## 4.2 Context of Assessment

### 4.2.1 Introduction

Risk analysis provides a method to evaluate risk and make informed decisions on whether areas of risk require treatment and what the most appropriate mitigation methods will be. This section outlines the definitions of risk criteria used in the fire safety risk analysis of this report to assess the risks associated with combustible cladding.

### 4.2.2 Ignition Source Risk Criteria

The criteria for the different levels of risk associated with ignition sources are outlined in the table below.

Table 4:

RISK CRITERIA USED FOR EVALUATION OF IGNITION SOURCES

| Risk Level | Criteria |
|---|---|
| Low | • No immediate action is required.<br>• The risk is broadly acceptable. The performance of the combustible wall element is not considered to impact on the buildings fire safety strategy.<br>• No major additional fire safety measures are required. However, there might be a need for reasonably practicable improvements. That involve limited cost. |
| Moderate | • Action is required in the medium term.<br>• The performance of the combustible wall element may impact on the building's fire safety strategy to a limited extent.<br>• Treatment measures are necessary to reduce the risk. These measures should take cost into account and be implemented within a defined time period. |
| High | • Action is required.<br>• The risk could be substantial. The performance of the combustible wall element may contribute to the defeat of one or more aspects of the building's fire safety strategy.<br>• Treatment measures are necessary to reduce the risk as a high priority. The treatment is likely to require the partial or full removal of the combustible element.<br>• Interim fire safety measures are necessary to manage the risk until a treatment plan is implemented. |
| Very High | • Action is required.<br>• The combustible element represents an intolerable risk. Treatment measures are to be implemented immediately to reduce the risk<br>• It may be that the building or part should not be occupied until the risk is reduced. |

The building risk is dependent on the classification, building height, occupant characteristics and the fire safety features. The building risk levels are described the table below. The subject building (excluding cladding consideration) presents a moderate risk. This is based on the building complying with the Building Code of Australia at the time of construction. The cladding being a polyethylene core increases the external fire spread hazard and risk should the cladding be exposed to a fire start. Based on the type of cladding core, the cladding used on the building does not satisfy the Deemed-to-Satisfy provisions of the Building Code of Australia. This is based on the polyethylene cladding not satisfying BCA Specification C1.1 Clause 2.4 as the cladding will present a risk of undue fire spread. This applies to the 31% polymer core material as no evidence of mitigating fire spread has been reviewed. In addition, under the current building code being, BCA 2019 Amendment 1 the cladding does not satisfy the requirements of non-combustibility. The installation of the cladding is identified to be a construction deficiency.

Table 5:

BUILDING RISK LEVEL

| Building Classification | Building Height | | | | |
|---|---|---|---|---|---|
| | 1 Storey | < 10m | 10-25 m | > 25m | > 50m |
| Class 5 | Low | Low | Moderate* | High** | High |
| Class 7b | Low | Moderate | Moderate* | High* | High |

* Reduces risk level to low where sprinklers are provided, along with compliant stairs and

** Reduce risk to moderate where sprinklers are provided, along with two fire isolated exits

The building risk level is used in tandem with the risk matrices outlined below to determine the overall cladding risk.

The overall risk rating for the cladding is determined based of the building risk, ignition sources risk and the consequence level. A different matrix is used for low/moderate and high/very high risk buildings. The matrices used to determine the overall risk are provided below.

Table 6:

CLADDING FIRE RISK FOR LOW AND MODERATE RISK BUILDINGS

| Cladding Risk Matrix – Low/Moderate Risk Buildings | | | | |
|---|---|---|---|---|
| Ignition Sources | High | Low | High | High |
| | Moderate | Low | Moderate | High |
| | Low | Low | Low | Moderate |
| | | Low | Moderate | High |
| | | Consequences (fire spread, egress and fire service intervention) | | |

### 4.2.3 Hazard Identification

The hazard identification is established based on the following risk criteria will be used to analyse the fire and life safety risk associated with the combustible cladding identified on the building. The process for determining the overall risk associated with each cladding element is as follows:

1. Estimate the likelihood of ignition using the criteria described below.
2. Estimate the potential consequences using the criteria described below.
3. Determine the cladding risk ranking using the appropriate risk matrix.

### 4.2.4 Risk Criteria for ignition

The criteria for the different levels of risk associated with ignition sources are outlined in the table below.

Table 7:

RISK CRITERIA USED FOR EVALUATION OF IGNITION SOURCES

| Risk Level | Criteria |
|---|---|
| Low | • Very remote possibility of occurring during the life of the building<br>• Non or very few ignition sources<br>• No significant fire load in proximity to the cladding<br>• May occur but only in exceptional circumstances involving a fully developed fire and/or failure of major fire safety system. |
| Moderate | • Slight possibility of occurring during the life of the building<br>• Limited ignition sources.<br>• May occur, but only in event of fire spread beyond the object or area of fire origin. |
| High | • Possibility of occurring during the life of the building.<br>• Multiple ignition sources.<br>• Significant fire load located near cladding.<br>• Ignition of cladding could occur from a localised fire involving the object of origin. |

### 4.2.5 Consequence of Risk Criteria

The criteria to be used in risk analysis for the consequences relating to fire risk associated with the combustible cladding with reference to fire spread, egress and fire brigade intervention is identified within the table below.

Table 8:

DEFITIONS OF RISK LEVEL OF EACH CONSEQUENCE ASSOCIATED WITH COMBUSTIBLE CLADDING FIRES

| Risk Level | Fire Spread | Criteria Egress | Fire Service Intervention |
|---|---|---|---|
| Low | • The cladding and substrate is of limited combustibility and represents negligible risk of fire spread.<br>• The combustible cladding represents negligible risk of fire spread due to the limited quantity, location and/or building geometry.<br>• The cladding does not represent a risk of secondary fire spread via flaming debris or radiant heat exposure. | • The combustible cladding is not expected to impact on the evacuation time and difficulty.<br>• The combustible cladding is not located above or adjacent to exits.<br>• If located near or above an exit, the cladding does not increase the risk of obstruction to evacuating occupants. | • The combustible cladding is not installed above or adjacent to key firefighting equipment which could represent an undue risk of obstruction or injury to firefighters.<br>• The combustible cladding will not result in a fire size and intensity exceeding that which would reasonably be expected for the building use and size.<br>• The cladding is accessible for firefighting. |
| Moderate | • The combustible cladding represents a credible risk of fire spread, however rapid fire spread between multiple storeys and/or fire compartments is not expected.<br>• The risk of secondary fire spread via flaming debris or radiant heat exposure is possible but unlikely. | • A fire involving the combustible cladding may affect the evacuation time and difficulty to a moderate extent. The risk of occupants being exposed to untenable fire and smoke conditions is low considering the detection and warning system and the exits provided. | • is not installed above or adjacent to key firefighting equipment which could represent an undue risk of obstruction or injury to firefighters.<br>• The combustible cladding may result in a larger fire size and intensity than expected based on the building size and use, however the cladding is accessible for firefighting. |
| High | • The combustible cladding and substrate is vertically connected over multiple storeys.<br>• The combustible cladding represents a credible risk of rapid fire spread between storeys, fire compartments or over a significant portion of the facade.<br>• There is a credible risk of secondary fire spread via flaming debris or radiant heat exposure. | • A fire involving the combustible cladding may result in fire spread which necessitates evacuation of multiple storeys or fire compartments. The subsequent impact on the evacuation time and difficulty may result in occupants being exposed to untenable fire and smoke conditions.<br>• A fire involving the combustible cladding represents a risk of obstruction to:<br>- a single exit where no alternative exit is available<br>- multiple exits<br>- the discharge location of a fire-isolated exit | • A fire involving the combustible cladding represents a risk of obstruction to key firefighting equipment.<br>• The combustible cladding could result in a fire size and intensity which exceeds that which would typically be expected based on the building use and size.<br>• The cladding is not accessible for firefighting because of limited vehicular access and/or the height of the building. |

## 4.3 Consequence of Risk Criteria

The risk ranking is determined for each cladding element based on the matrices for low, medium, high or very high building risk. The risk matrix used for evaluation is selected based on the general building risk established previously. These matrices are intended to allow for simple and consistent estimation of the cladding risk for a range of building uses and sizes.

The outcome of the three cladding risk matrices increases in conservatism as the building risk increases. This approach is intended to ensure that the cladding risk ranking is proportional to the potential risk to life from an external facade fire considering the building characteristics.

Where the potential consequences associated with a cladding element are assessed to be low, the overall cladding risk is categorised as low irrespective of the likelihood. This differs from more traditional risk matrices where a high likelihood / low consequence combination may be categorised as moderate. This is intended to avoid overly conservative assessment of cladding elements of limited combustibility and/or extent.

The overall risk rating for the cladding is determined based of the building risk, ignition sources risk and the consequence level. A different matrix is used for low/moderate and high/very high risk buildings. The matrices used to determine the overall risk are provided below.

Low to high rise buildings where the evacuation time is relatively short considering the fire safety measures installed and building height. This includes low rise buildings where occupants require assistance to evacuate.

Table 9:

CLADDING FIRE RISK FOR LOW AND MODERATE RISK BUILDINGS

| Cladding Risk Matrix – Low/Moderate Risk Buildings | | | | |
|---|---|---|---|---|
| Ignition Sources | High | Low | High | High |
| | Moderate | Low | Moderate | High |
| | Low | Low | Low | Moderate |
| | | Low | Moderate | High |
| | | Consequences (fire spread, egress and fire service intervention) | | |

Table 10:

CLADDING FIRE RISK FOR HIGH AND VERY HIGH RISK BUILDINGS

| Cladding Risk Matrix – High / Very High Risk Buildings | | | | |
|---|---|---|---|---|
| Ignition Sources | High | Low | High | Very High |
| | Moderate | Low | High | High |
| | Low | Low | Moderate | High |
| | | Low | Moderate | High |
| | | Consequences (fire spread, egress and fire service intervention | | |

## 4.4 Combustible cladding characteristics and hazards

The following table outlines the characteristics of the combustible cladding materials identified on the building.

Table 11:

| RISK EVALUATION AND RECOMMENDATIONS \| LOCATION ABOVE ENTRY \| ELEMENT 1 | | |
|---|---|---|
| Cladding Element | Cladding Type | Evaluation |
| Cladding element 1<br>External wall above exits | ACP core 100% PE<br>Category A PE Core Cladding | A risk treatment strategy is to be developed and applied for the cladding installation.<br>It is recommended that cladding be removed. |
| Substrate, insulation and fixing method | Lightweight wall system on steel frame. | |
| Cavity and barriers | No cavity barriers identified based on limited installation. | |
| Penetrations / edge exposure | Penetrations such as light fittings have been identified | |
| Material characteristics | Material is 100% PE | |
| Exposure fire hazard | The material has the potential to be exposed to an external fire source or an uncontrolled internal fire source due to no sprinklers being installed internally. | |
| Proximity to fire source feature or fire load | The fire source proximity can be immediately below the cladding installation. | |
| Proximity to other cladding elements | The subject cladding is an isolated installation and not adjacent to other combustible cladding. | |
| Exposure to openings in external walls | The cladding installation is above the residential lobby entrance and below an apartment window. | |
| Accessibility at ground level | The installation does not extend completely to the ground but are located in close proximity to the ground. | |
| Proximity to firefighting equipment | One installation is located above the residential lobby in which the buildings Fire Indicator Panel is located. | |
| Internal Fire Hazard | The internal fire hazard is moderate due to the lack of sprinklers within the building. | Moderate |
| External Fire Hazard | The external fire hazard is not mitigated through limited access and introduced hazard that would be carried. The location of the cladding is not directly accessible at ground level. | Moderate |
| Fire Spread Hazard | The fire spread hazard and fire spread consequence is deemed high based on the type of cladding and extent of installation. | High |
| Evacuation Impact | The cladding is located above an entry/exit point from the lobby. | High |
| Evacuation Obstruction | Should the fire impact the cladding, the exit will be obstructed by the fire and cladding installation.<br>A second exit is available from the residential lobby. | High |
| Fire Service Intervention | Proximity to fire fighting equipment<br>One of the residential lobbies contains the Fire Indicator Panel. Should the combustible cladding be impacted by fire, access to the Fire Indicator Panel will be impacted.<br>Accessibility for firefighting<br>The fire service can access the fire location at ground level from the street and utilise the fire appliance for intervention.<br>Potential impact on firefighting search and rescue<br>The fire service would not have the ability to access the Fire Indicator Panel. | Moderate |
| Overall Ranking | High | |

Table 12:

| RISK EVALUATION AND RECOMMENDATIONS \| LOCATION EXTERNAL WALL\| ELEMENT 2 | | | |
|---|---|---|---|
| Cladding Element | Cladding Type | Evaluation | |
| Cladding element 2<br>External wall | ACP core 100% PE<br>Category A PE Core Cladding | A risk treatment strategy is to be developed and applied for the cladding installation.<br>It is recommended that cladding be removed. | |
| Substrate, insulation and fixing method | Masonry wall system. Cladding is tape fixed on steel frame. | | |
| Cavity and barriers | No cavity barriers identified based on installation. | | |
| Penetrations / edge exposure | Electrical lighting penetrations have been identified. The installation is tape fixed with exposed edges. The core is not shielded from free air. | | |
| Material characteristics | Material is 100% PE | | |
| Exposure fire hazard | The material has the potential to be exposed to an external fire source. | | |
| Proximity to fire source feature or fire load | The fire source proximity can be immediately below the cladding installation or from an adjacent opening. | | |
| Proximity to other cladding elements | The subject cladding is an isolated installation and not adjacent to other combustible cladding. | | |
| Exposure to openings in external walls | The cladding installation adjacent to building openings. | | |
| Accessibility at ground level | The installation does not extend completely to the ground but are located close to the ground and extends the height of the wall over multiple storeys. | | |
| Proximity to firefighting equipment | The cladding is not located adjacent or near firefighting equipment. | | |
| Internal Fire Hazard | The internal fire hazard is moderate due to the lack of sprinklers within the building. | | Moderate |
| External Fire Hazard | The material has the potential to be exposed to an external fire source. | | Moderate |
| Fire Spread Hazard | The fire spread hazard and fire spread consequence is deemed high based on the installation being over multiple storeys. | | High |
| Evacuation Impact | The cladding located near an exit or path of egress | | High |
| Evacuation Obstruction | Should the fire impact the cladding, exits can be obstructed from falling debris and flaming. | | High |
| Fire Service Intervention | Proximity to fire fighting equipment<br>The cladding is not located adjacent to fire fighting equipment<br>Accessibility for firefighting<br>The fire service can access the fire location at ground level from the street. The extent and height of the installation presents an external fire fighting challenge for the fire service and a risk of re-entry to the building.<br>Potential impact on firefighting search and rescue<br>The cladding is located externally and can impact on adjacent openings resulting in re-entry and requirement for the fire service to evacuate multiple units over multiple levels. | | High |
| Overall Ranking | High | | |

Table 13:

| RISK EVALUATION AND RECOMMENDATIONS \| LOCATION UPPER LEVEL RESIDENTIAL AND COMMERCIAL \| ELEMENT 3 | | |
|---|---|---|
| Cladding Element | Cladding Type | Evaluation |
| Cladding element 3 31% polyethylene cladding installed on building and over exits. | ACP core 31% PE<br>Category A Core Cladding | A risk treatment strategy is to be developed and applied for the cladding installation.<br>It is recommended that cladding be removed. |
| Substrate, insulation and fixing method | Lightweight wall system on steel frame. Cladding is tape fixed | |
| Cavity and barriers | No cavity barriers identified based on limited installation. | |
| Penetrations / edge exposure | A number of penetrations are identified through the cladding. The installation is tape fixed with exposed edges. The core is not shielded from free air. | |
| Material characteristics | Material is 31% PE | |
| Exposure fire hazard | The material has the potential to be exposed to an external fire source or an uncontrolled internal fire source. | |
| Proximity to fire source feature or fire load | The fire source proximity is immediately adjacent to the cladding located on the balcony. | |
| Proximity to other cladding elements | The subject cladding is adjacent to multiple cladding points over the full extent of the upper level as well as balcony balustrades. | |
| Exposure to openings in external walls | The cladding installation is adjacent and above the residential openings. | |
| Accessibility at ground level | The installation does not extend completely to the ground level. | |
| Proximity to firefighting equipment | The cladding is not located adjacent or within proximity to firefighting equipment. | |
| Internal Fire Hazard | The internal fire hazard is moderate due to the lack of sprinklers within the building. | Moderate |
| External Fire Hazard | The external fire hazard is via the balcony where BBQ or heating may occur. | Moderate |
| Fire Spread Hazard | The fire spread hazard and fire spread consequence is deemed moderate given the extent of installation and the low PE content. | Moderate |
| Evacuation Impact | The cladding is located above an entry/exit point from the lobby. The low PE content is likely to mitigate large impact outside of the main fire event. | Moderate |
| Evacuation Obstruction | Should the fire impact the cladding, the exit will be obstructed by the fire and cladding installation. The extent of impact is considered moderate based on the low PE content.<br>A second exit is available from the residential lobby. | Moderate |
| Fire Service Intervention | Proximity to fire fighting equipment<br>The cladding is not located near firefighting equipment.<br>Accessibility for firefighting<br>The upper level installation presents a substantial challenge for fire intervention.<br>Potential impact on firefighting search and rescue<br>The fire service would require additional resources to complete search and rescue. | Moderate |
| Overall Ranking | Moderate | |

## 4.5 Risk Treatment

AS ISO 31000:2018 explains that 'selecting the most appropriate risk treatment option(s) involves balancing the potential benefits derived in relation to the achievement of the objectives against costs, effort or disadvantages of implementation.

