



# Liniar bi-fold doors

a buyer's guide











# A grand design

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## Thinking about bi-folding doors?

Whether you have a bedroom with Juliette balcony, a dining kitchen, a conservatory or orangery – or simply want to open up a whole wall of your room – bi-folding doors are the latest trend for discerning homeowners with grand designs.

Before you invest in your bi-fold doors, it's important to consider a number of different options to ensure you choose the right doors for your property and lifestyle.

This comprehensive guide will help you to ask the relevant questions and make an informed decision before you take the plunge.

Although style, opening configuration and colour may be important, it's also critical to consider energy efficiency, security, durability and ongoing maintenance for your bi-folds.

By asking these questions at the planning stage, you'll be able to rest assured you have made the right decision and can enjoy your investment for many years to come!

**So read on and find out our top 10 questions to ask your bi-fold supplier...**

# ① What material are the doors made from?

Bi-folding doors are traditionally made from either aluminium or timber.

However, Linar's latest breed of hybrid PVCu bi-folding doors can offer advantages over other materials, as follows:

- PVCu is extremely low maintenance – no annual sanding, staining or painting;
- Unlike timber, PVCu won't absorb moisture – so won't warp over time;
- Gaskets are co-extruded as part of the manufacturing process, so PVCu can be less prone to leaks;
- PVCu can offer higher thermal benefits through the use of multi-chambered profiles;
- PVCu tends to be more cost effective than other materials.

Hybrid doors take the benefits of one material and combine them with the best bits of another – for example, blending the strength of aluminium with the energy efficiency of PVCu.

Linar ModLok™ bi-fold doors have been designed from scratch to offer discerning consumers the best of both worlds.



## ② Is the bi-fold door top hung or bottom rolling?

A structural consideration that could affect installation cost.

Especially important for existing apertures, if a bi-fold door is top-hung, it must be installed into an opening that has been designed to take these extra unforeseen loads.

With top-hung bi-folding doors, extra stresses are exerted on the building's lintel. Even the lightest of bi-fold doors weighs in the hundreds of kilos, and the additional strengthening needed to support this weight can add extra costs to construction projects. Surveys and inspections are often required to ensure the installation fully complies with building regulation

If you're replacing a patio door, a bottom-rolling bi-fold door is ideal as there should be no need for additional strengthening above the existing aperture.

All Linar bi-folds are bottom-rolling, with all the weight on the building's threshold.





### ③ Has a full-sized version been cyclic tested?

A bi-fold door is an expensive purchase – so you need to be sure it's going to last.

British Standards state that a door such as a bi-fold should achieve a minimum of 10,000 full opening cycles, to ensure durability throughout its useful life. Most bi-fold manufacturers don't have the facilities to test doors themselves, so independent testing is often carried out to establish strength and durability through cyclic testing.

Cyclic testing involves the door-set being fully opened and closed as many times as possible until either it passes the test, or until it ceases to operate. If a door manufacturer claims their door has passed a cyclic test, ask whether a full-size door was tested – it has been known for doors made much smaller than usual to be put forward for testing. As the weight can differ hugely (with the largest doors weighing up to twice as much as smaller doors) the accuracy of the testing process should be questioned.

Liniar is the only PVCu system designer to have an in-house ABB robot to test its doors – in fact, when a 3-pane ModLok™ bi-fold underwent exhaustive testing, it reached more than 10 times' the British Standard before we stopped the test! The door can be seen in our testing lab and still works perfectly. A similar full-sized Liniar ModLok™ bi-fold was the first to successfully pass BuildCheck's independent

Folding Sliding Door Scheme in 2015, having being subjected to extensive tests including cyclic testing to 5,000 full opening cycles, weather tested to 800 Pascals and thermal testing to a minimum U-value of 1.8. Many other bi-fold door systems had been put through the same test and failed, with some not even achieving 10% of the required 5,000 cycles! The full story can be read at <http://bit.ly/BuildCheck>.



