adequately included on the building or occupancy permit (or both) in 17 cases (48%)[28]
- was not adequately recorded on the building or occupancy permit in 10 cases (29%).

In 8 cases (23%), either the building or occupancy permit was not available for review.

Chart 10: Performance solution listed on BP/OP (n=35)





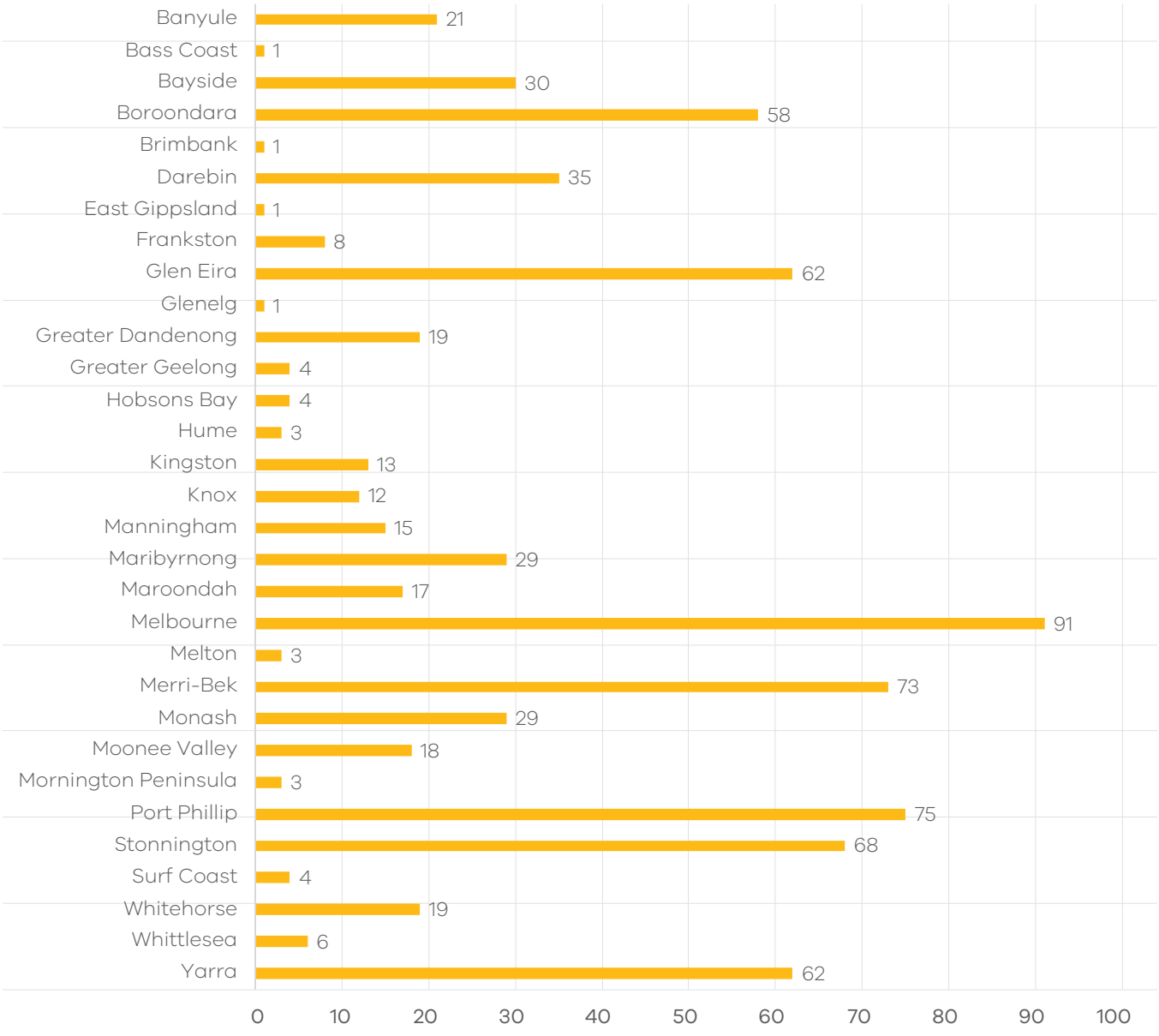
28 CSV considered the recording of the performance solution was adequate where the relevant performance requirement was noted (i.e., CP2) and the description of the performance solution included sufficient detail to understand the nature of the performance solution.

4.5 Reporting to regulator

The RBS is required to lodge approved building and occupancy permits, with endorsed drawings, with the relevant council.

CSV has a copy of the occupancy permit issued by the RBS for approximately 98% of buildings reviewed. **Chart 11** illustrates the municipality for which occupancy permits were issued for buildings reviewed by CSV.

Chart 11: OPs issued by municipality (n=785)



4.6 Extent of involvement

CSV has considered the extent of involvement of individual practitioners identified in projects reviewed for the purposes of this report.

Building Designers

As shown earlier in **Chart 3**, CSV has information about the building designer in relation to 757 projects reviewed:

- In 570 cases an architect was identified
- In 167 cases a draftsperson was identified; and
- In 20 cases both an architect and draftsperson were identified.

Representation of architects

256 unique architects were identified. This represents approximately 5% of the average number of architects registered between 2007 and 2018.[29]

172 architects were found to be associated with 357 projects assessed by CSV as non-compliant. This means that non-compliance was observed across 67% of the population of identified architects.

23 individual architects were associated with 50% of the 357 non-compliant projects.

Chart 12 illustrates the spread of projects across individual architects:

- seven individual architects were identified across 10 or more projects each
- nine individual architects were identified across five to nine projects each; and
- 156 individual architects were identified across fewer than five projects each.