Justification for risk treatment is broader than solely economic considerations and should take into account all of the organisation's obligations, voluntary commitments and stakeholder views. The selection of risk treatment options should be made in accordance with the organisation's objectives, risk criteria and available resources.'

The following table identifies mitigation options intended to reduce the risk rankings identified in the detailed risk assessment of the combustible cladding. The primary focus of this section is to identify mitigation measures for cladding elements having a risk ranking of more than low.

The effectiveness and impact on the original risk ranking is discussed for each of the mitigation measures identified. Given the hazard of the cladding, limited alternative risk mitigation measures may be identified and evaluated for each cladding element. It is important to note that the only way to fully eliminate the risk associated with a cladding element is to remove the element and replace with a non-combustible alternative. The effectiveness of the mitigation measures is outlined below.

Table 14:

RISK CRITERIA USED FOR EVALUATION OF IGNITION SOURCES

| Cladding Element | Mitigation measures | Effectiveness | Risk Change | Reason if not adopted |
|---|---|---|---|---|
| Cladding element 1 – Above entry / exit residential lobby 100% PE | • Remove cladding<br>• Replace with compliant, non-combustible cladding. | • This will reduce the fire risk impact on the cladding which may lead to internal fire spread, limited access for occupant evacuation and fire service intervention. | • This will reduce the risk of fire spread from high to low. | • It is recommended that the mitigation measures be adopted.<br>• If the cladding is not removed, it results in a non-compliance and ongoing fire spread risk as well as risk to occupant evacuation and fire service intervention. |
| Cladding element 2 – Continuous over exterior wall 100% PE | • Remove cladding<br>• Replace with compliant, non-combustible cladding. | • This will reduce the fire risk impact on the cladding which may lead to internal fire spread, limited access for occupant evacuation and fire service intervention. | • This will reduce the risk of fire spread from high to low. | • It is recommended that the mitigation measures be adopted.<br>• If the cladding is not removed, it results in a non-compliance and ongoing fire spread risk as well as risk to occupant evacuation and fire service intervention. |
| Cladding element 3 – Located over exits and over exterior wall 31% PE mineral mix | • Remove cladding<br>• Replace with compliant, non-combustible cladding.<br>• Alternatively have cladding tested to AS 5113, install sprinklers within residential parts and undertake assessment to BCA CV3. | • This will reduce the fire risk impact on the cladding which may lead to internal fire spread, limited access for occupant evacuation and fire service intervention. | • This will reduce the risk of fire spread from moderate to low. | • It is recommended that the mitigation measures be adopted.<br>• If the cladding is not removed, it results in a non-compliance and ongoing fire spread risk as well as risk to occupant evacuation and fire service intervention. |

Part

# 5

# mitigation measures

# 5 FIRE SAFETY MEASURES

## 5.1 Remediation works

### 5.1.1 Fire Safety Measures 100% PE

a. Remove 100% PE combustible cladding located over the building.

b. It is recommended that any replacement cladding is a non-combustible material as determined by AS 1530.1:1994. Where a combustible replacement cladding is proposed, we recommend that it is reviewed and endorsed by a professional fire safety engineer registered with Engineers Australia.

### 5.1.2 Fire Safety Measures 31% PE

a. Remove 100% PE combustible cladding located over the building; or conduct full scale testing to AS 5113 to achieve a full pass.

b. Following a full pass to AS 5113, a fire engineering assessment will be required in accordance with CV3 of the BCA along with sprinklers installed throughout the building with double duty capacity.

c. If the above testing and installation of sprinklers is not an option, it is recommended that any replacement cladding is a non-combustible material as determined by AS 1530.1:1994. Where a combustible replacement cladding is proposed, we recommend that it is reviewed and endorsed by a professional fire safety engineer registered with Engineers Australia.

VORTEX FIRE

Part

# 6

# interim fire safety measures

# 6 INTERIM FIRE SAFETY MEASURES

## 6.1 Remediation works

### 6.1.1 Fire Safety Measures

a. It is recommended that key project stakeholders such as building owners, insurer and local fire service are be informed of the risk presented by the external combustible cladding.

b. Confirm the buildings fire safety measures are fit for purpose and maintained. i.e annual fire safety statement.

c. Ensure and confirm the fire detection and warning system is not isolated and appropriate measures are applied should the panel need to be isolated.

d. Include an emergency evacuation plan in relation to a façade fire event.

e. Provide signage at the main entry and booster assembly to identify the type and location of combustible panels to inform ACT Fire and Rescue (ACTF&R) of the hazard. The signage must identify the panels as ACP type and include a site plan and elevations and showing location of the panels.

f. Inform the local ACTF&R station and request a site inspection for familiarisation with the hazards.

g. Inspect and maintain all required fire doors for their operation to self close and not be obstructed or help open.

h. Evacuation plans and diagrams are to be current and valid.

i. Maintain external cladding to be free from damage and to mitigate accumulation of combustibles.

j. Limit the use of BBQ and heating items on external balconies in proximity of the combustible cladding, until the cladding is replaced. The interim measure of limited use of BBQ and heating items is to stop their use. Should BBQ's or heating items used, they are to be no closer than 6m to the cladding. If they are closer than 6m they are to be no closer than 3m and a 9 mm thick fibre cement sheet is to be installed over the cladding for the full height and extend the length of the balcony or to a distance of at least 6m from the BBQ or heat source.

k. Evacuation paths are to be free from obstructions and combustible material.

l. Ensure no combustible materials are stored adjacent to the external cladding.

m. Hot work permits must be informed of the cladding risk and mitigation measures for cladding ignition must be undertaken.

n. No smoking is to permitted within 15m of the buildings cladding locations. Provide additional signage if required.

o. Reduce vegetation located immediately adjacent to the cladding. Remove if dry or dead. Ensure vegetation is watered and maintained regularly.

Appendix

# A

# CETEC test report

# CLADDING RISK MANAGEMENT

# PHASE 2
# SITE INSPECTION AND TESTING

| PROPERTY DETAILS | | | |
|---|---|---|---|
| **Client:** | Independent | | |
| **Date:** | 19/06/19 | **Sedgwick Ref:** | 100003995 |
| **Property Address :** | College Street, Belconnen ACT | | |
| **Unit Plan :** | Unit Plan 3395 & Unit Plan 3356 | | |
| **Construction Manager :** | Matt Penn | | |


Aerial view Unit Plans 3395 & 3356 (Google Maps)

PO Box 745
Gosford NSW 2250
Web: Sedgwick.com
Email: info@au.sedgwick.com
Phone: 1300 735 720

**TABLE OF CONTENTS**

# 1. EXECUTIVE SUMMARY

On the 10th August 2018 the Commissioner for Fair Trading Department of Finance, Services and Innovation issued a 'Building Product Use Ban' prohibiting

> *the use of aluminium composite panels (ACP) with a core comprised of greater than 30 per cent polyethylene (PE) by mass ('the building product') in any external cladding, external wall, external insulation, façade or rendered finish in*
>
> - *Class 2, 3 and 9 buildings with a rise in storeys of three or more and Class 5, 6, 7 and 8 buildings with a rise in storeys of four or more (Type A construction as defined in the Building Code of Australia)*

In accordance with your instructions, Sedgwick building consultancy division engaged CETEC Pty Ltd (CETEC) to undertake onsite sampling and Laboratory analysis of the suspicious cladding material identified on the building at an initial site inspection.

CETEC are a Technical and Scientific Risk Management Consultancy and have been identified by the Insurance Council of Australia (ICA) as a company that satisfies the testing requirements in alignment with the ICA Residual Hazard Identification & Reporting Protocol.

The ICA have formulated a table [Table 2 in the CETEC report][1] which categorizes test results into four risk categories from A to D.

Category A is deemed a High fire risk, and D as non-combustible.

The purpose of the Laboratory analysis is to determine the 'combustibility' of the cladding in relation the ICA table.

# 2. SITE SAMPLES and TEST RESULTS

Sedgwick and CETEC assessed the façade for the most appropriate locations before taking samples for analysis.

Samples taken were numbered in accordance with Table 1 of the CETEC report and sent to a NATA accredited Laboratory for testing using a variety of methods which are detailed in Section 2 of the CETEC report.

The test results for Fuel Contribution can be found in Table 12 of the report, and are summarised in the table below

| Sample ID | Category |
|---|---|
| 122534 | A |
| 122535 | A |
| 122536 | A |
| 122537 | A |
| 122538 | A |
| 122541 | A |

## 3. CONCLUSIONS AND RECOMMENDATIONS

The laboratory results of the six samples tested confirm the presence of combustible cladding on each of the six buildings. Testing was only conducted in accessible areas so it is reasonable to assume that the remaining untested cladding is a banned ACP.

Further investigation of the cladding sub frame and fixing method may be required to determine extent of risk and remediation work if required.

In accordance with the Insurance Council of Australia recommendations and Phase 3 of the Sedgwick proposal we, subject to your instruction, propose to seek a fee proposal from an appropriately qualified Fire Engineer to inspect and provide a Fire Risk Assessment Report which will provide information on whether the cladding needs to be removed, alternate cladding materials and other mitigation measures.

**Matt Penn**
Construction Manager
Suite 7, First Floor
69 Central Coast Highway
West Gosford, NSW 2250
M: 0419 867 917
E: matt.penn@au.sedgwick.com
Sedgwick.com

| ANNEXURES | |
|---|---|
| A | CETEC – Sedgwick Building Façade Material Investigation Report (v1) |
| | |

Notes:-

1. The ICA table referred to in the CETEC report was current at the time of issue.

# Sedgwick – Building Façade Material Investigation Report

## Indicative Flammability Potential, Composition and Preliminary Toxicity Screening of Exterior Cladding Systems

| | |
|---|---|
| **Project Reference:** | CN190560 |
| **Client Reference:** | UP 3395 - Oracle Stage 1 - Cladding Identification - UP 3395 - Oracle Stage |
| **Engaged By:** | Jenny Bourne |
| **Company:** | Sedgwick |
| **Company Address:** | Suite 2, First Floor, 15 Watt Street \| Gosford, NSW 2250 |
| **Site Address:** | UP 3395 & UP 3566 - Oracle Stage 1 & 2 - 57 Benjamin Way & 64-72 College St Belconnen |
| **Collected By:** | Byran Larkings |
| **Date Sampled:** | 23/05/2019 |
| **Version:** | 1.0 |

Prepared By:

CETEC Pty Ltd,
3/216 Willoughby Rd, St Leonards NSW 2065

Prepared For:

Sedgwick
Suite 2, First Floor, 15 Watt Street | Gosford, NSW 2250

| | |
|---|---|
| **PROJECT: Building Façade Material System Investigation Report**<br>**CETEC Pty Ltd**<br>3/216 Willoughby Rd, St Leonards NSW 2065 | **REPORT COMMISIONED BY:**<br>Jenny Bourne from<br>Sedgwick, Suite 2, First Floor, 15 Watt Street \| Gosford, NSW 2250 |

| | | |
|---|---|---|
| **CETEC REF: CN190560** | **CLIENT PO Ref: UP 3395 - Oracle Stage 1 (100003955 MXP)** | **VERSION: 1.0** |

| AMD | DESCRIPTION | INT | REVIEWED | DATE |
|---|---|---|---|---|
| 1 | Building façade system testing results for UP 3395 & UP 3566 - Oracle Stage 1 & 2 - 57 Benjamin Way & 64-72 College St Belconnen | PDS | VG | 16/06/2019 |
| | | | | |
| | | | | |
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| | | | | |


**Authors:**

Dr Paulo Da Silva
PhD, BSc(Hons), MRACI
Principal Consultant - Dangerous Goods

**Reviewers:**

Dr. Vyt Garnys
PhD, BSc(Hons) AIMM, ARACI, ISIAQ, ACA, AIRAH, FMA
Managing Director and Principal Consultant

# CONTENTS

# 1. INTRODUCTION

## 1.1. BACKGROUND

Recent multi-level building fires in Australia and overseas have resulted in the Federal and State governments inquiring into non-conforming and non-compliant building products, especially building façades comprising of Aluminium Composite Panels (ACP). However, any other material which has been used to form the building's façade should also be assessed in a similar manner to determine if the material is flammable and if so, determine its composition as per the requirements detailed by the Insurance Council of Australia.

Insurers have invested in the expertise necessary to measure residual risk. Using this, the industry has considered the challenges posed by non-conforming building façade systems, which will include Aluminium Composite Panels (ACPs) or any other panel type material, beginning with the most fundamental of issues: *its identification*. Critically, the evaluation of exposure for each building that has combustible façades presents the need to conduct a case-by-case investigation by competent fire protection professionals, including fire safety engineers, to evaluate the most critical exposures, safety to life and code compliance.

The approach adopted by the Insurance Council of Australia[1] (ICA) includes both the identification of the material used and the installation methodology, which also includes the whole wall assembly. This will enable assessment of the risks posed by use of materials, which may then trigger consideration of remedial actions to lower a building's residual risk to acceptable levels.

Reports commissioned by a building's owner should address 10 critical questions through three steps, these steps are;

- Step 1 – Identification of materials.
- Step 2 – Evaluating the exposure.
- Step 3 – Remedial actions for consideration.

Therefore, this report addresses the one of the requirements within *Step 1*, which is the identification of the material used within the building's façade system. Following from that, an appropriately trained fire engineer, building surveyor or fire protection professional should utilise the data within this report to address the remaining items within Step 1, Step 2 and Step 3 as detailed within the ICA's website.

