



**THE POLYCARBONATE**  
— STORE —



## **TECHNICAL AND INSTALLATION ADVICE**

### **FLAT SOLID POLYCARBONATE SHEET**

All the information in this Technical and Installation advice guide is provided for guidance only and is given in good faith, but without warranty or guarantee of any kind, whether implied or expressed.

It must be understood that The Polycarbonate Store has no control over how the information in this document is perceived and interpreted and therefore cannot be held responsible for any resulting fabrication or product failure, howsoever caused.

Statutory regulations regarding health and safety of operative's personnel should be strictly adhered to. The Polycarbonate Store cannot be held responsible for any failure to comply with them. This statement does not affect your statutory rights.

The Polycarbonate Store policy is to continually improve products, therefore methods, materials and changes of specification may be made from time to time without prior notice.

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### OVERVIEW

Widest range of clear flat polycarbonate roof panels, glazing and sign & display solutions

Flat solid polycarbonate sheets are an excellent alternative to glass for a wide range of applications as they are 200 times stronger and weigh less than half. The Polycarbonate Store offers flat polycarbonate sheets for these applications.

### PROPERTIES

- High impact strength
- Glass like transparency
- Wide range of product variations
- Excellent range of sizes and thicknesses
- Wide temperature service range
- Dimensionally stable
- Easy to fabricate
- Excellent electrical properties



### APPLICATIONS

- Anti-vandal glazing
- Rooflights
- Walkways
- Security glazing
- Barrel vaults
- Balustrades
- Transportation
- Street furniture
- Machine guards
- Low level glazing in public places
- Replacement windows



### Weight

The specific gravity of Polycarbonate sheets is 1.2, which is about half that of glass.

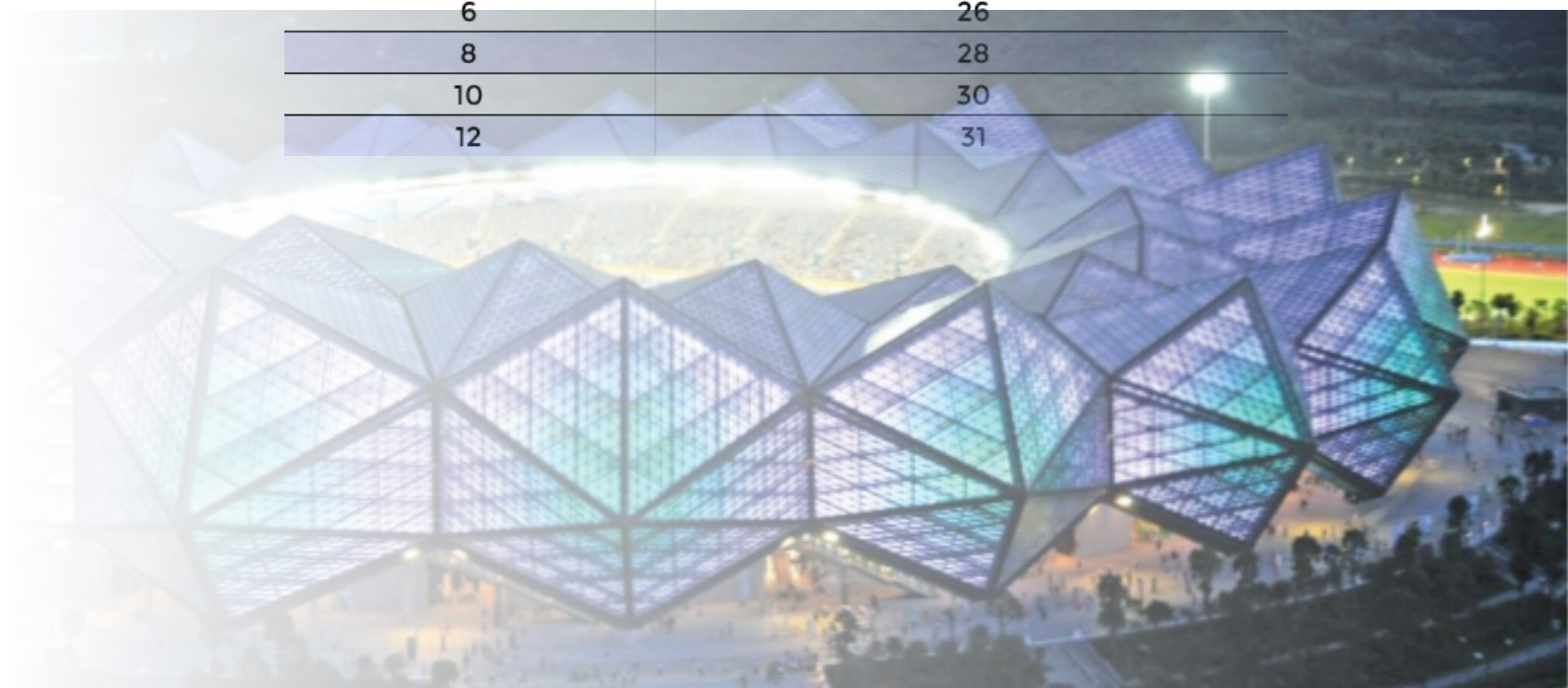
The following table compares the weight of