Chart 12: Number of non-compliant projects per identified architect (n=172)

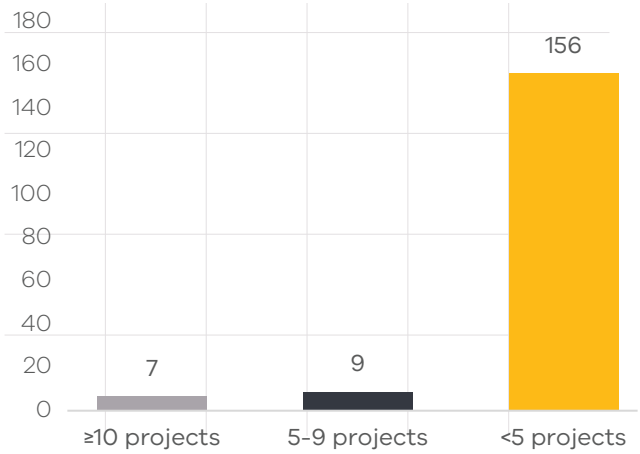
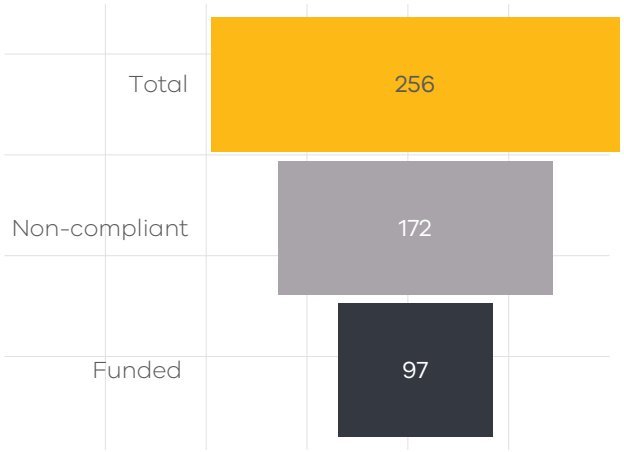


Chart 13 demonstrates the following:

- 256 unique architects were identified
- 172 unique architects were involved with the specification of non-compliant combustible cladding (67%); and
- CSV funded cladding rectification work in relation to the work of 97 unique architects, representing 38% of the population of identified architects.

Chart 13: Representation of architects across CSV buildings (n=256)



29 Based on registration data published in the Architects Registration Board of Victoria annual reports. CSV expects the proportion of practitioners represented in CSV's data set is likely higher, as it is unlikely that 100% of registered architects were available or practising in relation to Class 2 buildings.

Representation of draftspersons

93 unique draftspersons were identified. This represents approximately 4% of the average number of draftspersons registered between 2015 and 2018.[30]

61 unique draftspersons were associated with projects identified by CSV as non-compliant. Those 61 draftspersons were associated with 98 non-compliant projects.

14 draftspersons were associated with 50% of non-compliant projects.

Chart 14 illustrates the spread of projects across individual architects:

- one individual draftsperson was identified across more 10 or more projects
- two individual draftspersons were identified across five to nine projects each; and
- 58 individual draftspersons were identified across fewer than five projects each.

Chart 14: Number of non-compliant projects per identified draftsperson (n=61)

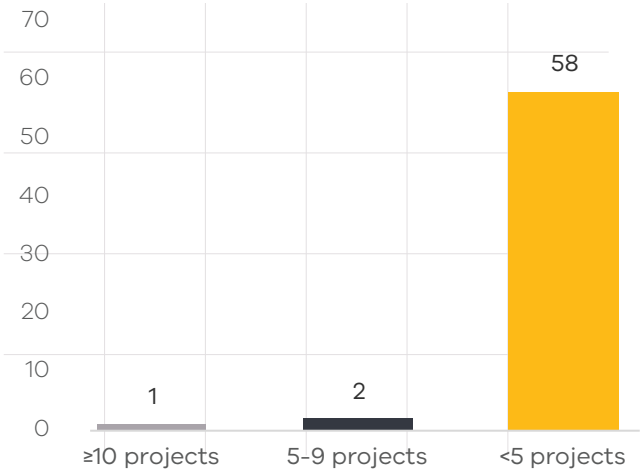
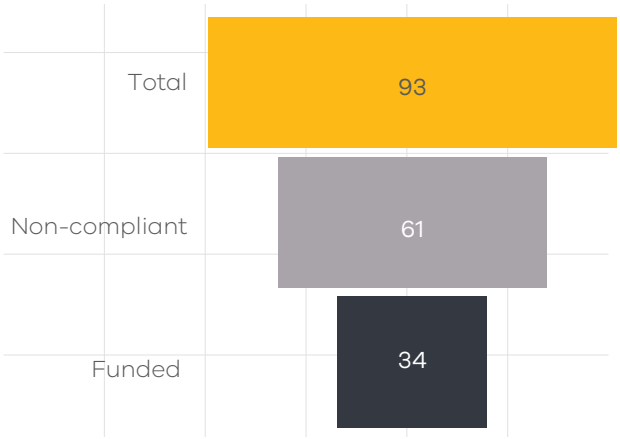


Chart 15 demonstrates the following:

- 93 unique draftspersons were identified
- 61 unique draftspersons were involved with the specification of non-compliant combustible cladding (66%); and
- CSV funded cladding rectification work in relation to the work of 34 unique draftspersons, representing 37% of the population of identified draftspersons.

Chart 15: Representation of draftspersons across CSV buildings (n=93)



30 Percentage of draftspersons identified calculated by reference to VBA registration data published in annual reports available from 2015 onwards, which until recently aggregated all classes of draftspersons. Percentage of draftspersons likely higher when calculated by reference to specific class of draftsperson registered to undertake architectural drafting.

Fire Safety Engineers

140 unique FSEs were identified.[31] This represents approximately 108% of the average number of FSEs registered between 2007 and 2018.[32]

113 FSEs were found to be associated with projects identified by CSV as non-compliant. This represents 81% of the population of identified FSEs. In total, those 113 FSEs were associated with 534 non-compliant projects.

Six individual FSEs were associated with 50% of those non-compliant projects.

Chart 16 illustrates the spread of projects across individual FSEs:

- 11 individual FSEs were identified across 10 or more projects each
- nine individual FSEs were identified across five to nine projects each; and
- 93 individual FSEs were identified across fewer than five projects each.

Chart 16: Number of non-compliant projects per identified FSE (n=113)

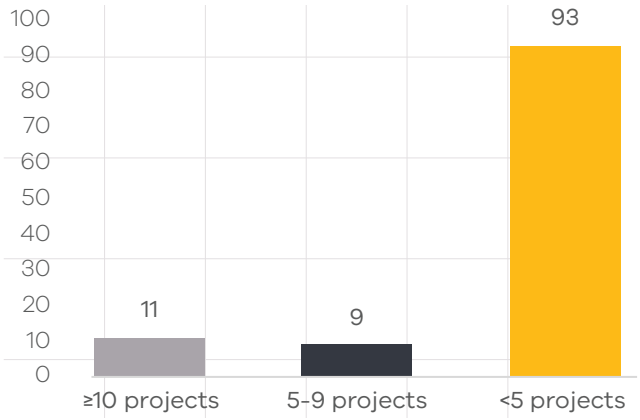
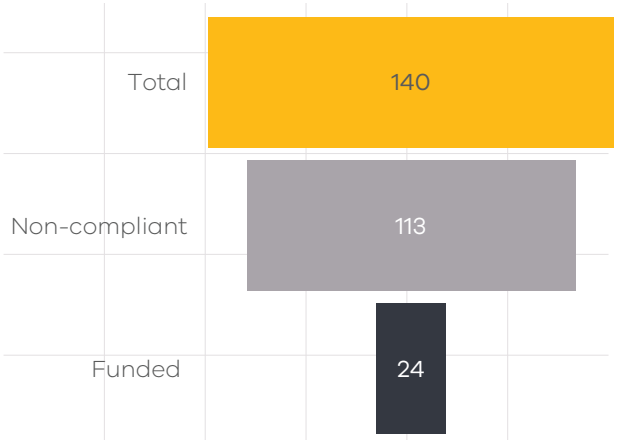