1 http://www.insurancecouncil.com.au/issues-submissions/issues/insurance-industry-aluminium-composite-panels-residual-hazard-identificationreporting-protocol

### 1.2. Scope of Work

CETEC Pty Ltd was engaged by Jenny Bourne from Sedgwick to conduct laboratory analysis of sample building façade system from UP 3395 & UP 3566 - Oracle Stage 1 & 2 - 57 Benjamin Way & 64-72 College St Belconnen to determine the cladding's composition and flammability potential, and in turn determine its preliminary toxicity risk due to gaseous emission in the event of a fire. The building façade system material was sampled by Byran Larkings from CETEC on the 23/05/2019 and subjected to laboratory analysis by Foray Laboratories, a company wholly owned by CETEC Pty Ltd. As a summary the collected samples are recorded below in Table 1.

Laboratory results and discussions as detailed within this document should not be used in isolation and are to be used only to assist fire engineers and other stakeholders, such as building owners, building managers and building insurers to provide advice relating to the building façade system's flammability potential, composition and toxicity. This document is not to be used as a substitute to regulatory testing requirements or the AS 1530 series of standards as well as full-scale evaluation to the new AS 5113 test for external wall as the methodology adopted by CETEC is only to conduct a preliminary assessment in order to identify the material's composition.

## 2. Sampling and Testing Methodology

### 2.1. Sample Collection

Each sample was analysed by Foray Laboratories, a company wholly owned by CETEC Pty Ltd, incorporating product descriptions as detailed below in Table 1. Once received, each sample was registered into the Foray Laboratory sample registration system to conform to NATA ISO 17025 requirements. The Foray Laboratory sample number and description of each sample are given in Table 1.

**Table 1: Description of Collected Building Façade Samples.**

| Sample ID | Sample Type[2] | Was Sample Analysed[3] | Client Description of Samples[4] | Appendix A |
|---|---|---|---|---|
| **122533** | ACP | No | Strata #2 - 84 Chandler St, red panel on building (South/East Side) | **Photo 2** to **Photo 4** |
| **122534** | ACP | Yes | Strata #2 - 80 Chandler St, silver panel on building (North/East Side) | **Photo 5** to **Photo 9** |
| **122535** | ACP | Yes | Strata #2 - 60 College St, purple panel on building (North/East Side) | **Photo 10** to **Photo 11** |
| **122536** | ACP | Yes | Strata #2 - 64 College St, green panel on building (North/East Side) | **Photo 12** to **Photo 15** |
| **122537** | ACP | Yes | Strata #2 - 68 College St, blue panel on building (North/East Side) | **Photo 16** to **Photo 19** |
| **122538** | ACP | Yes | Strata #1 - 72 College St, grey/silver panel on building (North/East Side) | **Photo 20** to **Photo 23** |
| **122539** | ACP | No | Strata #1 - 72 College St, green panel on building (East Side) | **Photo 24** to **Photo 27** |
| **122540** | ACP | No | Strata #1 - 57 College St, red panel on building (South/West Side) | **Photo 28** to **Photo 32** |
| **122541** | ACP | Yes | Strata #1 - 57 College St, grey/silver panel on building (South/West Side) | **Photo 33** to **Photo 36** |
| **122542** | ACP | No | Strata #1 - 57 College St, purple panel on building (East Side) | **Photo 37** to **Photo 39** |

2 **ACP** – Aluminium Composite Panel, **SMP** – Sheet Metal Panel, **FCP** – Fibre Cement Panel.
3 Due to cost restraints, only 6 samples were analysed as per client request from the 10 samples collected.
4 Samples analysed by Foray Laboratories as received.

### 2.2. Sample Preparation

The building façade material was cut into portions and each portion was subjected to scientific analysis *via* the following laboratory methods;

- Attenuated Total Reflection Fourier Transform Infrared Spectroscopy (ATR-FTIR).
- Dry Ashing Testing.
- Thermal Stability.
- Micro-Flammability Tests.
- Thermal Analysis by TGA-DSC (where required).
- X-Ray Diffraction Test (where required).

### 2.3. Chemical Composition by ATR-FTIR

Attenuated Total Reflection (ATR) is a sampling technique used in conjunction with Infrared Spectroscopy which enables samples to be examined directly in the solid or liquid state without further sample preparation. The technique is used to obtain an infrared spectrum of absorption or emission of a solid or liquid and the spectral data which is generated can easily identify functional groups within the sample which makes it possible to infer composition of both polymer and inorganic or mineral filler. That is, analysis of the Functional Group Region of the spectra (i.e. 4000 $cm^{-1}$ to 1450 $cm^{-1}$) makes it is possible to observe functional groups that are present within the material which aids in the identification of the polymer and filler present.

Further to this, comparison to known samples aids in the identification and confirmation of the type of building façade material.

### 2.4. Fuel Load and Filler Content by Dry Oxidative Ashing

A weighed sample was heated within a muffle furnace under an oxidative atmosphere to convert all common oxidisable organic material, such as polymers and plasticisers, to carbon dioxide and other gaseous products, e.g. carbon monoxide. All common inorganic non-combustible fillers are generally dehydrated and converted to their common oxides which forms the non-combustible ash residue. When this method is coupled with FTIR spectral identification and calculation, the quantitative proportion of filler and organic materials (including polymer, plasticisers, etc.) can be assessed based on the amount of collected ash. The calculated inert filler is based on the assumption that the identified filler within the ATR-FTIR is present with no to little impurities which may be below the detection limit of the ATR-FTIR method.

Thermal Gravimetric Analysis Differential Scanning Calorimetry (TGA-DSC) in conjunction with Dry

Ashing can be used with quantitative assessment of combustible to non-combustible material to ascertain polymer content to non-polymer content and following the recommendations as detailed within the Insurance Council of Australia[1] web page, the category of the material can be assigned, i.e. Category A-D, refer to Table 2. While Table 3 further expands the relationship between the Categories based on the information as shown in the Insurance Council of Australia[1] web page.

**Table 2: Table taken from the ICA's[1] web site.**

| Category | Polymer Percentage[5] | Polymer % | Inert Filler %[6] |
|---|---|---|---|
| **A** | 30-100% Polymer and 0-70% inert materials | 30-100% | 0-70% |
| **B** | 8-29% Polymer and 71-92% inert materials | 8-29% | 71-92% |
| **C** | 1-7% Polymer and 93-99% inert materials | 1-7% | 93-99% |
| **D** | 0% Polymer and 100% inert materials or deemed non-combustible by the NCC | 0% | 100% |

**Table 3: Summarised Data from the ICA's[1] web site**

| Category | Polymer Percentage[5] | Description |
|---|---|---|
| **A** | 30-100% | **Similar to Category 3 in the BRE appendix**<br>ACP's in this category typically have close to 100% organic polymer in their core and were identified by most manufacturers as PE (Polyethylene) core. Some core binders are polymers other than PE. |
| **B** | 8-29% | **Similar to Category 2 in the BRE appendix**<br>Typically identified by ACP manufacturers as FR, FR, Plus or rated Class B per EN 13501 and typically have around 30% organic polymer in the core however some State Regulations limit the PE content to less than 30% for this category. |
| **C** | 1-7% | **Similar to Category 1 in the BRE appendix**<br>Typically identified by ACP manufacturers as A2, rated as Class A2 per EN 13501. These are considered as having very limited combustibility. Testing to EN 13501 and obtaining class A2 is a valid alternative. |
| **D** | 0% | **Similar to Category 1 in the BRE appendix**<br>Typically, panels tested or deemed non-combustible by the building code (NCC). These could be aluminium skins with low adhesive aluminium honeycomb cores, or with a compressed phenolic core, compressed fibre cement core or even compressed fibre cement panel. Steel panels with calcium silicate or similar core. |

5 Polymer including all types of flammable polymers
6 Inert materials are considered those that do not contribute to combustion.

### 2.5. VISUAL THERMAL STABILITY

A small section of intact building façade system sample was subjected to heating within a heat bath and as the temperature is progressively increased, it is measured *via* a thermocouple. During the test, the material is visually observed for physical changes (i.e. sample 'watering', melting/softening, generation of volatiles or smoke, charring) and those changes are recorded.

### 2.6. MICRO FLAMMABILITY

A small section of building façade system sample was subjected to a stoichiometric *natural gas* flame to determine whether the material is flammable *via* the observation of sustained burning. The extent of flammability is then determined *via* the observation of a sustained burning flame when the external flame source is removed, and the duration of such burning is recorded.

### 2.7. THERMAL ANALYSIS BY TGA-DSC

Thermal Gravimetric Analysis (TGA) is a method of thermal analysis in which changes in physical and chemical properties of materials are measured as a function of increasing temperature (with constant heating rate), or as a function of time (with constant temperature and/or constant mass). Differential Scanning Calorimetry (DSC) is a thermoanalytical technique in which the difference in the amount of heat required to increase the temperature of a sample and reference material is measured as a function of temperature.

This technique heats the sample and a reference sample at a given rate in a nitrogen environment, where the caloric heat flux is mapped as a function of time and temperature, while the residual mass of sample is measured over time as the temperature changes (TGA). When the sample undergoes a chase change (e.g. crystallisation or melting), energy is absorbed or emitted by and/or from the sample and the temperature difference between the sample and reference material is measured.

The results obtained are analysed using specialised software which determine the temperature of *on-set*, *end-set* and *peaks* of any phase changes and the weight loss of the materials by thermal degradation. Changes in heat flux occur as a result of phase changes and weight loss.

This method is used to determine the polymeric and filler material present *via* the thermal transition of the material or mass loss and is used to compare the way different materials change to increasing temperatures.

## 2.8. X-RAY DIFFRACTION TEST

The X-ray diffractometer is comprised of an X-ray source, which is focussed on the sample at a particular angle of incidence through horizontal and vertical divergence slits.

X-ray diffraction is sometimes used to semi-quantitatively determine the weight fraction of constituents within the material. By comparing the integrated intensities of the diffraction peaks from each of the known constituents, their w/w percent can be approximated. However, it is highly dependent on particle size effect and interferences from the matrix.

# 3. LABORATORY RESULTS

## 3.1. SPECTRAL ANALYSIS BY ATR-FTIR

A summary of building façade system samples subjected to ATR-FTIR are shown in Table 4 with reference to subsequent figures.

**Table 4: Building façade system sample subjected to FTIR Analysis.**

| Sample ID | Sample Type | Colour of Polymer Core | Was Sample Analysed | ATR-FTIR Spectra |
|---|---|---|---|---|
| **122533** | ACP | White | No | N/A |
| **122534** | ACP | White | Yes | Figure 1 |
| **122535** | ACP | White | Yes | Figure 2 |
| **122536** | ACP | Black | Yes | Figure 3 |
| **122537** | ACP | Black | Yes | Figure 4 |
| **122538** | ACP | Black | Yes | Figure 5 |
| **122539** | ACP | Black | No | N/A |
| **122540** | ACP | Black | No | N/A |
| **122541** | ACP | Black | Yes | Figure 6 |
| **122542** | ACP | Black | No | N/A |

