

Key Takeaway

Never allow direct sunlight on a glass door — only filtered/secondary sunlight is safe. Solid doors can tolerate direct sun, though minimising exposure where possible will extend the unit's expected life. For alfresco, shade placement is more important than glass type. LOW E glass helps with heat and humidity, but this is location dependent — check your local humidity to confirm the best door config. Always check IP ratings for any outdoor install — and remember that most fridges have never been officially tested. When in doubt, ask us about your specific installation.

Any Queries — 1300 376 849

Sunlight, LOW E Glass & IP Ratings

These three topics are closely related to alfresco fridge placement and are often overlooked until after installation — when problems are already happening. Understanding sunlight exposure, glass heat protection, and water ingress ratings before you choose your fridge and decide on placement can save you a very expensive mistake.

This page covers how sunlight affects fridges, how LOW E glass reduces heat gain, and what IP ratings actually mean — including why most fridges on the market have never been properly tested.

⚠ Real test result: 65°C inside after just 1 hour of morning sun

In recent testing, glass door fridges exposed to direct morning sunlight reached over 65°C inside the cabinet after just one hour. The fridge compressor cannot overcome that heat load — it will run flat out and eventually fail, while your drinks stay warm. There is no glass coating or technology that can override direct sunlight.

Sunlight Exposure Guide — What's Safe?

Direct Sunlight — Glass Doors: NEVER

A glass door fridge must never be in direct sunlight — only filtered/secondary sunlight is acceptable (see below). The fridge will overheat, the compressor will fail prematurely, and the contents will not stay cold. This applies regardless of glass type — even LOW E glass cannot overcome direct sun.

Direct Sunlight — Solid Doors: OK

Solid door units can be installed in direct sunlight — it isn't the install-blocker it is for glass. Where possible, minimise direct sun exposure to extend the unit's expected life. A real-world example: a Rhino solid door unit installed in Perth WA under a pergola since 2015, facing North with the sun passing over it, still running fine.

Secondary / Indirect Sunlight — POSSIBLE, with care

Secondary sunlight means light filtered through a UV blind, tinted roof sheet (like Laser Lite), shade sail, or similar. This is less intense and a fridge can usually handle an hour or two of this exposure. However, always consult before installation — the angle of the sun, the percentage UV transmission of the cover, and the ambient temperature all matter.

Fully Shaded / Indoor — FINE for all fridges

A fully shaded undercover area where no direct or indirect sunlight reaches the fridge is ideal. Indoor installations away from windows are also fine. This is where glass door fridges perform at their best.

LOW E Glass — How It Works



How Low-E glass reflects radiant heat while letting visible light through.

LOW E (Low Emissivity) glass has a specially formulated permanent transparent coating that reflects long-wave infrared energy (heat radiation from the sun, lighting, and ambient heat). This does two things:

1. **Keeps heat out** — reduces heat gain through the glass, so the fridge works less hard and uses less energy.
2. **Keeps the outer glass warmer** — by reducing cold transfer from the inside to the outer glass surface, it raises the outer pane temperature, which significantly delays condensation in humid conditions.

Glass Type	U Value (W/m ² K)*	Heat Loss
Standard glass doors	2.6	Baseline
LOW E glass doors	1.6	-38% vs standard

**U values based on EN 673, 6mm glass with 12mm argon cavity. Lower = better insulation.*

The U-value is 38% lower than standard glass. Since around 70% of a glass door cooler's total energy loss passes through the glass, this translates to approximately **27% less total energy loss** overall ($38\% \times 70\% \approx 27\%$).

⚠ Remember: LOW E ≠ sunlight protection

LOW E glass is excellent for humidity resistance and heat efficiency, but it cannot override direct sunlight. Even with LOW E, direct sun exposure will still overheat the fridge. LOW E works best in shaded alfresco areas or high-humidity indoor/covered placements.

IP Ratings — Ingress Protection Explained

IP (Ingress Protection) is a universal international standard measuring how well a product is sealed against solid particles (dust) and water. The rating appears as two digits, e.g. IP55 — the first digit is solid protection (0–6, or X if untested), the second is water protection (1–8).

Important: If you see a rating like X3, the X means the solid particle rating has not been declared — only the water ingress level was rated. A full rating requires two tested digits.

First Digit — Solids

Digit	Meaning	Detail
X	Not tested for solid ingress	Solid particle protection unrated
1	Protected vs objects >50mm	e.g. hand
2	Protected vs objects >12.5mm	e.g. finger
3	Protected vs objects >2.5mm	e.g. screwdriver
4	Protected vs objects >1mm	e.g. wire
5	Dust protected	Limited ingress — won't interfere with operation
6	Dust tight	No ingress at all

Second Digit — Water

Digit	Meaning	Detail
1	Vertically falling drops	Limited ingress
2	Dripping water (tilted 15°)	Limited ingress
3	Spraying water up to 60°	3 minutes — e.g. rain at an angle
4	Water splashed from any direction	Limited ingress

Digit	Meaning	Detail
5	Water jets from any direction	Limited ingress
6	Powerful water jets	Heavy seas, won't cause harm
7	Immersion up to 1m, 30 min	
8	Immersion under pressure	Extended periods

⚠️ 95% of fridges on the market have NO official IP rating

IP testing is expensive, and the design modifications required to pass often cost more than manufacturers are willing to spend. If a fridge claims an IP rating without formal certification, it's unverified. The Rhino GSP and ENVY ranges are the only officially certified IP-rated bar fridges we carry — tested for both solid particle and 360° water spray resistance, making them suitable for fully exposed alfresco applications where rain can reach the unit. Of the two, only ENVY offers a solid door option — GSP is glass door only, so keep it out of direct sun.