## ④ Has a full-sized version been security tested?

Your home's security is critically important – so check for accreditations.

Doors accredited with PAS24 have been tested to meet British Standards of security by an independent, UKAS accredited certification body. In addition, Part Q building regulations introduced in 2015 require PAS24 certification for doors installed at ground level for any new building or extension.

Secured by Design status is awarded to products passing standards and tests nominated by the police service and demonstrate its effectiveness in resisting physical attack.

As with cyclic testing, some bi-fold manufacturers are known to have submitted doors for testing that are not full-sized in height, therefore it's wise to check before accepting the accreditation at face value.

A full-sized 3-pane Linar ModLok™ bi-fold has successfully passed both PAS24 and Secured by Design testing, rendering it suitable for all new build or extension projects, and offering peace of mind to all homeowners about the security of their home.



## ⑤ Has a full-sized version been weather tested?

Make sure your bi-folding doors aren't susceptible to leaks or draughts.



Weather testing is hugely important, as any bi-fold door purchased in the UK must be assured of withstanding the worst of the British weather.

With multiple panels, a bi-folding door can be particularly susceptible to air and water ingress, so making sure the doors have passed weather testing is critical.

Common problems can include gaskets failing or not providing a watertight seal - but the correct installation of your bi-fold doors is also important to ensure frames are properly sealed with silicone in places likely to be exposed to water, such as drill holes.

Check that the door has been tested to at least 800 Pascals, which is equivalent to withstanding wind speeds of up to 80 miles per hour.

Independent UKAS weather testing has been completed on a full-sized Linar ModLok™ bi-fold door, providing reassurance it will withstand even the harshest UK weather conditions.



## ⑥ How energy efficient is the bi-fold door?

Save money on your ongoing heating bills by choosing thermally efficient doors.



The lower the U-value, the more efficient the bi-fold door is at preventing the transfer of heat from the inside of your home to the outside.

This means doors with the lowest U-values can help your property retain heat, saving money on electricity and heating bills in the longer term.

Bi-folding doors can be supplied with triple glazing, which adds to their thermal efficiency, and the material used for the frame can also make a big difference.

Frames made from aluminium were traditionally poor at preventing heat transfer, so the latest extrusions feature polyamide thermal breaks between the inside and the outside.

This means that aluminium bi-folds can now achieve U-values around  $1.8 \text{ W/m}^2\text{K}$ .

PVCu is a natural insulator, so when Liniar's EnergyPlus profile is combined with high specifications of double or triple glazing, the Liniar ModLok™ bi-fold can achieve a U-value as low as  $1.0 \text{ W/m}^2\text{K}$ .

## ⑦ Do the doors have a low threshold option?

And is the low threshold thermally broken and Part M compliant?