**Figure 1: FTIR of Building Façade System.**

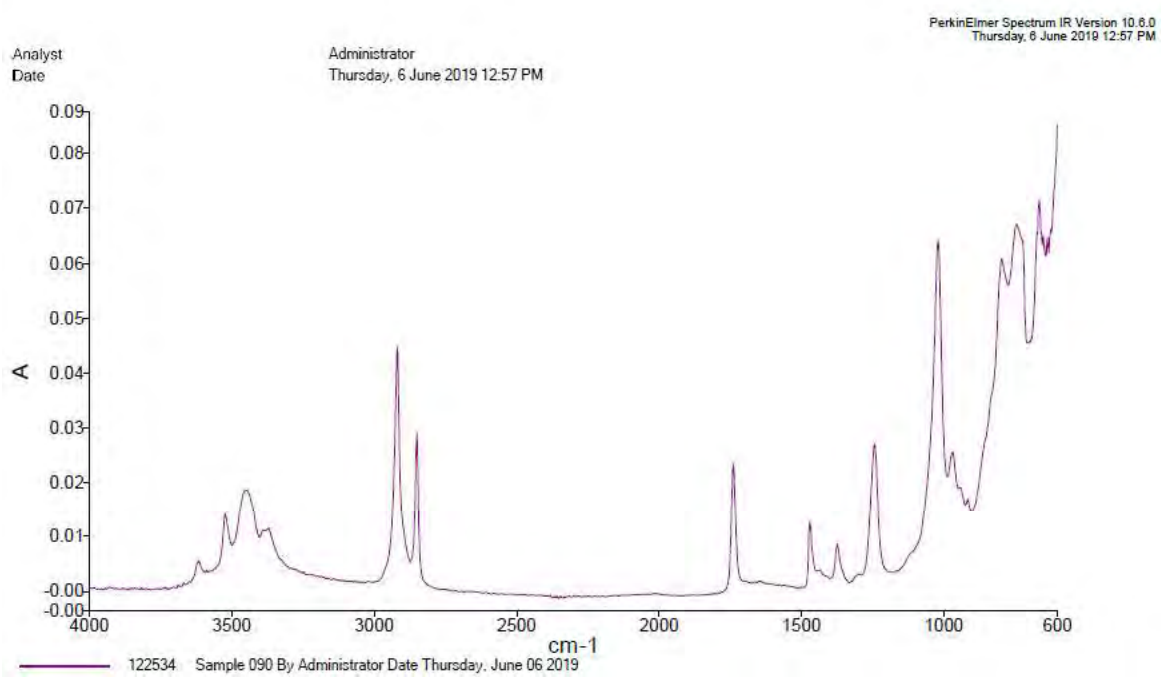


**Figure 2: FTIR of Building Façade System.**

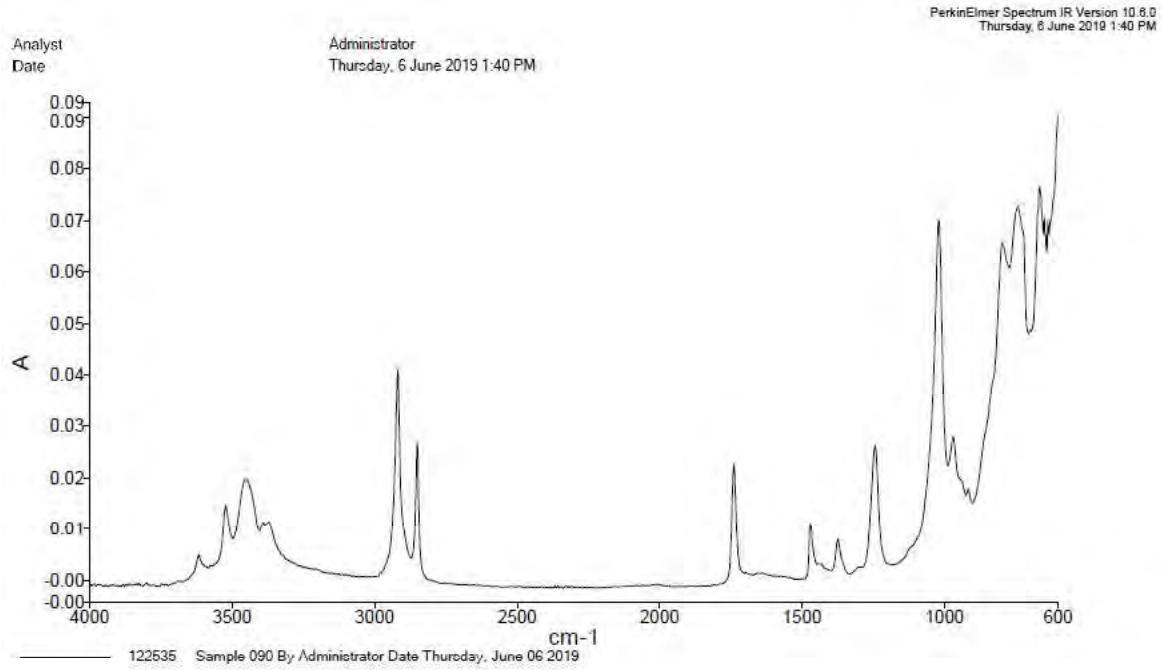



**Figure 3: FTIR of Building Façade System.**

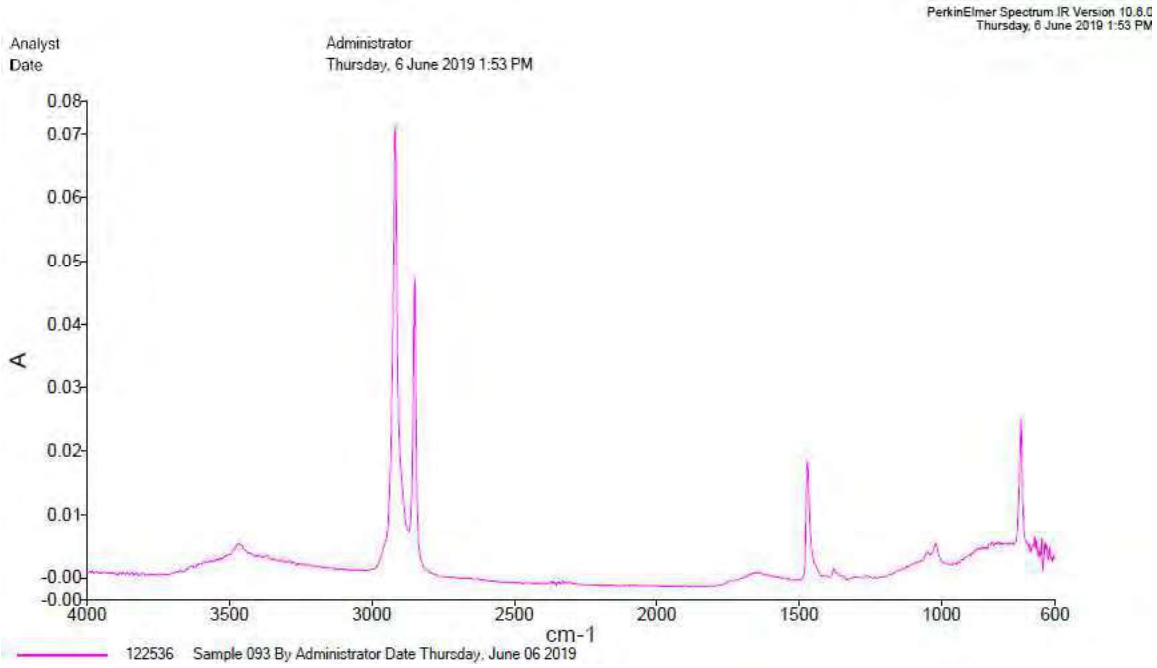


**Figure 4: FTIR of Building Façade System.**

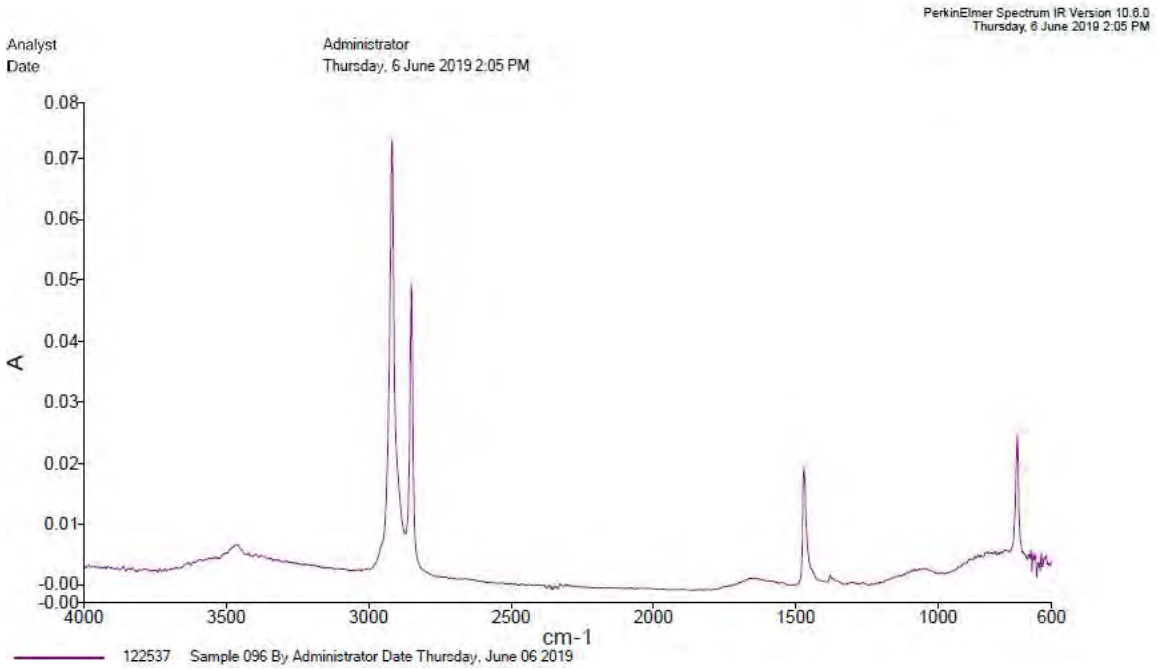



**Figure 5: FTIR of Building Façade System.**

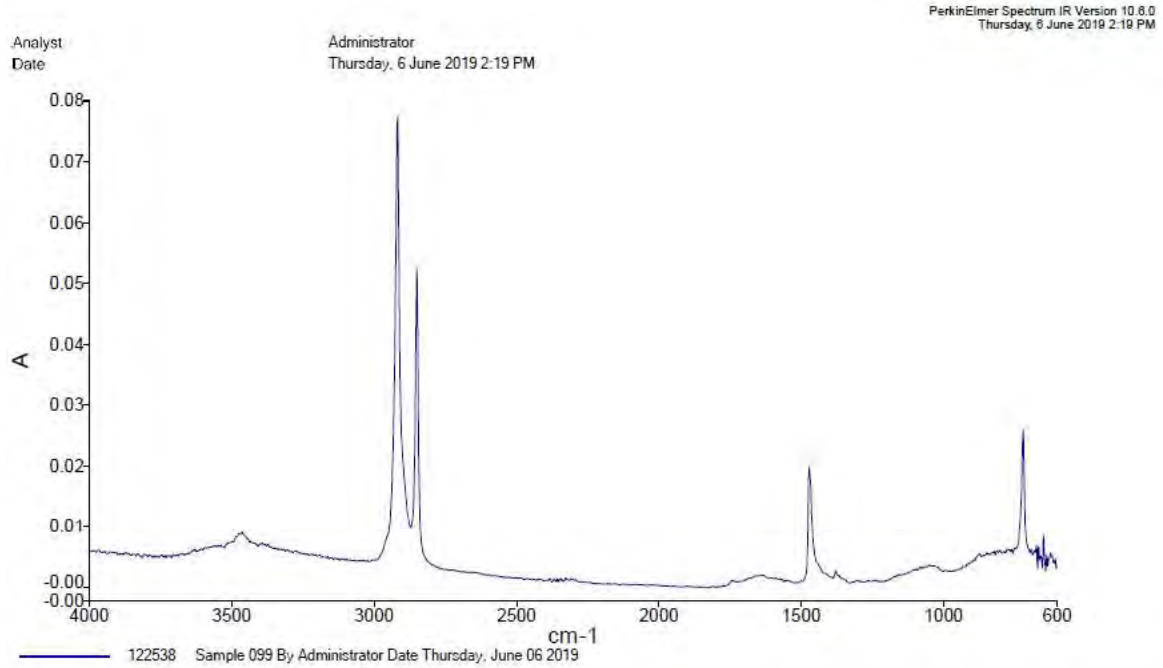
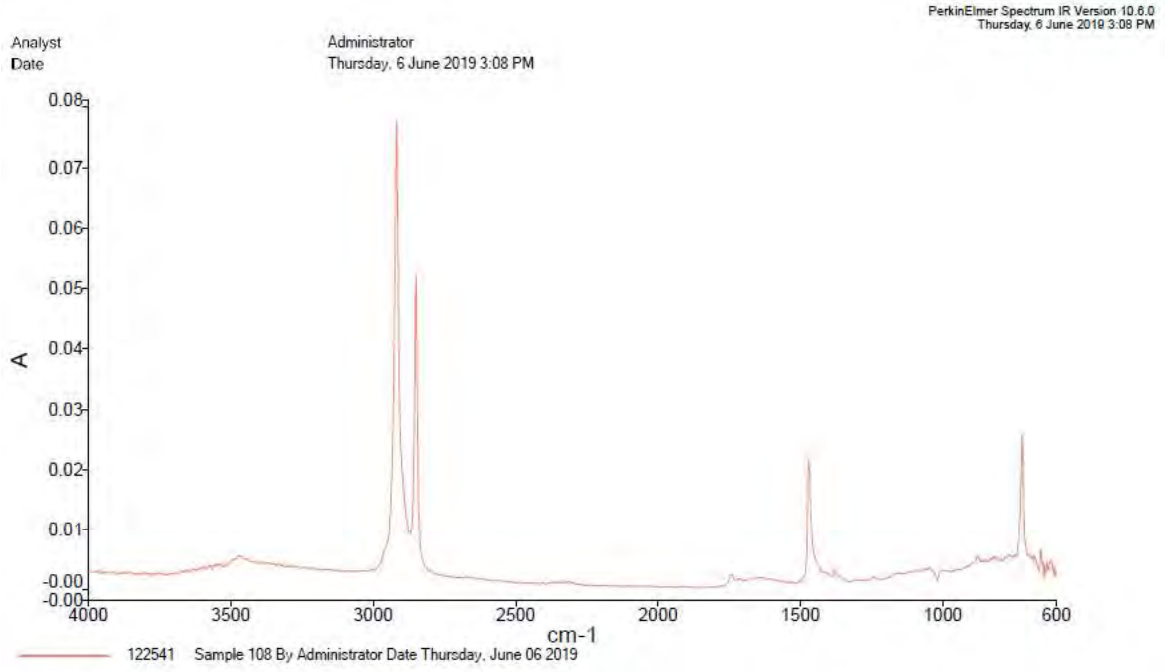


**Figure 6: FTIR of Building Façade System.**




### 3.2. Dry Oxidative Ashing Test

A summary of building façade system samples subjected to Dry-Ashing with results are summarised in Table 5.

**Table 5: Building façade system sample dry oxidative ashing results.**

| Sample ID | Sample Type | Was Sample Analysed | Mass of Core Sample Polymer[7] (g) | Ash[8] (g) | Ash[9] (w/w%) | Appearance of Ash |
|---|---|---|---|---|---|---|
| **122533** | ACP | No | N/A | N/A | N/A | N/A |
| **122534** | ACP | Yes | 0.6264 | 0.2807 | 45% | White |
| **122535** | ACP | Yes | 0.4133 | 0.1872 | 45% | White |
| **122536** | ACP | Yes | 0.3551 | 0.0019 | 1% | None |
| **122537** | ACP | Yes | 0.2916 | 0.0000 | 0% | None |
| **122538** | ACP | Yes | 0.2421 | 0.0051 | 2% | Beige |
| **122539** | ACP | No | N/A | N/A | N/A | N/A |
| **122540** | ACP | No | N/A | N/A | N/A | N/A |
| **122541** | ACP | Yes | 0.2547 | 0.0049 | 2% | Beige |
| **122542** | ACP | No | N/A | N/A | N/A | N/A |

7 Mass of polymer core sample subjected to ashing.
8 Mass of ash remaining after ashing experiment.
9 Non-combustible at 1000°C

### 3.3. THERMAL STABILITY

A summary of building façade system samples subjected to Thermal stability analysis are summarised below also showing laboratory results in Table 6 below.

**Table 6: Building façade system sample thermal stability observations.**

| Sample ID | Sample Type | Core Colour | Temperature (°C) | Observation |
|---|---|---|---|---|
| **122533** | ACP | White | N/A | N/A – Sample not Analysed |
| **122534** | ACP | White | RT | Start of experiment |
| | | | 131 | Filler softens |
| | | | 166 | Swelling starts |
| | | | 258 | De-lamination on heated side of sample |
| | | | 270 | Smoke starts |
| | | | 351 | Filler browns |
| | | | 400 | End of Experiment |
| **122535** | ACP | White | RT | Start of experiment |
| | | | 130 | Filler softens |
| | | | 166 | Swelling starts |
| | | | 261 | De-lamination on heated side of sample |
| | | | 274 | Smoke starts |
| | | | 356 | Filler browns |
| | | | 400 | End of Experiment |
| **122536** | ACP | Black | RT | Start of experiment |
| | | | 142 | Filler melting |
| | | | 348 | Filler oozing out of sample |
| | | | 351 | Smoke starts |
| | | | 400 | End of Experiment |
| **122537** | ACP | Black | RT | Start of experiment |
| | | | 157 | Filler melting |
| | | | 311 | Smoke starts |
| | | | 331 | Filler oozing out of sample into sand-bath |
| | | | 400 | End of Experiment |
| **122538** | ACP | Black | RT | Start of experiment |
| | | | 168 | Filler melting |
| | | | 308 | Smoke starts |
| | | | 379 | Filler oozing out of sample into sand-bath |
| | | | 400 | End of Experiment |
| **122539** | ACP | Black | N/A | N/A – Sample not Analysed |
| **122540** | ACP | Black | N/A | N/A – Sample not Analysed |
| **122541** | ACP | Black | RT | Start of experiment |
| | | | 125 | Filler melting |
| | | | 220 | Filler swelling |
| | | | 274 | Smoke starts |
| | | | 378 | Filler oozing out of sample into sand-bath |
| | | | 400 | End of Experiment |
| **122542** | ACP | Black | N/A | N/A |

### 3.4. MICRO-FLAMMABILITY

A summary of building façade system samples subjected to Micro-flammability analysis are summarised below also showing laboratory results in Table 7.

**Table 7: Building façade system sample micro-flammability results.**

| Sample ID | Sample Type | Was Sample Analysed | Flammable | Period Flame Sustained | Observation |
|---|---|---|---|---|---|
| **122533** | ACP | No | N/A | N/A | N/A – Sample not Analysed |
| **122534** | ACP | Yes | Partially Flammable | 1 Sec - Self-Sustained | Filler expanded, bubbled and charred. Burned for ~1sec after heating flame removed, then smoked. |
| **122535** | ACP | Yes | Partially Flammable | N/A - Self-Extinguishing | Filler expanded, bubbled and charred and smoked. |
| **122536** | ACP | Yes | Yes | > 1 Min - Self-Sustained | Filler melts and oozes out onto surface of sample. Filler burns with thick black smoke, dripping flaming molten plastic. Burns until all filler consumed. |
| **122537** | ACP | Yes | Yes | > 1 Min - Self-Sustained | Filler melts and oozes out onto surface of sample. Filler burns with thick black smoke, dripping flaming molten plastic. Burns untill all filler consumed. |
| **122538** | ACP | Yes | Yes | > 1 Min - Self-Sustained | Filler melts and oozes out onto surface of sample. Filler burns with thick black smoke, dripping flaming molten plastic. Burns until all filler consumed. |
| **122539** | ACP | No | N/A | N/A | N/A – Sample not Analysed |
| **122540** | ACP | No | N/A | N/A | N/A – Sample not Analysed |
| **122541** | ACP | Yes | Yes | > 1 Min - Self-Sustained | Filler melts and oozes out onto surface of sample. Filler burns with thick black smoke, dripping flaming molten plastic. Burns until all filler consumed. |
| **122542** | ACP | No | N/A | N/A | N/A – Sample not Analysed |

### 3.5. THERMAL ANALYSIS BY TGA-DSC

In this instance TGA-DSC laboratory analysis was not required as the core sample was identified by ATR-FTIR.