Chart 17 demonstrates the following:

- 140 unique FSEs were identified (as either author, reviewer or approver of FERs reviewed)
- 113 unique FSEs were involved with the specification of non-compliant combustible cladding (81%); and
- CSV funded cladding rectification work in relation to the work of 24 unique FSEs, representing 17% of the population of identified FSEs.

Chart 17: Representation of FSEs across CSV buildings (n=140)



31 CSV identified that a FER was prepared for 555 buildings. CSV identified 140 individual fire engineers as involved in the preparation of FERs as either author, reviewer or approver recorded in each FER.

32 According to registration data supplied by the VBA in June 2024. Notably, CSV identified a greater number of unique FSEs than the *average* number of FSEs registered with the VBA during the period. This reflects the significant increase in the number of registered FSEs in the relevant period.

Relevant building surveyors

135 unique RBSs were identified.[33] This represents approximately 82% of the average number of building surveyors who were recorded to have issued building permits for Class 2 buildings during each year between 1998 and 2018.[34]

111 RBSs were associated with projects identified by CSV as non-compliant. This represents 82% of the population of identified RBSs. In total, those 111 RBSs were associated with 456 non-compliant projects.

18 RBSs were associated with approximately 50% of those non-compliant projects.

Chart 18 illustrates the spread of projects across individuals RBSs:

- 13 individual RBSs were identified across 10 or more projects each
- 17 individual RBSs were identified across five to nine projects each; and
- 81 individual RBSs were identified across fewer than five projects each.

Chart 18: Number of non-compliant projects per identified RBS (n=111)

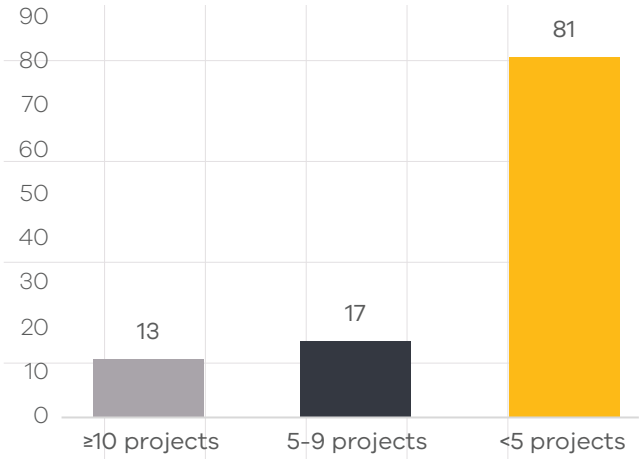
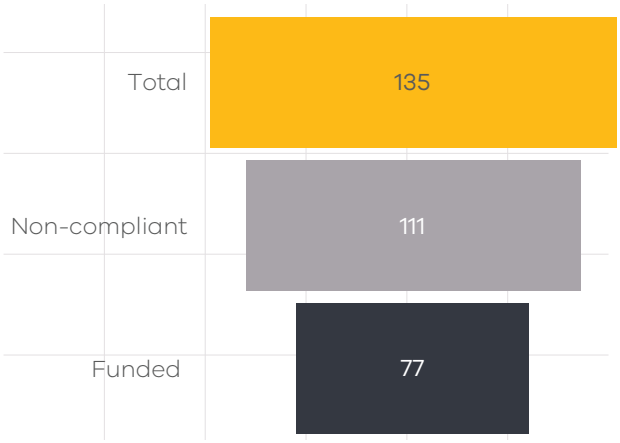


Chart 19 demonstrates:

- 135 unique RBSs were identified
- 111 unique RBSs were involved with the specification of non-compliant combustible cladding (82%); and
- CSV funded cladding rectification work in relation to the work of 77 unique RBSs, representing 57% of the population of identified RBSs.

Chart 19: Representation of RBS across CSV buildings (n=135)



33 There were several instances where more than one RBS was involved in a project, indicating that a transfer of functions had taken place during the project.