Common Installation Scenarios

Indoor / Kitchen Install

The easiest scenario — sunlight and IP ratings are rarely a concern indoors.

Indoor installations away from direct window sunlight are straightforward. As long as the fridge is not in a position where afternoon sun shines directly on the glass door, you won't have temperature issues from sunlight.

The main considerations for indoor installs are noise level (especially bedroom-adjacent spaces) and condensation if you're in a tropical climate.

💡 Watch out for west-facing windows

A kitchen or living room with west-facing windows can have intense afternoon sun that hits a fridge placed on a bench or island. Always check the sun angle before finalising placement.

Covered Alfresco — Under Pergola or Roof

The most common scenario. Generally fine if properly positioned away from sun angles.

A covered alfresco with a solid roof (timber, Colorbond, etc.) is the most common alfresco fridge installation. If the fridge is positioned so that the sun angle doesn't reach it at any time of day — including low winter or morning sun — it can work very well.

Key checks for covered alfresco placement:

- Does morning sun (lower angle) reach the fridge face at any time of year?
- Does afternoon western sun penetrate the opening at low angles?
- Is the area open on multiple sides? (More wind = more heat in summer)
- Is rain likely to reach the fridge in heavy weather?

For glass door fridges in covered alfresco, LOW E glass is a solid choice for humidity performance — but this is location dependent, so check your local humidity levels to confirm the best door config (heated glass, LOW E, etc.) for your site. For solid door units, a model with an IP rating is recommended if rain could reach it.

Open / Exposed Alfresco

Highest risk scenario. Sunlight control and IP rating are both critical.

Fully open alfresco areas with large openings or minimal overhead cover present the most challenging conditions. Glass door fridges can work in these environments if carefully positioned, but it requires planning.

For a real example: one of our glass door installations is in a fully open alfresco with large openings on multiple sides. The fridge is positioned so that the only sun it receives is filtered through a large tinted UV window — no direct sunlight ever reaches the glass door directly. In heavy rain, the fridge could potentially get splashed — so an adequate IP rating is essential.

For glass door fridges in open alfresco:

- Map the sun path at all times of year — include low winter and morning angles
- Ensure glass gets no direct sun — only filtered/secondary sun at most
- Choose LOW E glass for humidity performance — location dependent, so check your local humidity to confirm the best door config
- Verify the IP rating for water resistance

💡 When in doubt, go solid door

For challenging open alfresco situations, a solid door unit with a proper IP rating (like the Rhino ENVY range's solid door option) is the most robust choice. It eliminates the sunlight-through-glass issue entirely, tolerates direct sun, and is engineered to handle rain exposure.

Solid Door Units — Why They're Better Outdoors

Solid doors eliminate the sunlight-through-glass problem and handle partial sun exposure far better.

A solid stainless steel door naturally reflects more sunlight and conducts heat into the cabinet far less than a large glass pane. Unlike glass, direct sunlight is not an install-blocker for solid door units — where possible, minimise exposure to extend the unit's expected life, but it isn't a hard rule.

The Rhino ENVY range is available with a solid door option and a certified IP rating, making it our recommendation for any outdoor placement where sun exposure is unavoidable, rain exposure is possible, or placement doesn't allow perfect shade control. Note: the Rhino GSP range is glass door only, so it keeps the same "no direct sun" rule as any other glass fridge.

Quick Decision Guide: What Do I Need for My Setup?

Indoor, away from windows

Any fridge. No IP rating needed. Focus on noise level and condensation for your climate.

Covered alfresco, fully shaded — glass door

Glass door fine. LOW E glass recommended (location dependent — check your local humidity to confirm door config). Check IP rating if rain could reach the fridge.

Covered alfresco, secondary/filtered sun possible — glass door

Glass door possible if secondary sun only. LOW E glass essential (location dependent — check your local humidity to confirm door config). Confirm sun angles at all times of year. IP rating required.

Open alfresco or challenging sun exposure — any fridge

Solid door strongly recommended. IP rating essential. Rhino ENVY range (solid door option) is designed for this scenario. Ask us about your specific layout before purchasing.

Direct sunlight position — glass door

Do not install a glass door fridge here. Rethink the placement, choose a different location, or switch to a solid door unit.

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This guide is provided for general information — always confirm current specifications with our team before purchasing.