### 3.6. X-RAY DIFFRACTION TEST

In this instance X-Ray Diffraction laboratory analysis was not required as the core sample was identified by ATR-FTIR.

# 4. Discussion of Results

## 4.1. ATR-FTIR

Analysis of the FTIR spectra *via* a library search of known polymer blends identified the following possible polymer blend corresponding to the analysed samples in Table 4. This information is further summarised in Table 8 with their corresponding library match and figure.

**Table 8: Building façade system sample composition identification.**

| Sample ID | Sample Type | Core Colour | Was Sample Analysed | Identified Polymer and Additive (Filler) | Figure |
|---|---|---|---|---|---|
| **122533** | ACP | White | No | N/A – Sample not Analysed | N/A |
| **122534** | ACP | White | Yes | Ethylene-Vinyl Acetate with Alumina Trihydrate | Figure 7 |
| **122535** | ACP | White | Yes | Ethylene-Vinyl Acetate with Alumina Trihydrate | Figure 8 |
| **122536** | ACP | Black | Yes | Polyethylene with No Filler Identified | Figure 9 |
| **122537** | ACP | Black | Yes | Polyethylene with No Filler Identified | Figure 10 |
| **122538** | ACP | Black | Yes | Polyethylene with No Filler Identified | Figure 11 |
| **122539** | ACP | Black | No | N/A – Sample not Analysed | N/A |
| **122540** | ACP | Black | No | N/A – Sample not Analysed | N/A |
| **122541** | ACP | Black | Yes | Polyethylene with No Filler Identified | Figure 12 |
| **122542** | ACP | Black | No | N/A – Sample not Analysed | N/A |

**Figure 7: FTIR Spectral Comparisons of Known Material with Sample.**

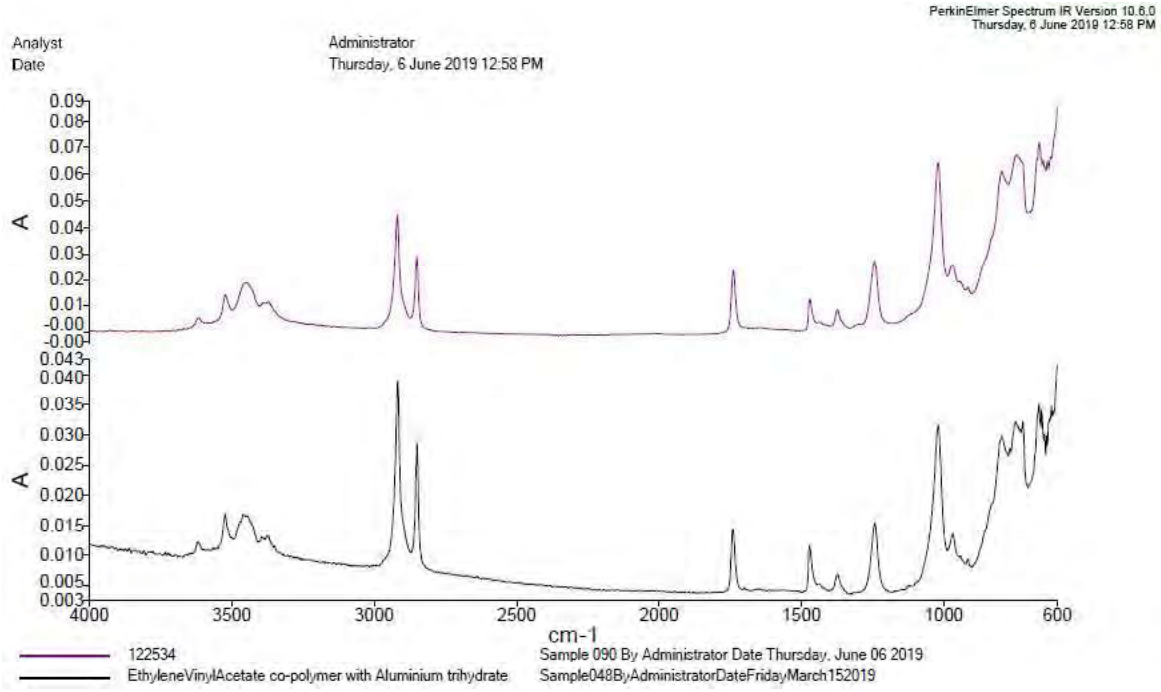



**Figure 8: FTIR Spectral Comparisons of Known Material with Sample.**

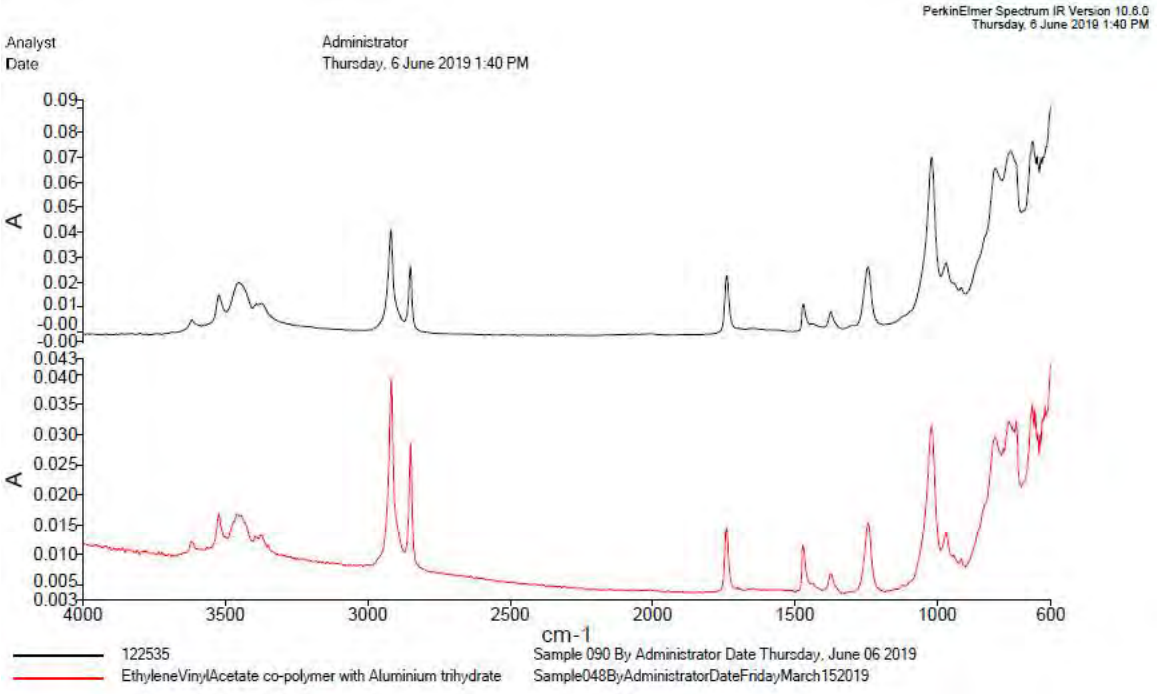


**Figure 9: FTIR Spectral Comparisons of Known Material with Sample.**

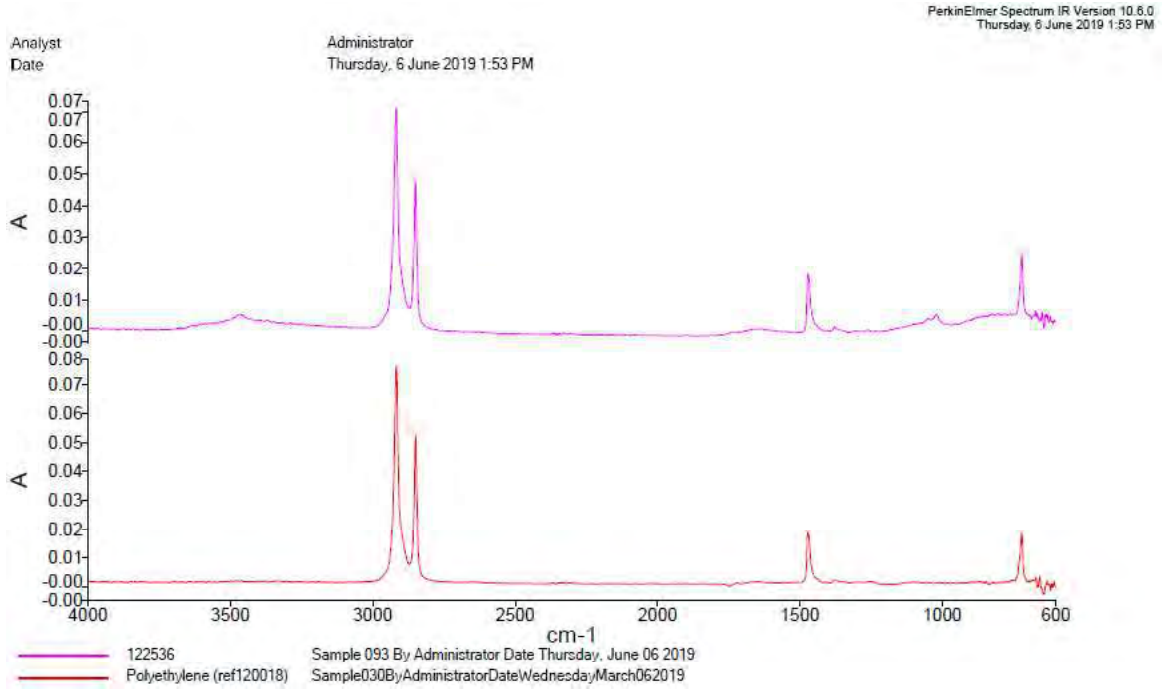



**Figure 10: FTIR Spectral Comparisons of Known Material with Sample.**

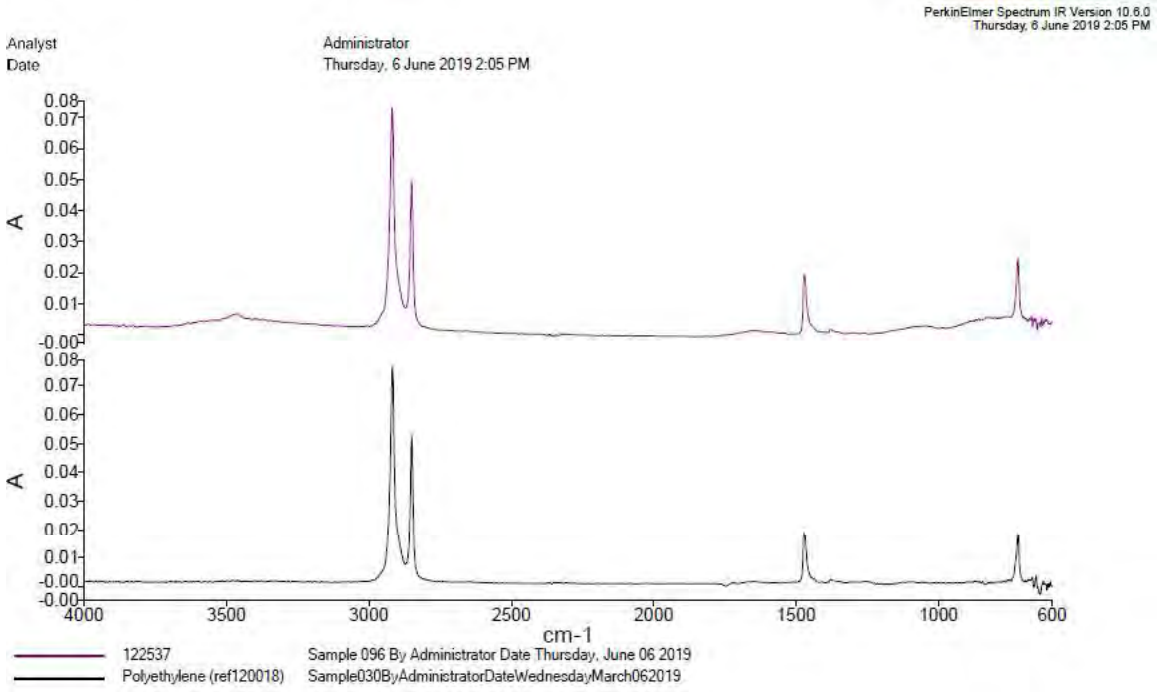


**Figure 11: FTIR Spectral Comparisons of Known Material with Sample.**

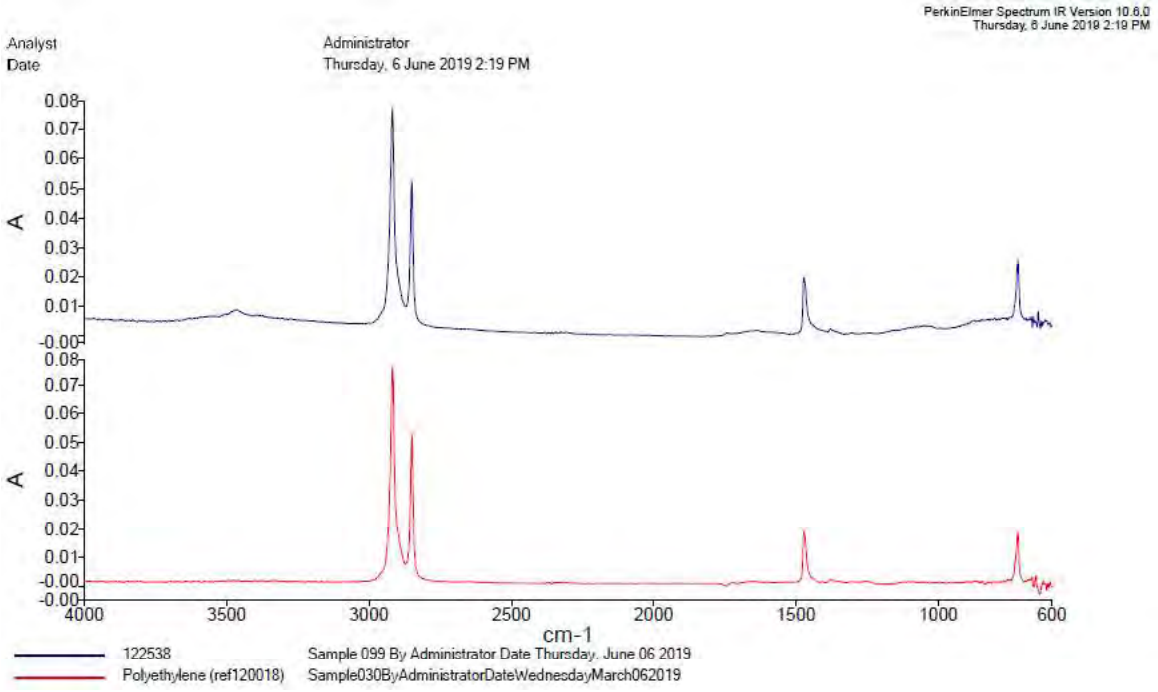
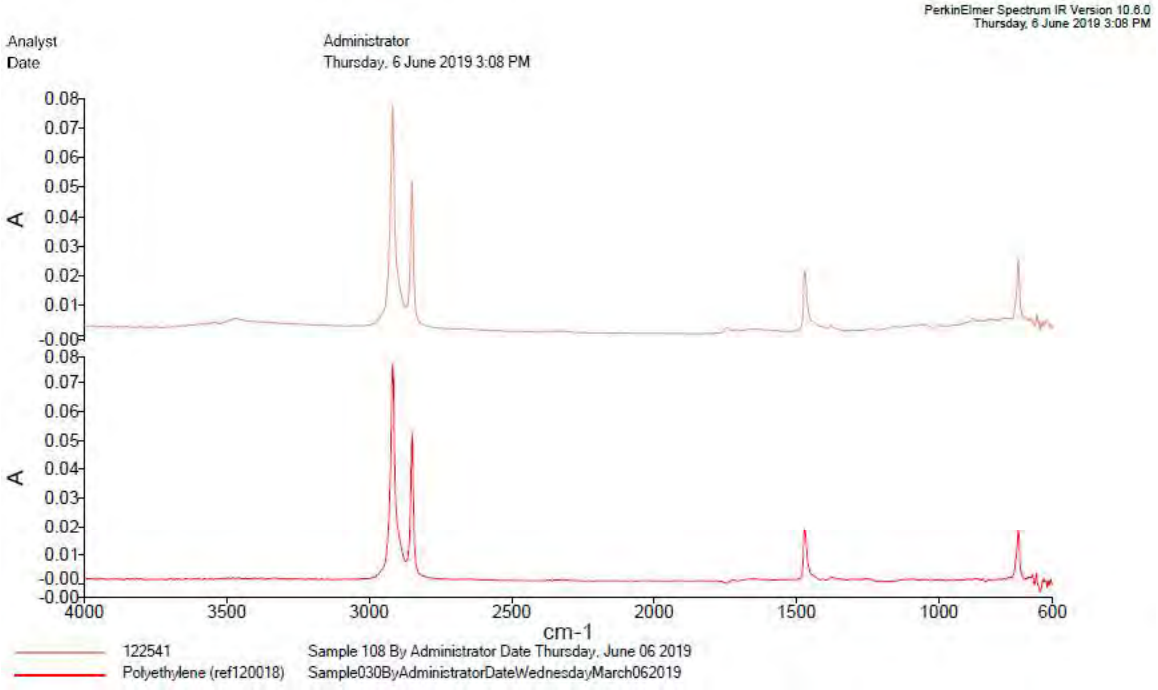



