Energy & Section J Explainer 8 min read

Section J compliance: what it is, and how to prove it.

Section J is the energy part of the National Construction Code - and for most commercial buildings, the facade is where it's won or lost. Here's what Section J asks for, the two ways to satisfy it, what a **Section J report** is and when you need one, how to work with a Section J consultant, and where the glazing trips people up.



By **Dave Morehouse**, founder, AFRC Lab

Section J is the **energy-efficiency** part of the National Construction Code (NCC Volume One, Part J). It sets how much a building is allowed to gain and lose through its envelope - walls, roof, and above all the **glazing** - so the building can be conditioned without using more energy than the Code permits. It applies to the commercial classes (roughly Class 2 to Class 9), and for a glassy modern facade, the windows carry most of the load.

What Section J actually asks of the facade

Two numbers do most of the work: the **U-value** (how fast heat flows through the window - lower is better) and the **SHGC** (how much solar heat the glass lets in - which you want low on hot orientations, and sometimes higher where winter sun helps). Section J also now pays attention to **thermal bridging** - the metal paths, like an aluminium frame or a slab edge, that quietly short-circuit the insulation. Get the glazing mix wrong and the whole building can fail its energy target on paper.

The two ways to comply: DtS and J1V3

THE PRESCRIPTIVE PATH **Deemed-to-Satisfy (DtS).**

You meet a set of fixed elemental limits - each part of the envelope hits its required U-value and SHGC. Simple and certain, but conservative: it can force more expensive glass than the building really needs, because it can't trade a strong wall off against a weaker window.

THE PERFORMANCE PATH**J1V3 (and NABERS Energy).**

You model the whole building's energy use and show it performs as well as a reference building that just scrapes DtS. More work, but it lets you trade off - spend where it counts and claw back the over-spec DtS would have demanded. (Before NCC 2022 this was called JV3.)

What is a Section J report?

A **Section J report** is the document that shows a building design meets NCC Section J. It is written by a Section J consultant, lodged with the building permit or construction certificate application, and it is what your building surveyor or certifier checks the energy side of the design against. It states the building class and climate zone, picks the compliance path - Deemed-to-Satisfy or a verification method such as J1V3 - and then sets out what the building has to have: insulation levels, the glazing U-value and SHGC, sealing, and the air-conditioning, lighting and hot-water provisions.

For the facade, the report is where the window numbers get locked in. Whatever U-value and SHGC the consultant enters for each window type becomes the performance the builder has to deliver.

When is a Section J report required?

Generally for **new commercial buildings** (NCC Class 3 and Class 5 to 9), the **common areas of Class 2** apartment buildings (the apartments themselves are rated under NatHERS), and many **alterations and additions** to those buildings. It is usually asked for at building permit or construction certificate stage, and some NSW councils ask for one with the DA. Whether your job needs one, and which parts of Section J apply, is your building surveyor's or certifier's call - ask early, because the answer shapes the glazing spec.

Which edition? NCC 2025 tightens Section J for Class 3 and 5 to 9 buildings (stronger envelope and services requirements, plus on-site solar PV), while Class 2 stays on NCC 2022 Amendment 2. States adopt on their own dates - Victoria from 1 May 2026, NSW and Tasmania from 1 May 2027 - so confirm which edition your application falls under. The current editions are on NCC Online (ABCB).

What's in a Section J report (a typical example)

A Deemed-to-Satisfy Section J report usually runs through the parts of Section J in order:

- **Project details** - building class, climate zone, floor areas, the drawings assessed.
- **Compliance path** - DtS, J1V3, or a mix (DtS for services, J1V3 for the fabric is common).
- **Building fabric (Part J4)** - roof, walls, floors and **glazing**. The wall-and-glazing check is usually done in the ABCB Facade Calculator, attached as an appendix with the U-value and SHGC entered for every window type and orientation.
- **Building sealing (J5)**, **air-conditioning and ventilation (J6)**, **artificial lighting and power (J7)**, **heated water (J8)**, and **energy monitoring and on-site energy resources such as solar (J9)**.
- **Appendices** - calculator outputs, insulation mark-ups and, for J1V3, the energy-model results against the reference building.

If you only read one page of a Section J report, read the facade calculator appendix. Those window values are what the windows will be held to.

Where Section J trips people up

Almost always at the glazing - and almost always because the number on paper isn't the window that gets installed. A Section J report leans on a glazing performance value; if that value came from a generic catalogue product and a different system is fabricated and fitted, the building's real performance drifts from the one that was certified. The frame, the sub-frame, the actual size, the actual glass - they all move the U-value. That's the gap worth closing **before** procurement, not after a certifier queries it.

> Section J is proven on a number. The question is whether that number is your actual window - or a generic stand-in.