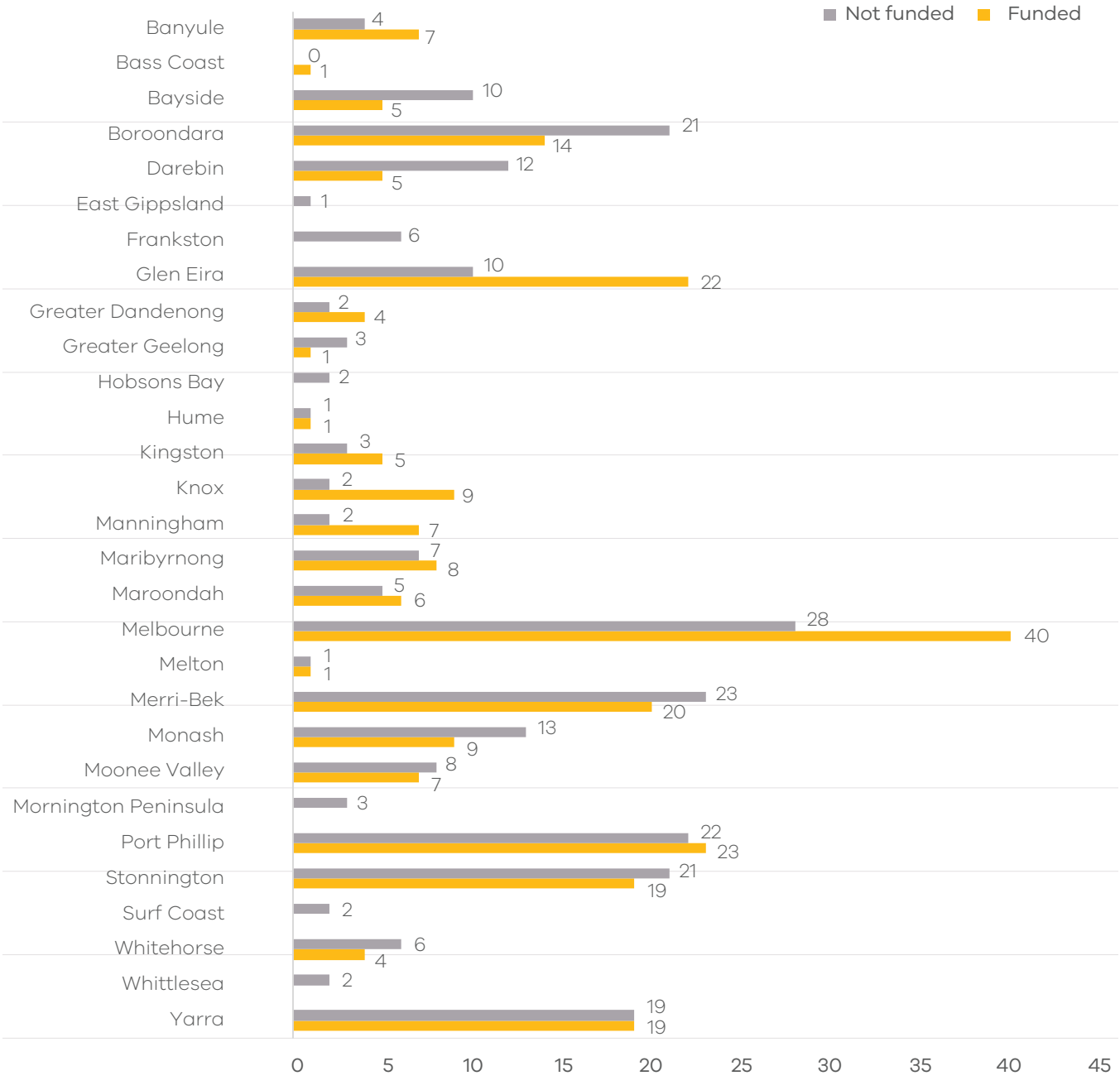
34 According to permit data supplied by the VBA in June 2024, an annual average of 164 building surveyors were involved in issuing permits for Class 2 buildings for the period 1998 and 2018.

Prevalence of buildings designed by municipality

The RBS is required to lodge approved building and occupancy permits, with endorsed drawings, with the relevant council. Following lodgement of the occupancy permit, the relevant council's MBS is thereafter responsible for monitoring compliance of that building.

Chart 20 illustrates the number of buildings in each municipality that CSV has identified as having non-compliant cladding specified in the building plans. The chart also indicates the number of buildings per municipality that are being funded by CSV and which were assessed in this study. The chart does not however represent all funded buildings.

Chart 20: Non-compliant buildings per municipality (n=476)



5. Discussion

5.1 Observations

Architects, draftspersons and FSEs are often engaged on large construction projects. A building surveyor will always be involved to determine building permit applications. Architects, draftspersons, FSEs and building surveyors will all be subject to specific contractual obligations which will define their roles on a project.

In Victoria, these professionals are also regulated. To practise in the construction industry, they must be registered. The consultants and building surveyors were, at the relevant times, obliged by the applicable regulations to deliver services in a competent manner and to a professional standard. Competence and professionalism undoubtedly require compliance with law.

This means that designers are accountable for the compliance of designs issued for construction. Builders are held accountable for adherence to those designs. While non-compliance may not crystallize until a building permit is issued without a performance solution, building designers need to understand whether a performance solution is required and may be available, in order to discharge their professional responsibilities.

The regulatory standard of competence and professionalism will usually be replicated in the relevant consultant contract. Regardless of the contractual arrangements between the consultant and their client (including, for example, whether they are engaged on the basis that they will be novated to a contractor or not), the consultant still has the above foundational regulatory obligations.

CSV's review of building documentation has revealed that the design and permit decisions were an early and causative factor leading to the installation of dangerous combustible cladding on apartment buildings.

Assuming that deliberate and conscious disregard of law amongst professionals is rare, the specification of combustible cladding suggests that these professionals either:

- Did not know that external wall cladding on apartment buildings must be non-combustible;
- Did not turn their mind to whether the specified external wall cladding was non-combustible; or
- Did not know that ACP or EPS are combustible.

Anecdotally, CSV has observed the specification and permitting of timber cladding on many referred buildings.[35] Specification and permitting of this *obviously* combustible product supports the proposition that these professionals did not know, or did not turn their minds to the fact that apartment external wall cladding must be non-combustible.

Alternatively, some professionals have suggested that industry members were aware of the non-combustible requirement but mistook non-combustibility certifications for other fire-related certifications. Specifically, these professionals have suggested that because ACP and EPS products sometimes meet the standards set by Part 3 of AS 1530, many professionals unwittingly concluded that these products were non-combustible.[36]

35 The specification of timber in designs and permits was not a primary focus of this Report and so data is not available.

36 This report does not consider the role, if any, of third-party manufacturers or distributors in that serious error.

However, Part 1 of AS 1530 provides the combustibility standard, whereas Part 3 certifications provide information about a product's performance during a fire through ignitability, flame propagation, heat release and smoke release tests. These materially different tests have different applications in the BCA. Whilst confusion is understandable, mistaking test results for different applications of the same product is self-evidently serious, particularly in relation to combustibility.

Some have suggested that architects and draftspersons were entitled to rely on the other professionals engaged to address all compliance-related issues arising from the designs. Notwithstanding the inter-related roles of the parties, deferral of obligations to other parties does not meet the regulatory standards of professionalism and competence imposed on architects and draftspersons at the relevant times. A failure by one professional does not absolve another of their own responsibilities.

Others have suggested that engineers should have been required to provide advice only in relation to those matters raised in their brief. However, as confirmed by the *Lacrosse* case, an engineer's failure to identify risks in a design constitutes a failure to meet expected standards of professionalism and competence.

Contrary to much conjecture, Government has not changed the combustibility standard for external cladding since these buildings were designed and permitted. This incorrect view suggests that the professionals adopted the correct approval pathway for these products at the time the buildings were designed, but that Government has since changed its mind on the products' suitability.

As set out in **section 4** of this paper, ACP or EPS was specified in 75% of cases where CSV had adequate documentation to reach a compliance conclusion. In 60% of those cases, the FER failed to address the combustible cladding. In 29% of cases, an FER was not endorsed and appended to the building permit and so a performance solution was not developed. Accordingly, in nearly 90% of cases, the combustible nature of the ACP or EPS was not addressed in a performance solution developed by an FSE.