**Figure 12: FTIR Spectral Comparisons of Known Material with Sample.**



### 4.2. Oxidative Dry-Ashing

The oxidative dry-ashing results of the building façade samples are summarised in Table 9 for the samples analysed.

**Table 9: Building façade system sample dry-ashing results.**

| Sample ID | Sample Type | Was Sample Analysed | Identified Polymer by ATR-FTIR | Ash[9] (w/w%) | Filler[10] (w/w%) | Calculated Polymer[11] Content (w/w%) | Insurance Council of Australia Category |
|---|---|---|---|---|---|---|---|
| **122533** | ACP | No | N/A | N/A | N/A | N/A | N/A |
| **122534** | ACP | Yes | Ethylene-Vinyl Acetate with Alumina Trihydrate | 45% | 69% | 31% | **A** |
| **122535** | ACP | Yes | Ethylene-Vinyl Acetate with Alumina Trihydrate | 45% | 69% | 31% | **A** |
| **122536** | ACP | Yes | Polyethylene with No Filler Identified | 1% | 1% | 99% | **A** |
| **122537** | ACP | Yes | Polyethylene with No Filler Identified | 0% | 0% | 100% | **A** |
| **122538** | ACP | Yes | Polyethylene with No Filler Identified | 2% | 2% | 98% | **A** |
| **122539** | ACP | No | N/A | N/A | N/A | N/A | N/A |
| **122540** | ACP | No | N/A | N/A | N/A | N/A | N/A |
| **122541** | ACP | Yes | Polyethylene with No Filler Identified | 2% | 2% | 98% | **A** |
| **122542** | ACP | No | N/A | N/A | N/A | N/A | N/A |

10 Calculated percentage of filler based on identified filler within the FTIR and mass of ash remaining.
11 Calculated mass of polymer based on calculated weight of filler and starting mass of sample.

### 4.3. Visual Thermal Stability

The visual Thermal Stability results of the building façade samples are summarised in Table 10 below.

**Table 10: Building façade system sample thermal stability results.**

| Sample ID | Sample Type | Was Sample Analysed | Limit of Stability (°C) | Smoke Onset (°C) | Loss of Structure (°C) |
|---|---|---|---|---|---|
| **122533** | ACP | No | N/A | N/A | N/A |
| **122534** | ACP | Yes | 131 | 270 | 131 |
| **122535** | ACP | Yes | 130 | 274 | 130 |
| **122536** | ACP | Yes | 142 | 351 | 142 |
| **122537** | ACP | Yes | 157 | 311 | 157 |
| **122538** | ACP | Yes | 168 | 308 | 168 |
| **122539** | ACP | No | N/A | N/A | N/A |
| **122540** | ACP | No | N/A | N/A | N/A |
| **122541** | ACP | Yes | 125 | 274 | 125 |
| **122542** | ACP | No | N/A | N/A | N/A |

### 4.4. Micro-Flammability

The micro-flammability results of the building façade samples are summarised in Table 11 below.

**Table 11: Building façade system sample micro-flammability results.**

| Sample ID | Sample Type | Was Sample Analysed | Flammable | Duration of Flaming | Self-Sustained | Dripping or Oozing | Smoke Generated During Combustion |
|---|---|---|---|---|---|---|---|
| **122533** | ACP | No | N/A | N/A | N/A | N/A | N/A |
| **122534** | ACP | Yes | Partially Flammable | 1 Sec | Yes | N/A | Yes |
| **122535** | ACP | Yes | Partially Flammable | N/A | No | N/A | Yes |
| **122536** | ACP | Yes | Yes | > 1 Min | Yes | Dripping | Yes |
| **122537** | ACP | Yes | Yes | > 1 Min | Yes | Dripping | Yes |
| **122538** | ACP | Yes | Yes | > 1 Min | Yes | Dripping | Yes |
| **122539** | ACP | No | N/A | N/A | N/A | N/A | N/A |
| **122540** | ACP | No | N/A | N/A | N/A | N/A | N/A |
| **122541** | ACP | Yes | Yes | > 1 Min | Yes | Dripping | Yes |
| **122542** | ACP | No | N/A | N/A | N/A | N/A | N/A |

### 4.5. Desktop Review of Expected Toxic Gases to be Released if Exposed to Fire

In conducting this assessment, CETEC has identified the main components forming the composition of these ACP samples. For the ACP samples which have been identified as being flammable, the expected emissions to be released in the event of a fire are highlighted below;

- Carbon dioxide.
- Carbon monoxide.
- Particulate matter, i.e. black smoke.
- Oxides of Nitrogen (NOx) (dependent on temperature of fire).

However, if a detailed analysis of toxicity is required, a full and detailed analysis of the emissions would be required.

## 5. CONCLUSION

On behalf of Jenny Bourne from Sedgwick, CETEC collected and conducted scientific analysis of building façade system samples to determine their composition as per the requirements of the Insurance Council of Australia recommendations. The samples were collected by CETEC staff, Byran Larkings on the 23/05/2019 and sent to Foray Laboratories, a NATA registered company wholly owned by CETEC for scientific analysis of the samples.

Testing following methodology developed by CETEC Pty Ltd to determine composition and flammability potential was conducted in order to assign the material to a Category as instructed by the Insurance Council of Australia[1]. A summary of results detailed below in Table 12 with an additional photographic summary of the samples received, refer to Appendix A and subsequent Photos.

**Table 12: Fuel Contribution Summary based on the Insurance Council of Australia Guidelines.**

| Sample ID | Sample Type | Location Sample Was Taken | Was Sample Analysed | Identified Polymer and Additive (Filler) | Fuel Contributor | Dripping Risk | Smoke Generated | Combustible Material Content (% w/w) | Corrected Inert Filler Content (% w/w) | Insurance Council of Australia Category |
|---|---|---|---|---|---|---|---|---|---|---|
| **122533** | ACP | Strata #2 - 84 Chandler St, red panel on building (South/East Side) | No | N/A – Sample not Analysed | | | | | | |
| **122534** | ACP | Strata #2 - 80 Chandler St, silver panel on building (North/East Side) | Yes | Ethylene-Vinyl Acetate with Alumina Trihydrate | Partially Flammable | N/A | Yes | 31% | 69% | **A** |
| **122535** | ACP | Strata #2 - 60 College St, purple panel on building (North/East Side) | Yes | Ethylene-Vinyl Acetate with Alumina Trihydrate | Partially Flammable | N/A | Yes | 31% | 69% | **A** |
| **122536** | ACP | Strata #2 - 64 College St, green panel on building (North/East Side) | Yes | Polyethylene with No Filler Identified | Yes | Dripping | Yes | 99% | 1% | **A** |

| Sample ID | Sample Type | Location Sample Was Taken | Was Sample Analysed | Identified Polymer and Additive (Filler) | Fuel Contributor | Dripping Risk | Smoke Generated | Combustible Material Content (% w/w) | Corrected Inert Filler Content (% w/w) | Insurance Council of Australia Category |
|---|---|---|---|---|---|---|---|---|---|---|
| **122537** | ACP | Strata #2 - 68 College St, blue panel on building (North/East Side) | Yes | Polyethylene with No Filler Identified | Yes | Dripping | Yes | 100% | 0% | **A** |
| **122538** | ACP | Strata #1 - 72 College St, grey/silver panel on building (North/East Side) | Yes | Polyethylene with No Filler Identified | Yes | Dripping | Yes | 98% | 2% | **A** |
| **122539** | ACP | Strata #1 - 72 College St, green panel on building (East Side) | No | N/A – Sample not Analysed | | | | | | |
| **122540** | ACP | Strata #1 - 57 College St, red panel on building (South/West Side) | No | N/A – Sample not Analysed | | | | | | |
| **122541** | ACP | Strata #1 - 57 College St, grey/silver | Yes | Polyethylene with No Filler Identified | Yes | Dripping | Yes | 98% | 2% | **A** |

| Sample ID | Sample Type | Location Sample Was Taken | Was Sample Analysed | Identified Polymer and Additive (Filler) | Fuel Contributor | Dripping Risk | Smoke Generated | Combustible Material Content (% w/w) | Corrected Inert Filler Content (% w/w) | Insurance Council of Australia Category |
|---|---|---|---|---|---|---|---|---|---|---|
| | | panel on building (South/West Side) | | | | | | | | |
| **122542** | ACP | Strata #1 - 57 College St, purple panel on building (East Side) | No | N/A – Sample not Analysed | | | | | | |