Working with a Section J consultant

A **Section J consultant** - usually an energy-efficiency or ESD consultant, sometimes a building services engineer - prepares the Section J report, and for J1V3 builds the whole-building energy model. The best results come when the window side is settled early:

- **Send the glazing schedule early** - window types, sizes, orientations and the systems you are considering. Late glazing changes are the most common reason a Section J report gets re-run.
- **Ask where each window value came from.** A catalogue or default value for a standard-size test window is not the same as your system at your sizes.
- **Carry the values into the tender.** The U-value and SHGC in the report should appear in the window spec, so a swapped system at tender has to prove it still meets them.
- **Re-check at shop drawings.** Frames, sub-frames and glass change between design and fabrication; that is when a number quietly stops matching the window.

We don't write the Section J report - your consultant does. What we do is model the actual windows so the U-value and SHGC your consultant enters are the ones that get built, and we're happy to work directly with the consultant on the job.

How we help prove it

We model the **actual installed window** to **ISO 15099** - real size, real system, real glass and sub-frames - so the U-value and SHGC in your Section J case reflect what's really built, and hold up at shop-drawing stage. On a whole project, our FHK+ed pre-procurement check proves the specified systems for Section J (energy) and Section F/H (condensation) before they're locked in, then spot-checks what's actually supplied on site. You can also model your own windows in BTW. There's more on energy & Section J and on thermal bridging.

Section J report FAQ

What is Section J compliance?

Section J is the energy-efficiency part of the National Construction Code (NCC Volume One, Part J). Section J compliance means showing a building's envelope and services - walls, roof, glazing, air-conditioning, lighting and hot water - meet the energy levels the Code sets. It applies to the commercial building classes, roughly Class 2 to Class 9.

What is a Section J report?

A Section J report is the document that shows a Class 2 to 9 building design meets NCC Section J. It names the building class, climate zone and compliance path

(Deemed-to-Satisfy or a verification method such as J1V3), sets the required insulation, glazing U-value and SHGC, sealing, air-conditioning, lighting and hot-water provisions, and is lodged with the building permit or construction certificate application so the certifier can check compliance.

When is a Section J report required?

Generally for new commercial buildings (NCC Class 3 and 5 to 9), the common areas of Class 2 apartment buildings, and many alterations and additions to them. It is usually asked for at building permit or construction certificate stage, and some NSW councils ask for one at DA stage. Your building surveyor or certifier decides what applies to your project.

Who prepares a Section J report?

A Section J consultant - usually an energy-efficiency or ESD consultant, sometimes a building services engineer. For J1V3 the consultant energy-models the whole building. The report then goes to the building surveyor or certifier, who accepts it as evidence of compliance.

What does a Section J report include?

A typical Deemed-to-Satisfy Section J report covers: project details, building class and climate zone; the compliance path; building fabric (Part J4) - roof, walls, floors and glazing, usually with ABCB Facade Calculator outputs as an appendix; building sealing (J5); air-conditioning and ventilation (J6); artificial lighting and power (J7); heated water (J8); and energy monitoring and on-site energy resources such as solar (J9).

How much does a Section J report cost?

There is no set fee. Price depends on the building's size and class, the compliance path (a Deemed-to-Satisfy report is usually cheaper than J1V3 whole-building modelling), how many Parts are in scope and how many design changes need re-running. Glazing changes are the most common reason for re-runs, so getting real window values early saves revisions.

What is the difference between Deemed-to-Satisfy and J1V3?

Deemed-to-Satisfy (DtS) is the prescriptive path: each part of the envelope must meet fixed limits. J1V3 (called JV3 before NCC 2022) is a verification method: you

model the whole building's energy use and show it performs at least as well as a reference building that just meets DtS, which lets you trade stronger elements off against weaker ones. NABERS Energy (J1V1) and Green Star (J1V2) are other verification pathways.

Does NCC 2025 change Section J?

Yes, for Class 3 and Class 5 to 9 buildings: NCC 2025 adds stronger envelope and services requirements and mandatory on-site solar PV. The proposed Section J changes for Class 2 did not proceed, so NCC 2022 Amendment 2 still applies to them. Each state sets its own adoption date - Victoria adopted NCC 2025 from 1 May 2026, NSW and Tasmania from 1 May 2027 - so check which edition applies to your application.

How do you prove Section J compliance for glazing?

With modelled window performance - a total-system U-value and SHGC for each specified window type - entered into the Section J case, usually through the facade calculation. The risk is that a generic catalogue value differs from the window actually installed; modelling the actual system to ISO 15099 (real size, frame, sub-frame and glass) keeps the number in the report and the installed window aligned. Final compliance is determined by the project's assessor or certifier.

Not sure your glazing will clear Section J?

Send us one window you've specified, or the project's glazing schedule. We'll model the actual systems and tell you plainly whether the Section J numbers hold - before they're priced and procured.

About Section J. Section J is Part J of NCC Volume One (energy efficiency). Deemed-to-Satisfy sets elemental limits; J1V3 (formerly JV3) is a verification (performance) method; NABERS Energy is an alternative verification pathway. AFRC Lab models fenestration performance (U-value, SHGC, condensation) to ISO 15099 as evidence to support a Section J case; final NCC compliance is determined by the project's assessor or certifier. Results are indicative to the systems and sizes provided. AFRC Lab (Advanced Fenestration Research & Certification) is an independent consultancy; it is not the AFRC. BTW and FHK+ed are AFRC Lab offerings.