An FSE attempted to justify the cladding in only 11% of these cases. Amongst this subset only, CSV took an unfavourable view of the purported justifications in 46% of cases and funded rectification works. CSV funds work according to risk assessments based on the spread of fire via combustible cladding. A decision not to fund rectification works does not necessarily represent an endorsement of the original FSE justification. Rather, a decision not to fund rectification works is usually made because the limited contiguous spread of cladding amounts to a reduced cladding risk.

Further work should be undertaken by Government to determine whether this poor understanding extends to other BCA requirements.

CSV has funded cladding rectification works for over 400 buildings the subject of this review, and expects to provide non-financial support to building owners for hundreds more buildings. CSV's findings confirm that in a large number of cases, substandard building design documentation contributed to the installation of combustible cladding on residential apartment buildings, necessitating State intervention.

5.2 Findings

This review has revealed several compliance failures amongst the various professionals.

5.2.1 Building designers specified combustible cladding.

It is apparent that both architects and draftspersons involved in the preparation of building designs routinely specified combustible cladding for use in construction. In only a small number of projects was a performance solution prepared by an FSE to justify the use of ACP or EPS. In even fewer cases did the RBS determine that the performance solution met the performance requirements and list the solution on the building or occupancy permit.

Combustible products were specified in building designs included in building permit documents. The plans were generally marked "for construction", "construction issue" or stamped by the RBS as forming part of the building permit. This confirms that the designs were at an advanced stage in order to support the issuance of a building permit and the commencement of building works.

This finding confirms that architects and draftspersons routinely specified products that did not meet the DTS pathway for compliance and that FSEs failed to develop performance solutions. These issues were not addressed by RBSs.

Notably, as professionals and regulated entities, architects and draftspersons are required to provide services that are consistent with law. Following the approach taken in the *Lacrosse* case, the FSE and RBS should have identified the compliance issues associated with the products specified for use in construction. Whilst these steps may have occurred in respect of buildings not referred to CSV, the findings in this report suggest that these failures were nevertheless systemic and widespread.

5.2.2 Novation does not change the designer's obligation at law to produce compliant designs.

Contractual mechanisms like novation of a consultant agreement from one client to another (i.e. to a contractor) does not interrupt a consultant's obligation at law to produce designs which comply with regulatory requirements. In order to ensure that designs comply, designers need to understand the requirements of the BCA, including where a performance solution is required and may be available.

CSV is aware that architects consider poor outcomes often arise due to the novation of contracts or not utilising the architect engaged for the project to project manage the construction. CSV understands that architects consider that supervision of a project by an architect would ensure build quality, by ensuring construction accords with the architect's specifications.

This report does not expressly address this question. This report addresses whether building designers met their primary regulatory obligations which arise before construction commences.

It is notable that if building documentation is not compliant before construction commences, it is unlikely that any project supervision, whether by an architect or otherwise, will achieve a compliant outcome if the goal is to build in accordance with the specifications.

Combustible cladding was specified in many designs prepared by architects and draftspersons, including in architectural plans endorsed in building permits. Even if novation occurred, the architect's obligations at law remain unaffected. The only change that occurs following novation is the identity of the client - that is, the client becomes the builder. The builder may, of course, choose to instruct the consultant to make changes to the design

documents after novation (either before or after the building permit has been sought and issued) in order to, for example, reduce the costs of construction or address buildability issues.

However, regardless of whether novation occurs, and regardless of whether the builder gives such a direction (noting that the original client may also give such directions, even where novation is not contemplated), the building designer's obligations at law remain unchanged - that is, they must produce designs that comply with the BCA.

5.2.3 Building plans often lack adequate detail for construction.

In many instances, building design documentation reviewed by CSV lacked appropriate detail to determine what, if any, external wall cladding product had been specified by the building designer. In the absence of detail, builders may be forced to improvise during construction, which can lead to the adoption of non-compliant materials and may itself amount to building work without or contrary to a building permit, which is prohibited by the Act. This review was limited to assessments of building design and permit documentation and did not extend to verification of products ultimately installed on a building by a builder.

If building plans are not sufficiently clear to enable a building to be constructed, the building designer has failed in their duty to produce plans that comply with the BCA. A building permit should not be issued if there is insufficient detail to satisfy the RBS that the building work will comply.

5.2.4 Engineers failed to develop performance solutions when required.

Where specified products do not meet the DTS requirements of the BCA, a performance solution should be considered to assess whether the product complies with the performance requirements.

The absence of performance solutions to support the use of ACP or EPS in the majority of buildings reviewed by CSV indicates that consultants and building surveyors either overlooked or were not aware that products specified were combustible. The *Lacrosse* case suggests that industry as a whole did not understand the compliance issues associated with ACPs and collectively adopted their use without further consideration.

Alternatively, it may be the case that consultants (and perhaps some building surveyors) simply assumed that a design element that they perceived to satisfy the performance requirements of the BCA was adequate to enable construction, without the need for any formal assessment of whether that was the case and a formal performance solution determination. That is, that the compliance pathways were, in effect, optional.

Each above explanation for the failure to develop performance solutions is particularly concerning.

Contractual liability for the failure to identify deficiencies in building plans will likely be shared, with building surveyors and FSEs expected to have appropriate expertise to identify deficiencies in designs.

5.2.5 Surveyors issued building permits for non-compliant plans.

A building surveyor's role includes assessing plans for compliance with the BCA. A building surveyor must not issue a building permit unless plans are compliant.

This report confirms that building surveyors routinely failed to identify any compliance issues with the external cladding products specified by building designers, leading to dangerous applications of these non-compliant products.

5.2.6 Engineers failed to consider the building's fire safety holistically.

FSEs were engaged to prepare performance solutions for more than 50% of projects reviewed by CSV, but most reports prepared by FSEs did not address the use of the combustible cladding specified.

FERs often addressed other fire related issues but did not consider the external cladding. It is likely that, as was the case in *Lacrosse,* FSEs limited their assessments to the brief they were asked to fulfill, rather than considering the building holistically.

The *Lacrosse* decision confirms that at least on a contractual level, an FSE, being a specialised consultant, in exercising reasonable care, should identify and take steps to correct flaws present in design documentation.[37]

5.2.7 In the rare cases where engineers addressed the combustibility of the cladding, they endorsed the use of high-risk combustible cladding.