Sheet Thickness (mm)	Polycarbonate Weight (Kg/m <sup>2</sup> )	Glass Weight (Kg/m <sup>2</sup> )
2	2.4	4.9
3	3.6	7.34
4	4.8	9.8
5	6	12.24
6	7.2	14.68
8	9.6	19.6
10	12	24.48

### Acoustic Properties

Polycarbonate sheets have excellent sound insulation properties as indicated in the table below. The ability to absorb sound waves, together with its impact resistance, has made Polycarbonate widely used for clear acoustic barriers.

Sheet Thickness (mm)	Acoustic Insulation DIN 52210-75 RW (dB)
4	24
5	25
6	26
8	28
10	30
12	31



## How To Cut Polycarbonate

Polycarbonate sheets come in all different sizes and a thickness. So when it comes to your individual projects you'll often need to cut them down to size. Below is a step-by-step guide to help you re-size your sheets effectively.

### **What you will need:**

- Either a fine-toothed handsaw or jigsaw
- Clamps
- Tape Measure
- Straight Edge
- Safety Goggles and gloves
- Pencil

### **Method:**

1. Measure out the size of polycarbonate sheet you require and using the straight edge, mark out the lines to be cut.
2. Place the sheet on a stable surface and clamp down. We recommend to use a timber block to cushion the impact of the clamp.
3. Begin cutting. Polycarbonate is a material that is very easy to cut so you won't need to worry about splintering or cracking- just let the blade do all the work.
4. When you've finished, firmly tap the sheet to remove any excess debris.
5. Peel back the protective film.

### Drilling Holes In Polycarbonate

Standard wood working drill bits are suitable for drilling holes in polycarbonate sheet. Be sure to use another piece of material (scrap wood or acrylic is perfect) underneath the panel to act as a backstop. This will ensure the drilling will not blowout the panel as the drill exits the material.

Do not under any circumstances use a centre punch on a polycarbonate panel, it's very likely to cause damage. It's a good idea to start by drilling a small pilot hole to help locate the drill.

Be patient and drill at a steady speed and pause regularly to remove any swarf collecting around the drill, not doing so is likely to cause over heating and in turn will damage the hole.

When approaching the other side of the panel, continue to drill through it and into the backstop to ensure the exit hole does not splinter.

### Cleaning Polycarbonate

Start by blowing and brushing any loose dirt and dust from the polycarbonate sheet.