## APPENDIX A: PHOTOGRAPHIC RECORD OF BUILDING FAÇADE SYSTEM SAMPLES

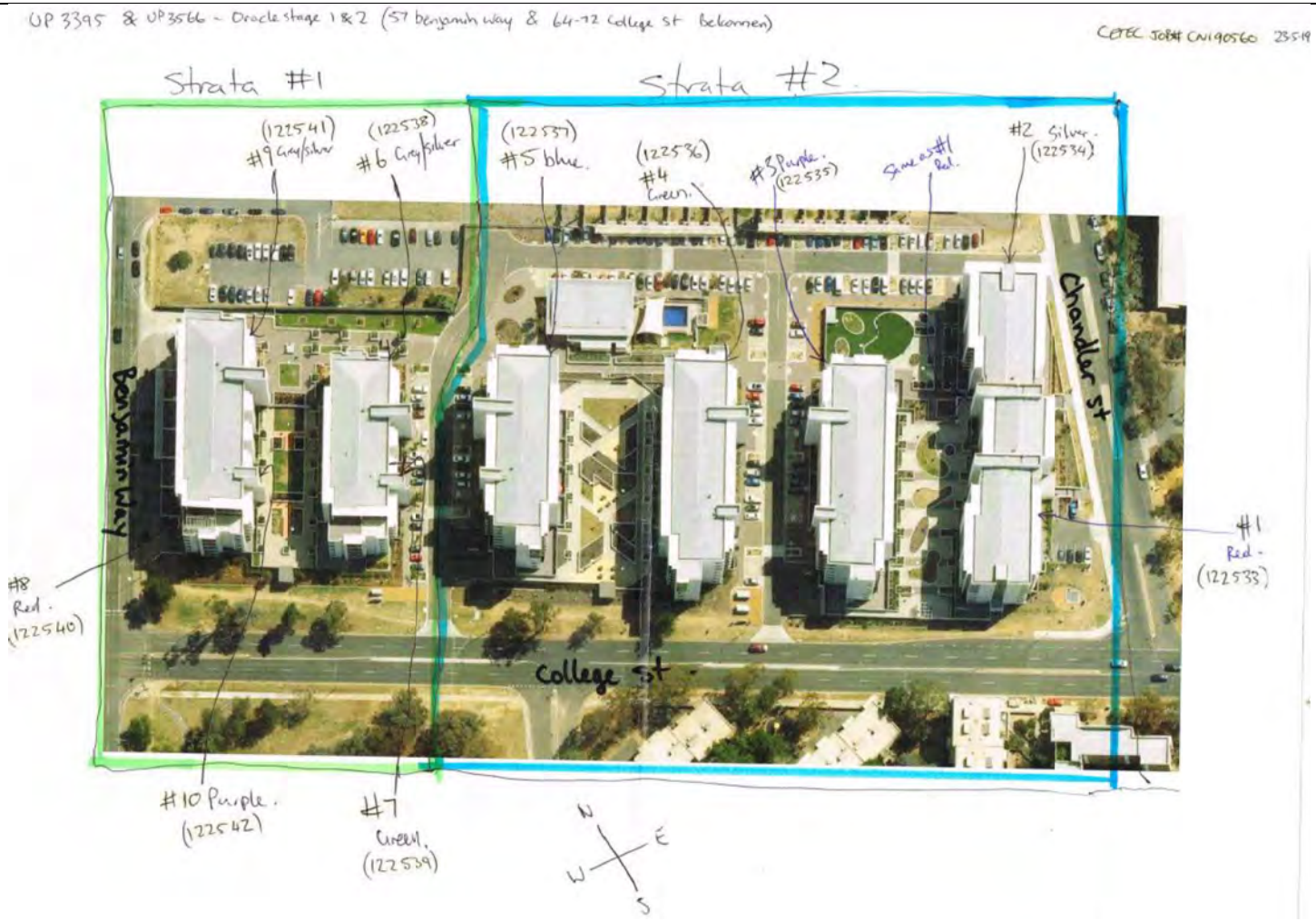



**Photo 1: Google earth site view indicating sampling locations**

**Photo 2: Sample Number 122533 – sample not analysed**

**Photo 3: Sample Number 122533 – Sample was not analysed**

**Photo 4: Sample Number 122533 – Sample was not analysed**

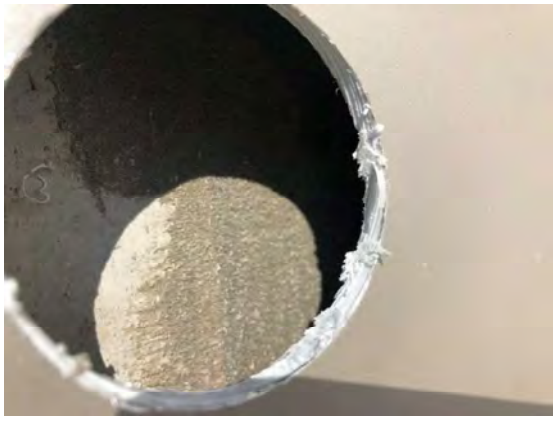


**Photo 5: Sample Number 122534**

**Photo 6: Sample Number 122534**

**Photo 7: Sample Number 122534 – behind panel**

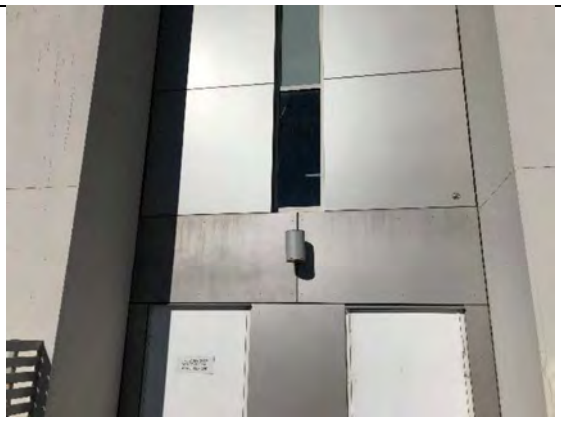


**Photo 8: Location where sample 122534 was taken**

**Photo 9: Façade from where sample 122534 was taken**

**Photo 10: Sample number 122535**

**Photo 11: Sample 122535 – behind panel**

**Photo 12: Sample number 122536**

**Photo 13: Sample number 122536 – behind panel**

**Photo 14: Façade view of where sample 122536 was taken.**

**Photo 15: view of where sample 122536 was taken.**

**Photo 16: Sample Number 122537**

**Photo 17: Sample Number 122537**

**Photo 18: Sample Number 122537 – behind panel view**

**Photo 19: Façade view of sample Number 122537**

Photo 20: Sample number 122538

Photo 21: Sample number 122538 – behind panel view

Photo 22: Sample number 122538

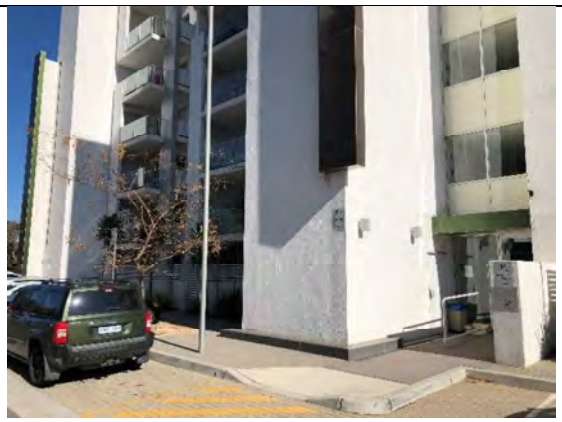


Photo 23: Sample number 122538 – façade view

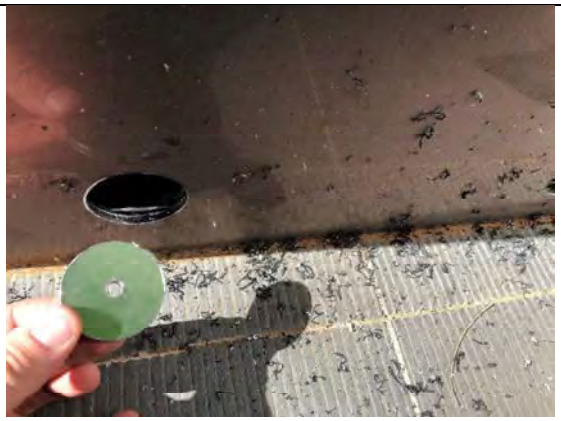


Photo 24: Sample number 122539 – sample not analysed

Photo 25: Sample number 122539 – behind panel view

**Photo 26: Sample number 122539 – sample location view**

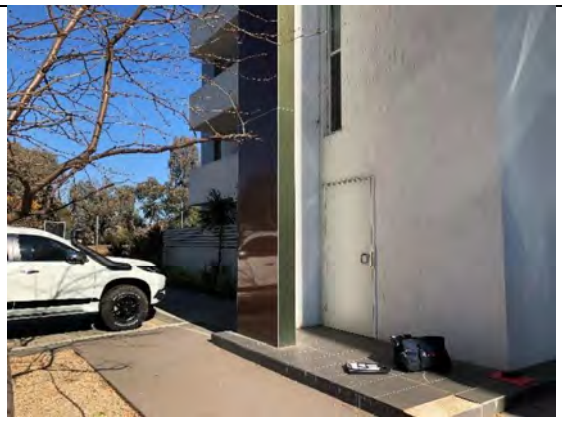


**Photo 27: Sample number 122539 – façade view**


**Photo 28: Sample number 122540 – sample not analysed**

**Photo 29: Sample number 122540 – behind panel view**

**Photo 30: Sample number 122540 – sample location.**

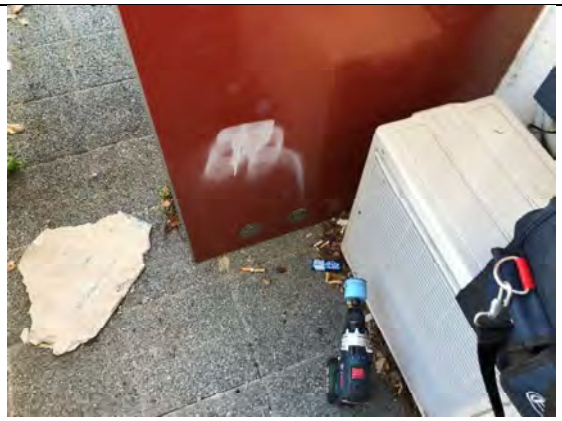


**Photo 31: Sample number 122540 – sample location**

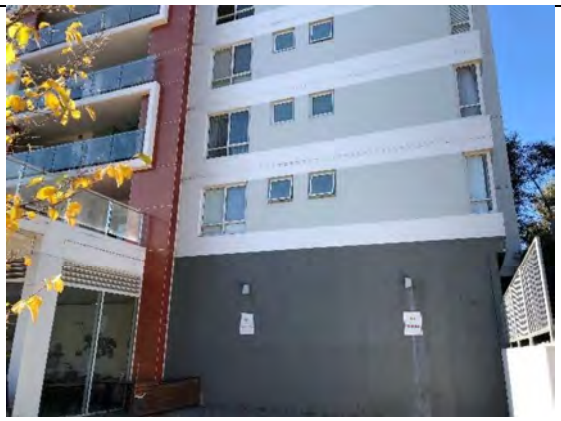


Photo 32: Sample number 122540 façade view

Photo 33: Sample number 122541

Photo 34: Sample number 122541 – behind panel view

Photo 35: Sample number 122541 – location of sample

Photo 36: Sample number 122541 – façade view

Photo 37: Sample number 122542 – sample not analysed

| | |
|---|---|
|  |  |
| **Photo 38: Sample number 122542 – location view** | **Photo 39: Sample number 122542 – façade view** |

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## COPYRIGHT

icon
building rectification

civium

**Civium Holdings Pty Ltd**
**ABN 14 564 265 264**

**RE: SWIMMING POOL DISCLOSURE**

UNIT PLAN NO. 3566
Oracle C-D-E-F-G-
60-68 College Street, 80-84 Chandler Street
BELCONNEN

To Whom It May Concern,

Due to the absence of specific records indicating the precise date of construction of the swimming pool, we are unable to provide the exact construction date. Consequently, we have elected to use the date of registration of the building's unit plan as a reasonable approximation for the pool's construction date.

For the purposes of this disclosure, the construction date of the swimming pool will be deemed to coincide with the registration date of the building's unit plan, which is documented as 26/11/2009.

Furthermore, we have no knowledge of any modifications to the swimming pool or spa since the date of registration.

Sincerely,

Civium Strata

ACT PROPERTY INSPECTIONS

**189/60 College Street,**
**Belconnen ACT 2617**

**Report prepared: Friday, May 22nd 2026**

Energy Efficiency Rating
Insurance Certificates
Tax Invoice

# Energy Efficiency Report

# FirstRate Report

HOUSE
ENERGY RATING

**YOUR HOUSE ENERGY RATING IS:** ★★★★★★ **6 STARS**
**in Climate: 24**

**SCORE: 43 POINTS**

**Name:** Gilmour & Dixon **Ref No:** 70076

**House Title:** Unit 189 Block 20 Section 44 BELCONNEN **Date:** 22-05-2026

**Address:** 189/60 College Street, Belconnen ACT 2617

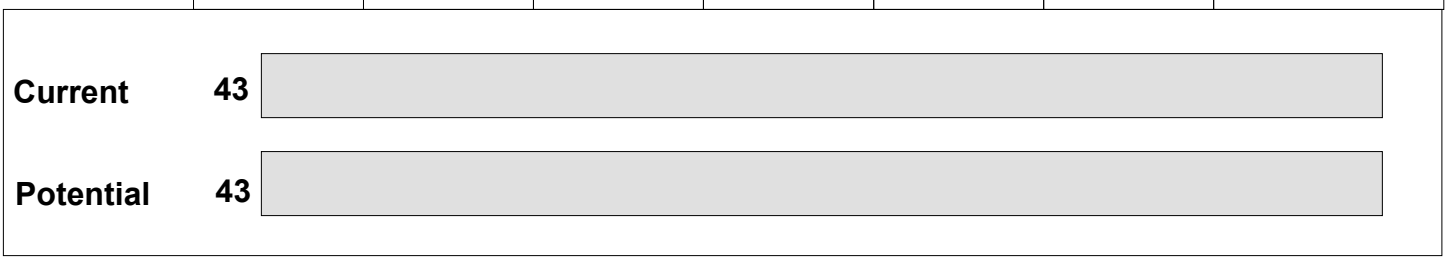
ACT HOUSE ENERGY
RATING SCHEME
43 Points 6.0 Stars
Robert Lowe - 20111129
Building Assessor - Class A (Energy Efficiency)

This rating only applies to the floor plan, construction details, orientation and climate as submitted and included in the attached Rating Summary. Changes to any of these could affect the rating.

## IMPROVING YOUR RATING

The table below shows the current rating of your house and its potential for improvement.

| | POOR | | AVERAGE | | GOOD | | V. GOOD |
|---|---|---|---|---|---|---|---|
| **Star Rating** | **0 Star** | ★ | ★★ | ★★★ | ★★★★ | ★★★★★ | ★★★★★★ |
| **Point Score** | **-71** | **-70 -46** | **-45 -26** | **-25 -11** | **-10 4** | **5 16** | **17** |




Incorporating these design options will add the additional points required to achieve the potential rating shown in the table Each point represents about a 1% change in energy efficiency. This list is only a guide to the range of options that could be used.

| **Design options** | **Additional points** |
|---|---|

## ORIENTATION

Orientation is one of the key factors which influences energy efficiency. This dwelling will achieve different scores and star ratings for different orientations.

| | | |
|---|---|---|
| **Current Rating** | **43** | ★★★★★★ |

Largest windows in the dwelling;

**Direction : East**

**Area : 11 m²**

The table below shows the total score for the dwelling when these windows face the direction indicated.

**Note that obstructions overshadowing windows have been removed from all windows in these ratings to allow better comparisons to be made between orientations.**

| ORIENTATION | POINT SCORE | STAR RATING |
|---|---|---|
| 1. East | 43 | ★★★★★★ |
| 2. South East | 39 | ★★★★★★ |
| 3. South | 38 | ★★★★★★ |
| 4. South West | 38 | ★★★★★★ |
| 5. West | 40 | ★★★★★★ |
| 6. North West | 45 | ★★★★★★ |
| 7. North | 46 | ★★★★★★ |
| 8. North East | 48 | ★★★★★★ |

| FirstRate Mode |
|---|
| Climate: 24 |

**RATING SUMMARY for:** **Unit 189 Block 20 Section 44 BELCONNEN, 189/60 College Street, Belconnen ACT,**

**Assessor's Name:**

**Net Conditioned Floor Area:** **62.7 m²**

| Feature | | | | | | Points | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Winter | Summer | Total |
| **CEILING** | | | | | | **15** | **0** | **15** |
| Surface Area: | 117 | Insulation: | -103 | | | | | |
| **WALL** | | | | | | **4** | **-3** | **1** |
| Surface Area: | 0 | Insulation: | 4 | Mass: | -4 | | | |
| **FLOOR** | | | | | | **22** | **-5** | **17** |
| Surface Area: | 16 | Insulation: | -2 | Mass: | 4 | | | |
| **AIR LEAKAGE (Percentage of score shown for each element)** | | | | | | **8** | **0** | **8** |
| Fire Place | 0 % | Vented Skylights | 0 % | | | | | |
| Fixed Vents | 0 % | Windows | 44 % | | | | | |
| Exhaust Fans | 18 % | Doors | 21 % | | | | | |
| Down Lights | 0 % | Gaps (around frames) | 17 % | | | | | |
| **DESIGN FEATURES** | | | | | | **0** | **0** | **0** |
| Cross Ventilation | 0 | | | | | | | |
| **ROOF GLAZING** | | | | | | **0** | **0** | **0** |
| Winter Gain | 0 | Winter Loss | 0 | | | | | |
| **WINDOWS** | | | | | | **-21** | **-4** | **-25** |

| Window Direction | Area | | Point Scores | | | |
|---|---|---|---|---|---|---|
| | m2 | %NCFA | Winter* Loss | Winter Gain | Summer Gain | Total |
| **E** | 11 | 17% | -33 | 13 | -4 | -25 |
| **Total** | 11 | 17% | -33 | 13 | -4 | -25 |

* Air movement over glazing can significantly increase winter heat losses. SEAV recommends heating/cooling duct outlets be positioned to avoid air movement across glass or use deflectors to direct air away from glass.

| The contribution of heavyweight materials to the window score is -1 points | | | | Winter | Summer | Total |
|---|---|---|---|---|---|---|
| **RATING** | ★★★★★★ | **SCORE** | | **28** | **-11** | **43*** |

*** includes 26 points from Area Adjustment**

# Detailed House Data

## House Details

| | |
|---|---|
| ClientName | Gilmour & Dixon |
| HouseTitle | Unit 189 Block 20 Section 44 BELCONNEN |
| StreetAddress | 189/60 College Street, Belconnen ACT |
| Postcode | 2617 |
| FileCreated | 22-05-2026 |

## Climate Details

| | |
|---|---|
| State | |
| Town | Canberra |
| Postcode | 2600 |
| Zone | 24 |

## Floor Details

| ID | Construction | Sub Floor | Upper | Shared | Foil | Carpet | Ins RValue | Area |
|---|---|---|---|---|---|---|---|---|
| 1 | Suspended Slab | Enclosed | No | Yes | No | Carp | R0.0 | 51.5m² |
| 2 | Suspended Slab | Enclosed | No | Yes | No | Tiles | R0.0 | 13.5m² |

## Wall Details

| ID | Construction | Shared | Ins RValue | Length | Height |
|---|---|---|---|---|---|
| 1 | Framed: FC Sheet Clad | No | R1.5 | 10.0m | 2.4m |
| 2 | Weatherboard | No | R2.0 | 8.9m | 2.4m |
| 3 | Weatherboard | Yes | R0.0 | 14.4m | 2.4m |

## Ceiling Details

| ID | Construction | Shared | Foil | Ins RValue | Area |
|---|---|---|---|---|---|
| 1 | Flat - Suspended Slab | Yes | No | R0.0 | 65.0m² |

## Window Details

| ID | Dir | Height | Width | Utility | Glass | Frame | Curtain | Blind | Fixed & Adj Eave | Fixed Eave | Head to Eave |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | E | 2.2m | 3.5m | No | SG | ALIMPR | HB | No | 2.6m | 2.6m | 0.0m |
| 2 | E | 1.7m | 1.7m | No | SG | ALIMPR | HB | No | 1.7m | 1.7m | 0.0m |