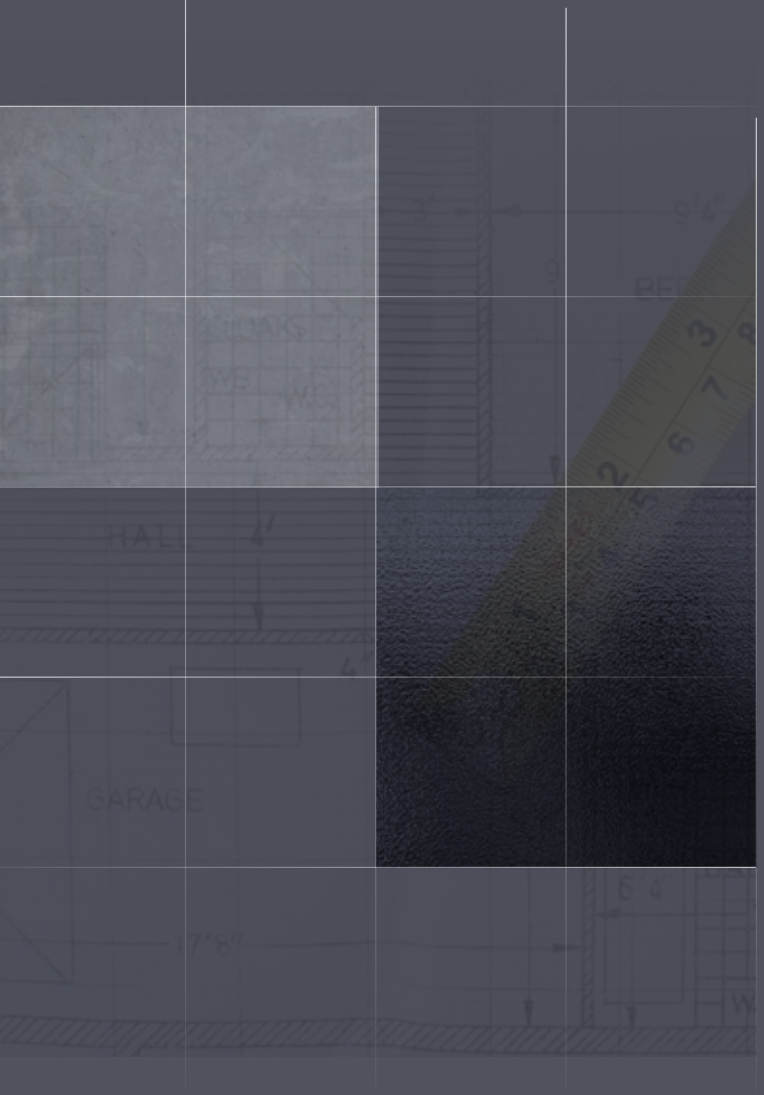
CSV's funding is limited to addressing combustible cladding that poses an unacceptable risk to the safety of building occupants. CSV assesses risk based on the potential spread of fire across external wall cladding.

In 29 instances, CSV funded rectification works notwithstanding that an FSE assessed the use of ACP or EPS as meeting the performance requirements of the NCC.

This is because CSV took a different view of the risks associated with ACP and EPS products in these instances. CSV concluded that these buildings warranted rectification works to address life safety risks. It also suggests that FSEs, when preparing FERs, were not fully aware of the cladding fire risk, indicating a lack of training or need for continuing professional development.

37 CSV notes that assessing risk in a design may be materially different to assessing risk in existing and occupied building stock where the cost of rectification and the availability of funding may influence the application of risk mitigation measures.

6. Reform opportunities for further consideration



The findings in this report reveal a considerable need to improve the understanding of compliance requirements amongst the key professionals responsible for building designs and permits.

Beyond the clear case for additional education, the following opportunities should be considered by Government and industry alike to improve building outcomes:

- Clear duties should be legislated so that all industry participants who have a material impact on building outcomes are accountable for safety, quality (including compliance with the BCA) and professionalism.
- Architects, draftspersons and engineers should be required to certify that their designs for apartment buildings are complete and comply with the BCA.
- A chain of responsibility regime should be introduced on all relevant persons involved in buildings (developers, designers, product manufacturers and distributors, builders) to ensure buildings are safe and meet the requirements of the BCA.
- Mandatory continuing professional development should apply to all registered persons having a material impact on building outcomes and should address BCA compliance requirements and regulatory pathways.
- Designs for construction should be required to specify the proposed compliance pathway for key building elements.
- When faced with inadequate designs, the circumstances in which builders should stop work and seek professional design input should be codified. To clarify the responsibilities of all participants, the circumstances in which a builder is entitled to establish that designers are responsible and should be held liable for damages to rectify works, could be codified.
- Occupancy permits should confirm that the completed building work complies with the approved building permit.

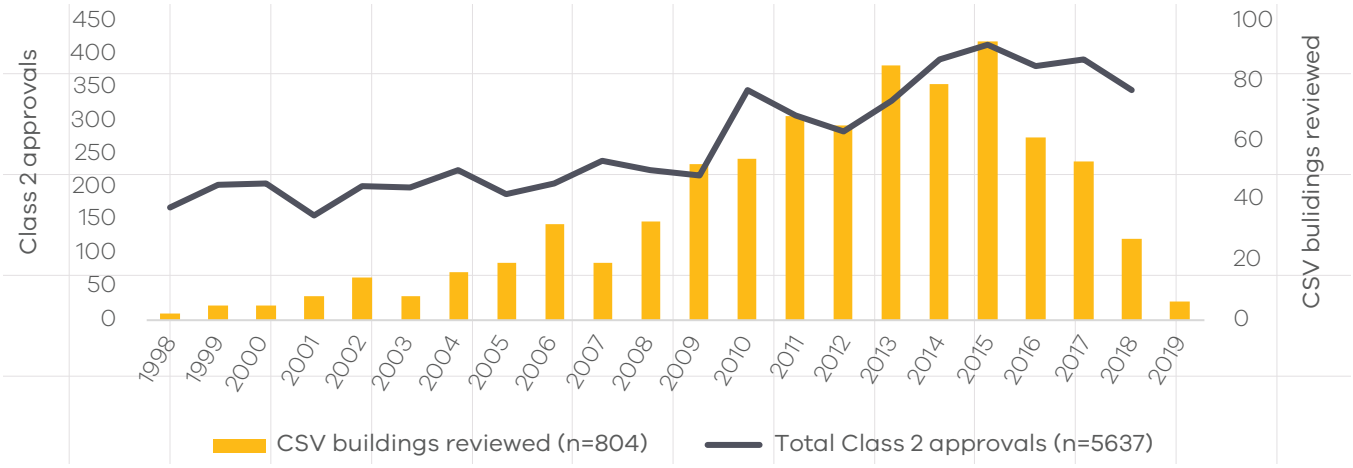
Appendix A: CSV's data set

Population

CSV reviewed documents in relation to 1000 buildings referred to CSV as potentially being affected by combustible cladding. Of those 1000 files, CSV had sufficient documentation to make an assessment for the purposes of this report in 804 cases.