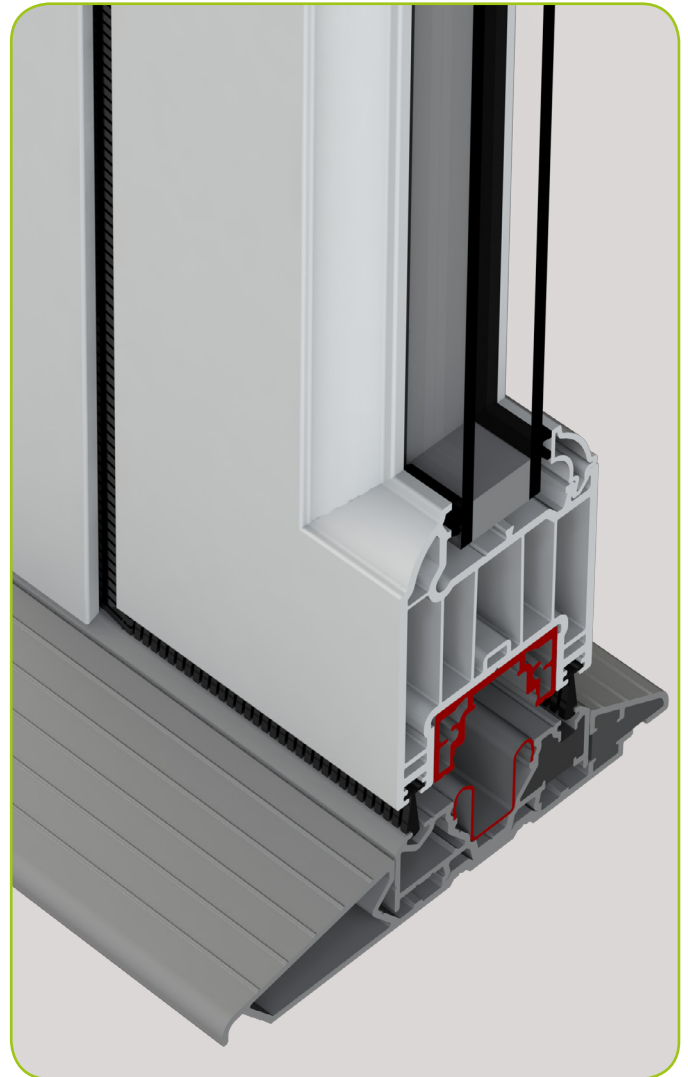
If you're thinking of installing a bi-fold door to bring the outside in and create a seamless entrance to your garden, a low threshold is critically important.

Part M compliance means the doors' threshold meets the minimum standards required for disabled access in and out of a building – and is also ideal for day to day family living. But many low thresholds that comply with Part M regulations can be inefficient.

Liniar's aluminium low threshold is not only Part M compliant AND energy efficient, there are no gaskets in the threshold itself – meaning there's less chance of damage or failure when subjected to daily use.

In addition, there's no need to excavate a trench to install the Liniar low threshold, as its innovative design means it sits on top of an existing surface – providing less disruption and mess for you.

Finally, with the Liniar low threshold, the doors' rolling mechanism is not hidden away, sitting on top of the track for easier cleaning and removal of any debris.





## ⑧ How much maintenance is required?

Once your doors are installed, it's important to consider any ongoing maintenance they'll need.

As with any product with moving parts, an annual check and wipe with oil is essential to keep your doors opening and closing smoothly.

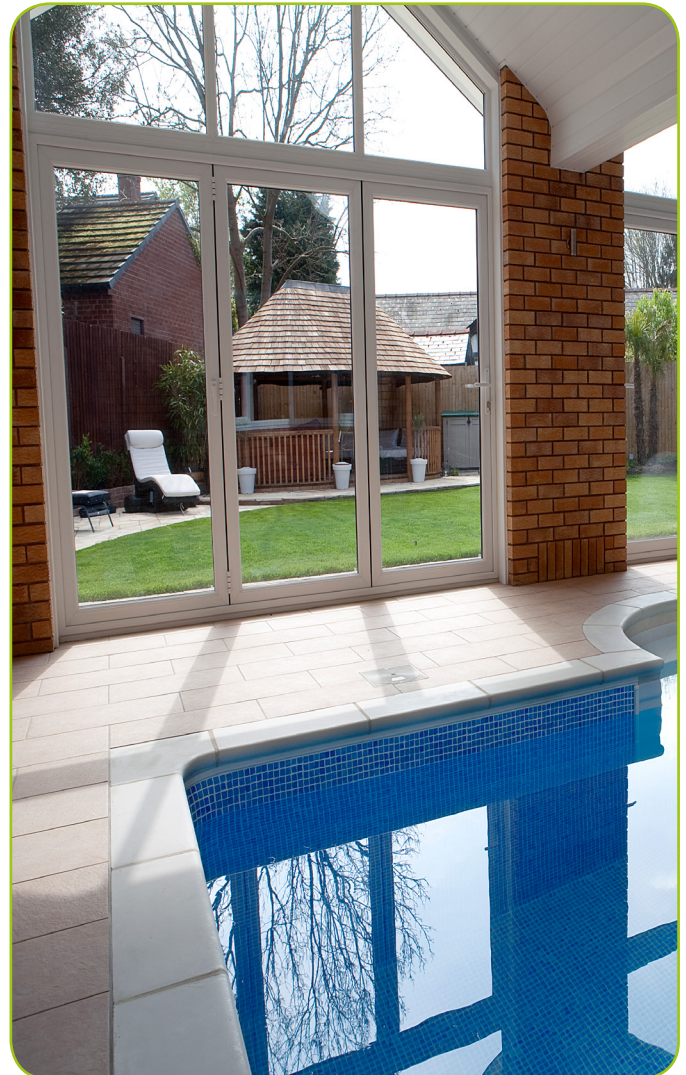
But when it comes to the frames, how much effort will you need to put in each year to keep them looking their best?