## Window Shading Details

| ID | Dir | Height | Width | Obst Height | Obst Dist | Obst Width | Obst Offset | LShape Left Fin | LShape Left Off | LShape Right Fin | LShape Right Off |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | E | 2.2m | 3.5m | 0.0m | 0.0m | 0.0m | 0.0m | 0.9m | 0.0m | 2.6m | 0.4m |
| 2 | E | 1.7m | 1.7m | 0.0m | 0.0m | 0.0m | 0.0m | 1.7m | 1.0m | 0.0m | 0.0m |

## Zoning Details

| | |
|---|---|
| Is there Cross Flow Ventilation ? | Average |

## Air Leakage Details

| | |
|---|---|
| Location | Suburban |
| Is there More than One Storey ? | No |
| Is the Entry open to the Living Area ? | No |
| Area of Heavyweight Mass | 0m² |
| Area of Lightweight Mass | 0m² |

| | Sealed | UnSealed |
|---|---|---|
| Chimneys | 0 | 0 |
| Vents | 0 | 0 |
| Fans | 1 | 0 |
| Downlights | 0 | 0 |
| Skylights | 0 | 0 |

| | | |
|---|---|---|
| Utility Doors | 0 | 1 |
| External Doors | 0 | 0 |

| | |
|---|---|
| Unflued Gas Heaters | 0 |
| Percentage of Windows Sealed | 98% |
| Windows - Average Gap | Small |
| External Doors - Average Gap | Small |
| Gaps & Cracks Sealed | Yes |

ACT PROPERTY INSPECTIONS

# Insurance Certificates & Tax Invoice

priceforbes
Price Forbes & Partners
The Minster Building
21 Mincing Lane
London
EC3R 7AG
www.priceforbes.com

***TO WHOM THIS MAY CONCERN***

9th March 2026

**Certificate of Currency**

Dear Sir or Madam,

We, the undersigned Insurance Brokers acting on behalf of the Insured, hereby certify that the following described insurance is in force at this date.

| | |
|---|---|
| **TYPE OF INSURANCE:** | Professional Indemnity Insurance |
| **INSURED:** | ACT Property Inspections Pty Ltd. |
| **ADDRESS OF INSURED:** | Unit 1/33 Altree Court, Phillip ACT 2606, Australia. |
| **POLICY NUMBER:** | B0507OE2600060 |
| **PERIOD:** | From: 30th March 2026 to: 30th March 2027<br>At 4pm Local Standard Time at the Principal Address of the Insured. |
| **LIMIT OF LIABILITY:** | AUD 5,000,000 in the annual aggregate inclusive of costs and expenses plus one reinstatement. |
| **INSURERS:** | 100% Lloyd's of London |

This letter is provided as a matter of information only and confers no rights on the holder. Our duties in relation to this insurance are to our client and we accept no duty of care or responsibility to you or any other third party and any liability to you or a third party is excluded. This letter does not amend, extend, or alter the coverage afforded by the policy, nor does it purport to set out all of the policy terms, conditions and exclusions. The policy terms, conditions, limits, and exclusions may alter after the date of this document or the insurance may terminate or be cancelled, and the limits shown may be reduced to pay claims. We have no obligation to advise you of any changes which may be made to the policy or to advise you of their cancellation or termination.

Issued on behalf of Price Forbes & Partners

Adam Power
**Executive Director**

# TAX INVOICE

Megan Therese Gilmour & Hugh Christian Dixon
189/60 College St
BELCONNEN ACT 2617
AUSTRALIA

**Invoice Date**
12 May 2026

**Invoice Number**
INV-70076

**Reference**
189/60 College Street,
Belconnen ACT 2617

**ABN**
33 600 397 466

ACT Property Inspections
(02) 6232 4540
Unit 1, 33 Altree Ct
PHILLIP ACT 2606
ABN: 33 600 397 466

| Description | Quantity | Unit Price | GST | Amount AUD |
|---|---|---|---|---|
| Energy Efficiency Report | 1.00 | 348.26 | 10% | 348.26 |
| ACTPLA - EER ESDD Lodgement Fee (no GST) | 1.00 | 41.91 | GST Free | 41.91 |
| | | | Subtotal | 390.17 |
| | | | TOTAL GST 10% | 34.83 |
| | | | **TOTAL AUD** | **425.00** |

**Due Date: 29 May 2026**
Payment Terms: 7 Day Account

Please pay within the payment terms to avoid an admin fee. Note: all bank/legal fees incurred in obtaining payment will be the customer's responsibility

Direct Deposit
BSB: 012084
Account Number: 194679655
Account Name: ACT Property Inspections Pty Ltd
Please reference your name and invoice number

Cheques - please make payable to ACT Property Inspections Pty Ltd

**View and pay online now**

# RECEIPT

Megan Therese Gilmour & Hugh Christian Dixon
189/60 College St
BELCONNEN ACT 2617
AUSTRALIA

**Payment Date**
21 May 2026

**Sent Date**
25 May 2026

**ABN:**
33 600 397 466

ACT Property Inspections
(02) 6232 4540
Unit 1, 33 Altree Ct
PHILLIP ACT 2606
ABN: 33 600 397 466

| | |
|---|---|
| **Total AUD paid** | **425.00** |

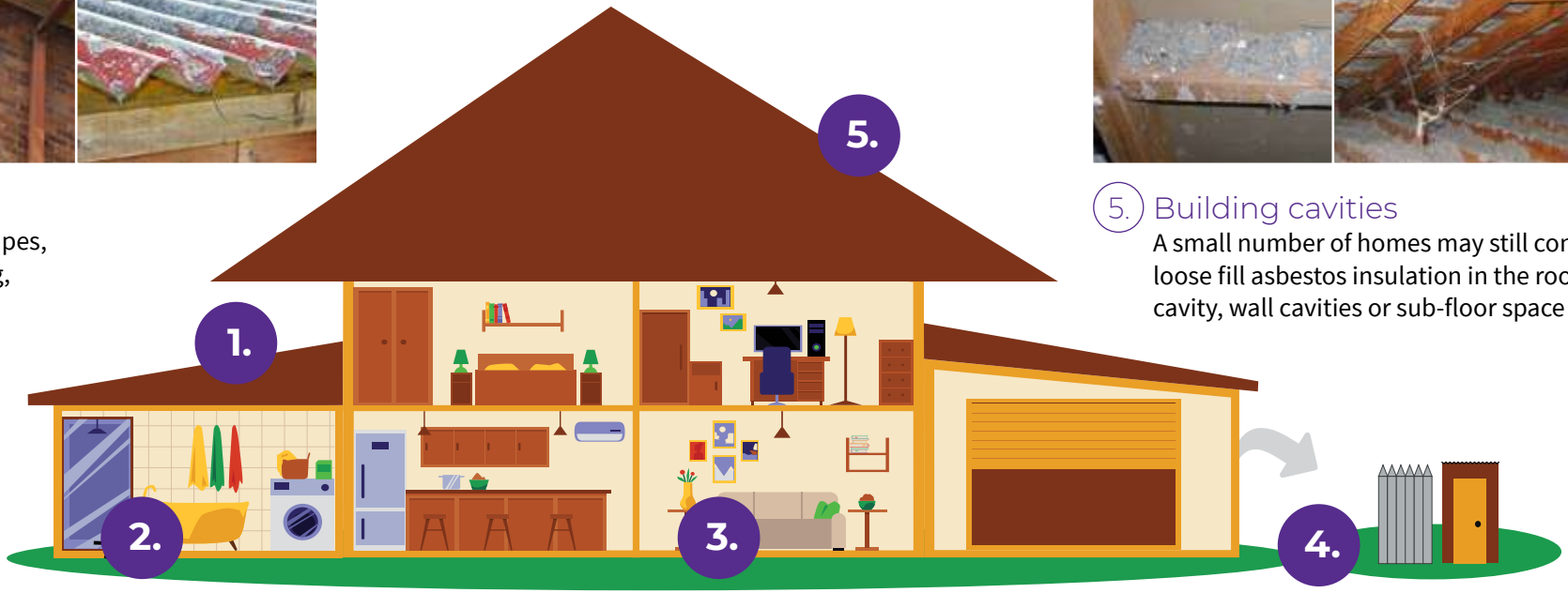
| Invoice Date | Reference | Payment Reference | Invoice Total | Amount Paid | Still Owing |
|---|---|---|---|---|---|
| 12 May 2026 | INV-70076 | Payment - INV-70076 Payment created via eWAY PayThis. | 425.00 | 425.00 | 0.00 |
| | | | **Total AUD** | **425.00** | **0.00** |

# If a home was built before 1990
## it may contain dangerous asbestos material

ACT Government

Identify where asbestos materials might be. Five common places are:

1. Exterior
roof sheeting, gutters, downpipes, ridge capping, eaves, cladding, electrical switchboards






5. Building cavities
A small number of homes may still contain loose fill asbestos insulation in the roof cavity, wall cavities or sub-floor space

2. Wet areas - bathroom, laundry and kitchen
wall and ceiling panels, vinyl floor tiles, backing for wall tiles and splashbacks, hot water pipe insulation

3. Internal areas
wall and ceiling panels, carpet underlay, textured paints, insulation in domestic heaters

4. Backyard
fences, sheds, garages, carports, dog kennels, buried or dumped waste, letterboxes, swimming pools

# If a home was built before 1990
## it may contain dangerous asbestos material

ACT Government

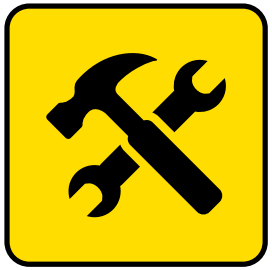
## Assess the risk

A licensed asbestos assessor can help identify asbestos in your home and its condition.

**Asbestos materials become dangerous when:**

Broken or in poor condition

Damaged accidentally



Disturbed during renovation or repairs

Loose fill asbestos insulation

## Manage asbestos safely

- Monitor the condition of asbestos in your home
- Inform tradespeople of locations of asbestos in your home
- Avoid disturbing or damaging asbestos if working on your home
- Engage a licensed asbestos removalist to remove asbestos

If you suspect your home contains loose fill asbestos insulation, contact Access Canberra.

For more information, visit www.worksafe.act.gov.au or call Access Canberra contact centre – 13 22 81
If you need interpreting help, telephone the Translating and Interpreting Service on 131 450

*Advice based on the Asbestos Safety and Eradication Agency's residential asbestos disclosure research.

ACT Government

# Pool Owner Guidance Material

The ACT Government is committed to avoiding preventable deaths and serious injuries from fatal and non-fatal drownings in home swimming pools and spas in the ACT.

New rules aim to protect the public by making sure that home swimming pools and spas in the ACT have a safety barrier that is compliant with modern safety standards and that they are maintained.

## This document outlines the obligations for people who own a property with a *regulated swimming pool* for the period 1 May 2024 to 30 April 2028.

### Regulated swimming pools

The new rules apply to regulated swimming pools, which are home swimming pools or spas that are:

- capable of containing water to a depth greater than 30cm; and
- associated with a residential building such as a house, unit, townhouse or block of apartments.

This includes in-ground and above-ground pools, temporary and permanent pools, wading pools, demountable pools, portable pools, kids' pools and spas.

If your inflatable pool can be deflated and inflated and does not have a filtration system you are not covered by the scheme. If any part of the pool requires assembly other than inflation (i.e. has a frame), or if the pool uses or comes with a filtration system, it is a demountable pool and therefore covered by the scheme.

### Scheme commencement and transition period

The scheme commences on 1 May 2024, with a four-year transition period for homeowners to have a compliant safety barrier for their regulated swimming pool or obtain an exemption.

### Compliant safety barrier

From 1 May 2028, it will be an offence to have a regulated swimming pool that does not have a safety barrier which meets the prescribed safety standards unless an exemption applies.

For pools built, altered or installed before 1 May 2023, the safety standards are:

- the current version of the Building Code of Australia (NCC 2022); and
- two Australian Standards which are Part 1 and Part 2 of Australian Standards for Swimming pool safety.
  - Part 1 (AS 1926.1 – 2012) relates to safety barriers for swimming pools
  - Part 2 (AS 1926.2 – 2007) is about the location of safety barriers

The Building Code and these two Australian Standards are the current safety standards which stop young people accessing pools and lessen the risk of drowning.

The changes that need to be made to swimming pool and spa safety barriers to make them compliant with the prescribed safety standards will depend on the type of safety barrier that is currently in place and the location of the swimming pool or spa in relation to other buildings, structures and boundary fences on the property. Information about what changes you may need to make can be found in the factsheets on the Home Swimming Pool Safety Reforms webpage on the ACT Government planning website.

Pools built, altered or installed on or after 1 May 2023 must meet:

- the Building Code of Australia as adopted in the ACT at the time the swimming pool or spa is built or altered; and
- the Australian Standards called up by the Building Code at the time the swimming pool or spa is built or altered.

## Exemptions

Under the scheme, there are some circumstances where a pool is not required to comply with the prescribed safety standards and the owner of the premises does not need to apply for an exemption.

| Date of pool construction | Before 1 May 2023 | On or after 1 May 2023 |
|---|---|---|
| A demountable pool that will not be in place for more than three consecutive days | Yes | Yes |
| A spa which is covered and secured by a lockable child-resistant structure (such as a door, lid, grille or mesh) that meets the prescribed requirements | Yes | A lockable child-resistant structure will be permitted if it satisfies the prescribed safety standard |
| A spa that is located on the balcony of an apartment where self-closing and self-latching doors and/or windows restricts access | Yes | A spa located on a balcony must comply with the prescribed safety standard |

There are also circumstances where homeowners or owners corporations can apply for an exemption from compliance if the pool is unable to have a safety barrier compliant with the prescribed safety standards.

| Date of pool construction | Before 1 May 2013 | Between 1 May 2013 and 30 April 2023 | On or after 1 May 2023 |
|---|---|---|---|
| A swimming pool area is unable to physically accommodate a safety barrier compliant with the prescribed safety standard | Yes | No | No |
| Compliance with the prescribed safety standard would be reasonably likely to require approval to remove a protected tree | Yes | No | No |
| Compliance would have a significant adverse effect on the heritage significance of a place or object registered under the *Heritage Act 2005* | Yes | No | No |
| Compliance would prevent a person with a disability from accessing the swimming pool | Yes | Yes | No |
| Documented plans to remove and not replace the swimming pool within 24 months | Yes | Yes | No |

Offences and penalties apply for failing to notify of a change of circumstances that affects a ground on which an exemption was granted, and for failing to comply with a condition of an exemption.

## Compliance certificates

Pools built, altered or installed before 1 May 2013 will need to obtain a compliance certificate before 1 May 2028 and lodge it with Government within 30 days of issue. Compliance certificates obtained during the transition period will be valid until 1 May 2032.

Pools built, altered or installed on or after 1 May 2013 are not required to obtain a compliance certificate by 1 May 2028 or lodge it with Government. This does not prevent a compliance certificate being obtained before then.

Offences and penalties may apply for failing to meet these obligations.

## Maintaining safety around home swimming pools and spas

From 1 May 2024, all owners of a property with a swimming pool or spa are required to maintain their swimming pool or spa safety barriers as an effective and safe child-resistant barrier. All residents of a property with a swimming pool or spa must ensure that all doors, gates and covers providing access to the swimming pool or spa are kept securely closed when not in use. Offences and penalties may apply for failing to meet these obligations.

## More information

For more information on the reforms and what they mean for you and your pool, including disclosure obligations on sale or lease of your property, visit the Home Swimming Pool Safety Reforms webpage on the ACT Government planning website: https://www.planning.act.gov.au/projects-priorities/home-swimming-pool-safety-reforms