Documentation was reviewed in relation to 804 buildings constructed between 1998 and 2019[38] as represented in the following chart. This chart illustrates CSV's data set compared to overall Class 2 building approvals during the same period.[39] CSV's data set represents approximately 14% of all Class 2 buildings commenced in the period. This reflects a proportional and representative sample set.

Chart 21: Year of construction – proportion of bulidings reviewed

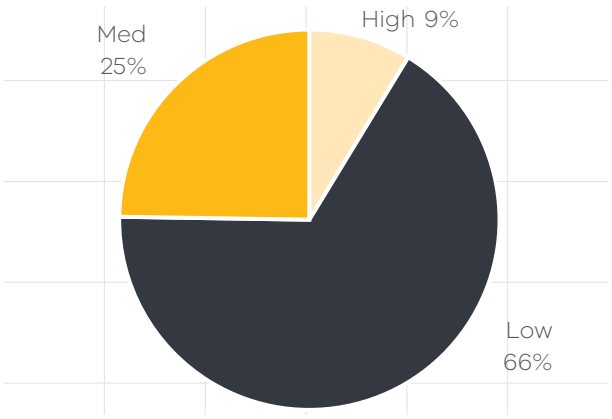


38 Year of construction derived from occupancy permit data. Where occupancy permit was not available, year of construction estimated based on date of building plans. CSV has occupancy permit data in relation to 786 buildings within the data set.

39 Data provided by the VBA in June 2024 representing number of building permits issued for new Class 2 buildings for the period from 1998-2018.

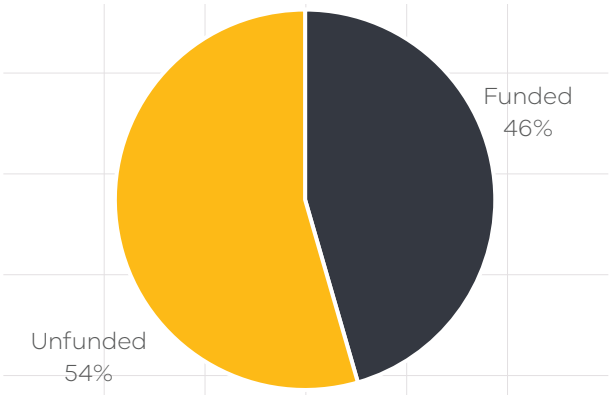
CSV's data set included documentation relating to buildings across low (3-4 storeys), medium (5-10 storeys) and high rise (>10 storeys) multi-storey buildings in proportions as illustrated by **Chart 22**.

Chart 22: Rise in Storeys (n=804)



As shown in **Chart 23**, CSV reviewed documentation in relation to funded and unfunded buildings. Unfunded buildings include buildings discharged from the CRP,[40] and buildings with a lower risk rating that are not expected to require extensive cladding rectification work. Notwithstanding the lower risk rating (when compared to funded buildings), this finding confirms that many buildings discharged from the CRP without funding support nevertheless involve non-compliant cladding.

Chart 23: Documentation reviewed - funded and unfunded buildings (n=804)

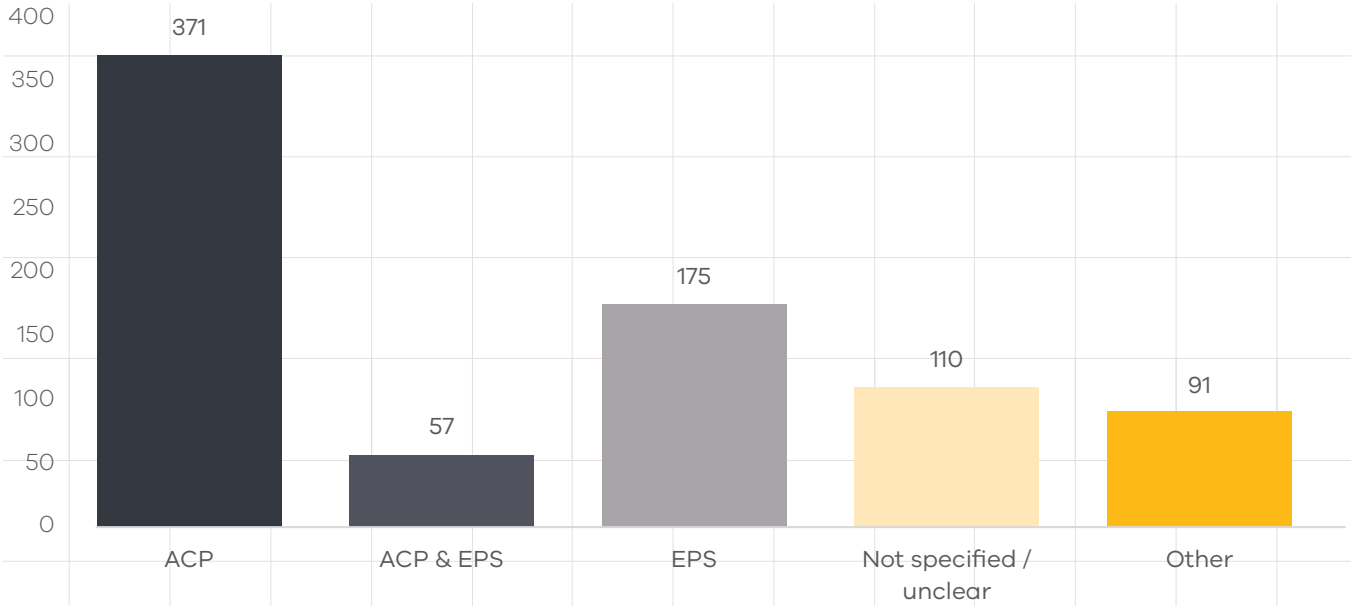


40 Buildings are discharged for various reasons, including that cladding rectification work has been funded by other means, or because the building did not qualify for CSV funding as the building was not prioritised for funding following application of CSV's prioritisation model.

Material specified

CSV reviewed available plans endorsed in building permits to determine whether the external wall cladding type had been specified. CSV's assessment identified that either ACP or EPS had been specified on relevant plans in 75% of cases.

