

uPVC has a strong fire story. The work is proving it for Class 2.

uPVC's fire performance is genuinely good — and well documented. The challenge isn't the material; it's that in **Class 2 apartments** and other buildings with non-combustible external-wall requirements, a combustible frame still needs a compliance pathway of its own. An energy or WERS rating won't answer it — it speaks to U-value and SHGC, not ignition or fire spread.

AFRC Lab turns uPVC's fire story into accepted NCC compliance — assembling the evidence and proving it through a fire-engineered Performance Solution, delivered with our accredited fire partners.

WHY UPVC STANDS UP TO FIRE

Self-extinguishing

Does not support combustion; **self-extinguishes** once the heat or flame source is removed.

391°C

Ignition resistance — uPVC ignites at ~391°C vs ~260°C for timber.

15–20

Flame-spread index — against 190–230 for timber products.

~57%

Chlorine content acts as a natural fire retardant.

Documented in: the Vinyl Council of Australia PVC fire-performance guidance and the 2019 ISO technical report on PVC in building applications, with testing referenced to AS 5113 · AS 5637.1 (ISO 9705) · AS 1530.3 · AS 1530.4 · AS 3959 / AS 1530.8 (bushfire / BAL).

PROVING IT FOR CLASS 2 — THE PERFORMANCE SOLUTION

Where a prescriptive non-combustibility path doesn't fit, the window is justified through a fire-engineered Performance Solution. uPVC's properties make the case winnable — but it has to be demonstrated, across three questions:

1 · IGNITION

How readily it ignites

The frame's resistance to ignition (the figures above), strengthened by a bushfire (BAL) rating where AS 3959 applies, with the external wall otherwise non-combustible.

2 · SPREAD

Whether fire can travel

Framing in discrete locations around openings — not vertically continuous across fire compartments — with barriers such as aprons, spandrels or cavity fire-stopping.

3 · EVACUATION

Occupants & brigade

The framing is a minor part of the building's fire load — most is the apartment contents — and its location doesn't obstruct firefighting or egress.

The window and the install both have to hold. Fire compliance isn't only the window — the joint between window and wall carries the fire separation, so the perimeter is evidenced too: a fire-rated seal (for example an intumescent joint seal that expands under heat) to the relevant fire-resistance method, so the installed detail stands up, not just the catalogue product.

Where AFRC Lab comes in

We're an independent lab — product-neutral, not a supplier. We assemble the fire evidence for your uPVC windows and their installation, coordinate the accredited testing and Performance-Solution work with our fire partners, and prove it to the NCC — so your systems get accepted in Class 2. One point of contact, from the question to the certificate. And to keep it in proportion: on a multi-storey project, proving it usually costs about what a couple of windows do.

THREE STEPS — AND THE FIRST ONE'S EASY

STEP 1

Quick desktop review

A fast, low-cost first look at the window and the building — a simple **yes / no** on whether it's likely to comply and worth proceeding.

STEP 2

Letter to the fire authority

If it's a yes, we draft the fire-engineered Performance-Solution letter to the fire engineer, certifier or authority.

STEP 3

Verification letter

On approval, a verification letter confirming the window's fire compliance for the project.

Referenced: NCC 2025 · Vol 1 Section C (C4, Spec 12) + Fire Safety Verification Method · Vol 2 Part H3 · AS 5113 · AS 1530 series · AS 5637.1 (ISO 9705) · AS 3959 / AS 1530.8 · AS 1905.1

Send us a Class 2 project.

Tell us the window and the building, and we'll scope the fire-compliance pathway your frames need — member to member.

Prove your uPVC windows for Class 2

David Morehouse · +61 420 404 478
davidmorehouse@afrcclab.com.au · afrcclab.com.au/fire

Independent & product-neutral. AFRC Lab assembles verification evidence, maps the method and coordinates accredited fire partners; we do not supply, sell or endorse any product or brand, and the accredited work is delivered by the specialists. Fire-performance figures are drawn from Vinyl Council of Australia guidance and published testing; every Performance Solution is project-specific, and final NCC compliance is determined by the appointed fire engineer and certifier. **AFRC Lab is not the AFRC** (Australian Fenestration Rating Council) and has no affiliation with it or WERS. © 2026 AFRC Lab Pty Ltd.

A uPVC window into a multi-storey residential building.

Here's the pathway, mapped end to end — how a combustible uPVC frame is taken from "doesn't meet the Deemed-to-Satisfy rule" to an accepted window in a **Class 2** building. Each step is backed by evidence rather than assertion, and AFRC Lab assembles and coordinates the lot.

- 1 The trigger** [NCC VOL 1 · SECTION C](#)
In a Class 2 (multi-storey residential) building, the external wall must be non-combustible on the Deemed-to-Satisfy path. A uPVC frame is combustible, so on DtS alone it doesn't comply — which opens a **Performance Solution** to demonstrate compliance another way.
- 2 Establish the frame's fire properties** [EVIDENCE](#)
Assemble the uPVC fire data — self-extinguishing behaviour and ignition resistance, flame-spread and group-number results (AS 5637.1 / ISO 9705, AS 1530.3), fire resistance (AS 1530.4), and a BAL rating to AS 3959 / AS 1530.8 where the site is bushfire-prone. The member's product evidence plus the Vinyl Council guidance.
- 3 Fire-engineering assessment — the three legs** [FIRE ENGINEER](#)
Ignition: limited — discrete framing set in an otherwise non-combustible wall. **Spread:** framing not vertically continuous across fire compartments, with spandrels, aprons or cavity fire-stopping, and façade tested to AS 5113 where required. **Evacuation & brigade:** a minor part of the fire load that doesn't impede egress or firefighting — read, for taller buildings, with the fire-safety systems and protected egress.
- 4 Prove the installation, not just the window** [THE JUNCTION](#)
The window-to-wall junction has to maintain the wall's fire separation — a fire-rated / intumescent perimeter seal, evidenced to AS 1530.4 at the required FRL, so the installed detail holds.
- 5 Document & verify the Performance Solution** [FSVM](#)
The fire engineer writes the Performance Solution against the relevant Performance Requirements — via the Fire Safety Verification Method, testing and/or expert judgement — demonstrating compliance equivalent to the DtS intent.
- 6 Certifier accepts; build to the detail** [SIGN-OFF](#)
The appointed building surveyor / certifier accepts the Performance Solution; the windows are procured and installed to the assessed detail, and the installed junction is verified on site.

AFRC Lab's role across the pathway

We **assemble the evidence**, coordinate the accredited testing and the fire engineer, and deliver the Performance-Solution package — one point of contact from the question to the certificate, so the member isn't stitching specialists together.

Illustrative only. The governing provisions, Performance Requirements and acceptance are determined per project by the appointed fire engineer and certifier; this map shows the shape of the pathway, not a project-specific assessment.

Have a Class 2 project?

Send us the window and the building and we'll scope this pathway for it — member to member.

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