With timber frames, no matter how much they are treated when new, there will always be an element of maintenance required to keep them looking their best.

In addition to regular sanding and painting or staining, timber doors can swell when exposed to wet weather conditions and are probably not the best option for properties in wetland areas or near to the sea.

Aluminium frames can be powder coated with just about any colour of the rainbow, and offer a robust and durable frame option that should require very little maintenance other than an occasional clean.

And all Liniar's PVCu frames require is an occasional wipe down with soapy water to keep them looking their best.



## ⑨ How good is the attention to detail?

It's the little things that matter – so check for the details that make all the difference.



After investing in your beautiful bi-folding doors, imagine if they were damaged due to being pushed back with the key still in the lock.

Or even worse, if the doors were able to blow apart with a sudden gust of wind once they were in the open position.

At Linar we've given these issues lots of thought. The keys we supply with all our bi-fold doors fold back so they're flat and won't dent or pierce the frames when the doors are stacked together. And each door is fitted with a strong, discreet magnet to ensure they hold together securely when opened.



Are the hinges concealed? Check that the hinge design won't compromise the security of the doors, in addition to spoiling the lines of your bi-fold.

## ⑩ Is there a full matching range?

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It's not just about the colour – check the actual frame style to see how good a match it is to your windows.



If you're thinking of having a bi-folding door, it's important to consider whether it will match your existing windows and doors.

Many bi-folds are stand-alone products, with no matching windows – and the ones that do belong to the same window system are often only available in a chamfered, or flat, bevelled profile.

Take a look at your existing window frames. If you want your bi-fold doors to match, make sure you know what style you already have, together with the exact colour.

The Liniar ModLok™ bi-fold is made from exactly the same materials and colour options as the rest of the Liniar PVCu range of windows and doors, so you're guaranteed a match.



# More information

Visit the Linar website and social media channels to find out more about Linar bi-folding doors.

## Brochures

Visit the Linar "homeowner centre" at <http://bit.ly/liniarhomeowners> to download a range of brochures from the Linar website - from windows, doors and roofs to maintenance and installation guides - and more!

## Videos

Visit the Linar YouTube channel at <http://youtube.com/LiniarUK> for videos about Linar, the Linar bi-fold, installation guides and more.

## Social media

Linar is active on all social media channels. Follow us to keep up with the latest news and product developments.



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## 7 great reasons to choose Liniar

**Innovative** - the Liniar bi-fold is the original bespoke bi-folding door - and still the best

**Energy efficient** - designed to achieve the pinnacle of thermal performance and retain more heat in your property

**Safe and secure** - patented ModLok™, a combined aluminium reinforcement and multi-point locking system, provides strength and an unrivalled appearance

**British made** - frames are extruded in our state-of-the-art factory in the heart of Derbyshire

**Fully tested** - the Liniar bi-fold has been weather tested to 'severe' and also cyclic tested by our in-house robot to over 100,000 full opening cycles

**Family friendly** - Liniar's low threshold is just 24mm high, offering easy access for family living, available with an optional double or single ramp

**Guaranteed** - all Liniar frames are guaranteed to not warp, split or discolour for a minimum of 10 years



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