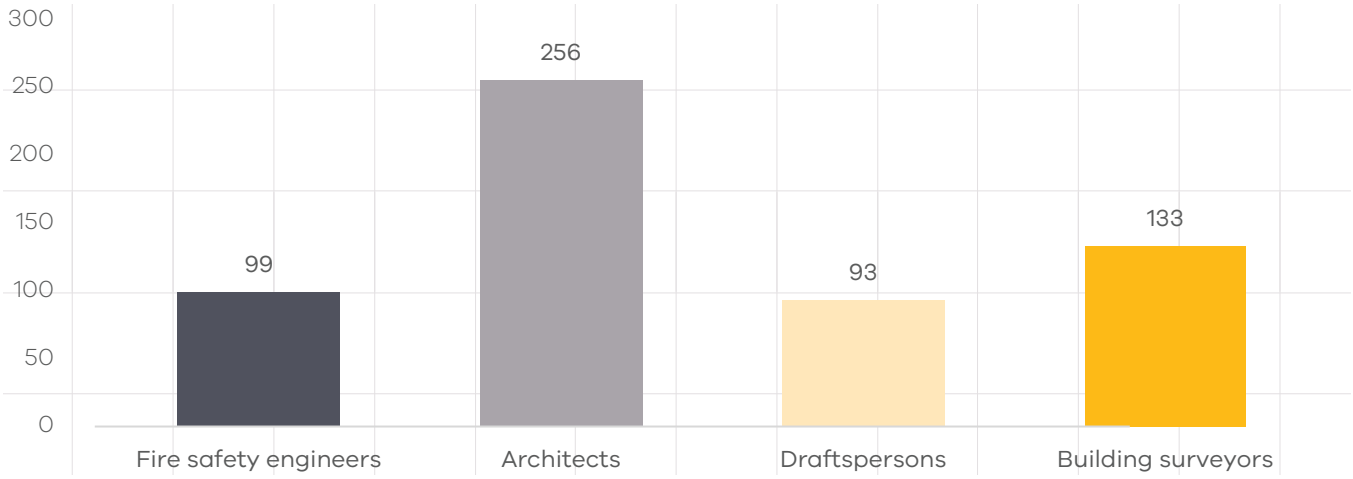
Chart 24: Material specified (n=804)



Practitioners represented

Chart 25 summarises the number of unique practitioners associated with buildings reviewed by CSV.

Chart 25: Unique practitioners identified (n=581)



Appendix B: Case studies

The following case studies are illustrative of consultant and building surveyor responsibilities with respect to the specification of combustible cladding.

The decision in the high-profile *Lacrosse* case provides significant learning opportunities about the roles of the various professionals engaged on that project and projects with similar contractual arrangements and, more broadly, the professional obligations of architects, FSEs and RBSs.

Case study 1: Lacrosse

Following the cladding fire at the 21 storey Lacrosse apartment building in Docklands in November 2014, building owners brought an action in VCAT against the builder for costs associated with fixing the fire damage and the replacement of combustible cladding across the entire building. The builder cross claimed against the RBS, architect and FSE involved in the project. A claim was also brought against the individual who started the fire, but their liability is not considered here.

Whilst the Lacrosse decision is particular to its facts, it provides critical insights about the roles and responsibilities of the various professionals, particularly where similar contractual arrangements can be expected.

The initial judgment held the builder liable but apportioned that liability between each of the RBS, architect and FSE engaged on the project, enabling the builder to pass through its liability even though it breached the statutory warranties implied into the contract and owed to the owners.

His Honour Judge Woodward (as he than was), sitting in VCAT as a Vice President of the Tribunal, commented on the hierarchy of responsibility amongst these consultants, noting that each consultant has specific obligations, and that some are expected to have specialist knowledge over others.

His Honour found that each professional failed to exercise due care and skill under their relevant contractual arrangements, noting the particular failures of each:

- The architect failed to exercise due care and skill by failing to remedy defects in design causing the design to be non-compliant with the BCA
- The FSE failed to exercise due care and skill by not conducting a full engineering assessment of the Lacrosse tower and failing to recognise the ACP proposed did not comply; and
- The RBS failed to exercise due care and skill by issuing the building permit that approved the architect's specification of ACPs.

On appeal brought by the architect, RBS and FSE, the Court of Appeal upheld the VCAT decision and adjusted the apportionment of liability slightly, confirming that the builder did not fail to take reasonable care and was entitled to rely on the professional opinions of those engaged on the project.

This case confirms that consultants and surveyors are expected to have an understanding of compliance requirements above that expected of builders, with building surveyors and engineers likely to be held to a higher standard than an architect due to their specialist expertise. All consultants and surveyors however are responsible at least in part for ensuring the compliance of the design.

The professionals held to be liable in the *Lacrosse* case were found to have breached their duties of care, including by failing to exercise due care and skill. In Victoria, these professionals are regulated and are required to provide services in accordance with law. This includes compliance with the BCA. This report clearly demonstrates that architects, draftspersons, building surveyors and FSEs systemically failed to meet this standard.

Case study 2: Building permits issued after 2017

The following case study relates to a building referred to CSV and reflects failures by each of the building designer, FSE and RBS. Furthermore, this is a concerning example of professional failures following several high-profile cladding fires, including but not limited to Lacrosse (2014), Grenfell (2017) and Neo (2019).

The relevant building is a 4-storey apartment building including 19 sole occupancy units and office and retail space on the ground floor.

A building permit was issued by the RBS on 10 July 2017 for the construction of the building approximately one month after the tragic Grenfell fire.

The building permit named the builder (who was also listed as the owner), as well as a draftsperson, and civil, mechanical and electrical engineers. An architect was not named on the building permit.

Building plans prepared by a draftsperson specified EPS and ACP as the external wall cladding for parts of the façade.

An FSE was engaged to prepare performance solutions for various matters, including fire resistance levels for load bearing and non-load bearing walls. The FER did not assess the combustible cladding material specified for use in the construction.

The plans were endorsed by the RBS and a building permit was issued. The occupancy permit for the building was issued on 21 February 2019, approximately three weeks after the Neo fire.

CSV assessed this building as posing an unacceptable risk of fire spread. In the event of a fire across the combustible cladding, fire spread is possible across 6 connected apartments.

This example illustrates that despite the enhanced knowledge in the industry arising from the Lacrosse fire in 2014, the tragic Grenfell fire in 2017 and the subsequent Melbourne Neo200 fire in 2019, key professionals in the industry failed to identify the specification and use of combustible cladding in the building design.

CSV's data set includes 26 buildings assessed as non-compliant where the occupancy permit was issued between July 2017 and 2019, indicating that industry continued to misapply the regulatory requirements with respect to combustible cladding after the tragic Grenfell fire.

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