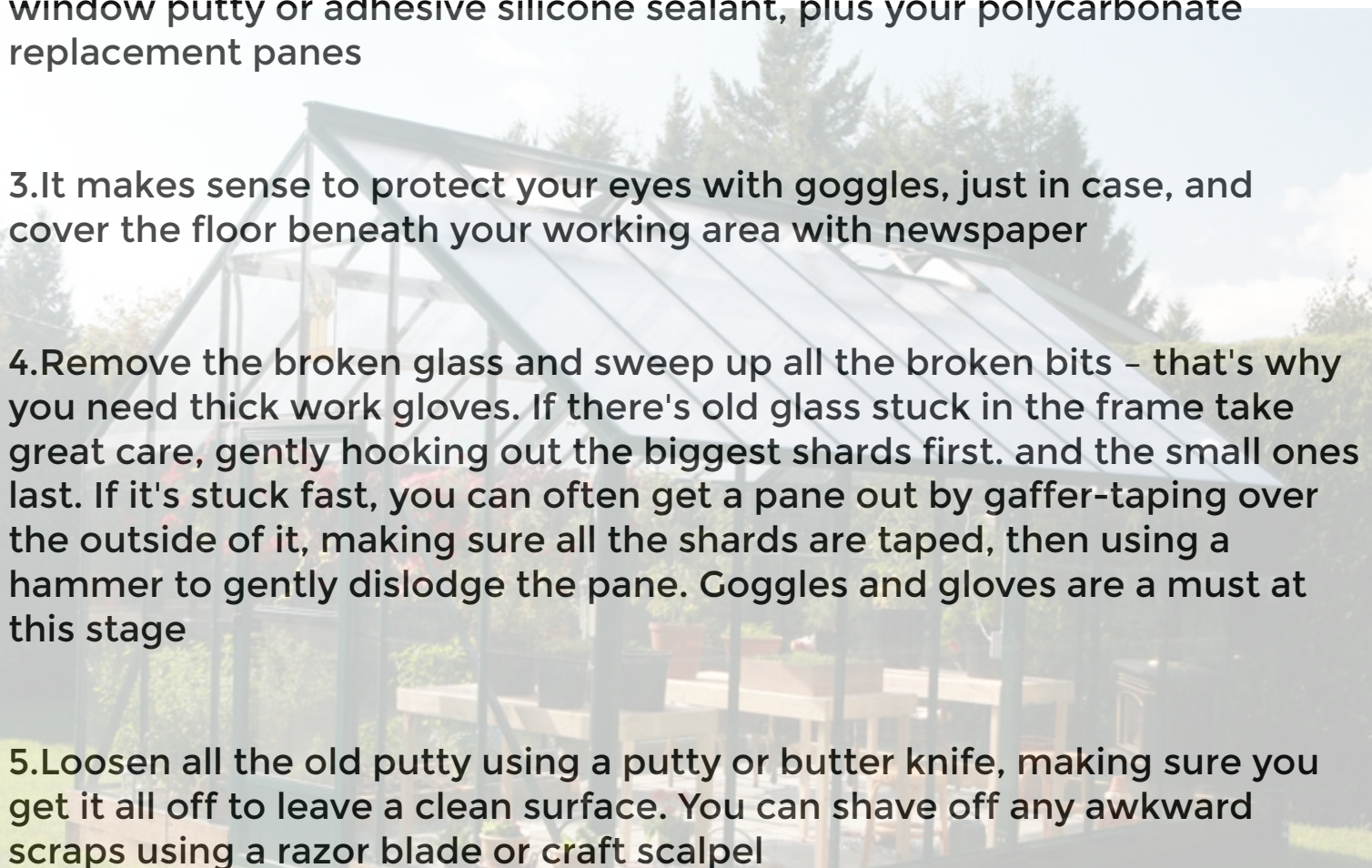
With a mild solution of lukewarm water and a drop of standard washing up liquid use a soft cloth to wipe clean any stubborn dirt and grime.

Gently rinse with clean water before dabbing dry with a microfibre cloth to ensure water spots do not develop.

### Polishing scratches

Specialist polish can be used to polish out fine scratches from polycarbonate sheet, however T-cut car polish achieves great results too.

## **Replacement Solid Polycarbonate** **Greenhouse/ Shed Windows**

1. Measure the dimensions of the window frame to make sure you get the perfect fit
  2. Gather together your equipment - a putty knife or old butter knife, heavy duty work gloves, tape measure, razor blade, some glazing points, window putty or adhesive silicone sealant, plus your polycarbonate replacement panes
  3. It makes sense to protect your eyes with goggles, just in case, and cover the floor beneath your working area with newspaper
  4. Remove the broken glass and sweep up all the broken bits - that's why you need thick work gloves. If there's old glass stuck in the frame take great care, gently hooking out the biggest shards first. and the small ones last. If it's stuck fast, you can often get a pane out by gaffer-taping over the outside of it, making sure all the shards are taped, then using a hammer to gently dislodge the pane. Goggles and gloves are a must at this stage
  5. Loosen all the old putty using a putty or butter knife, making sure you get it all off to leave a clean surface. You can shave off any awkward scraps using a razor blade or craft scalpel
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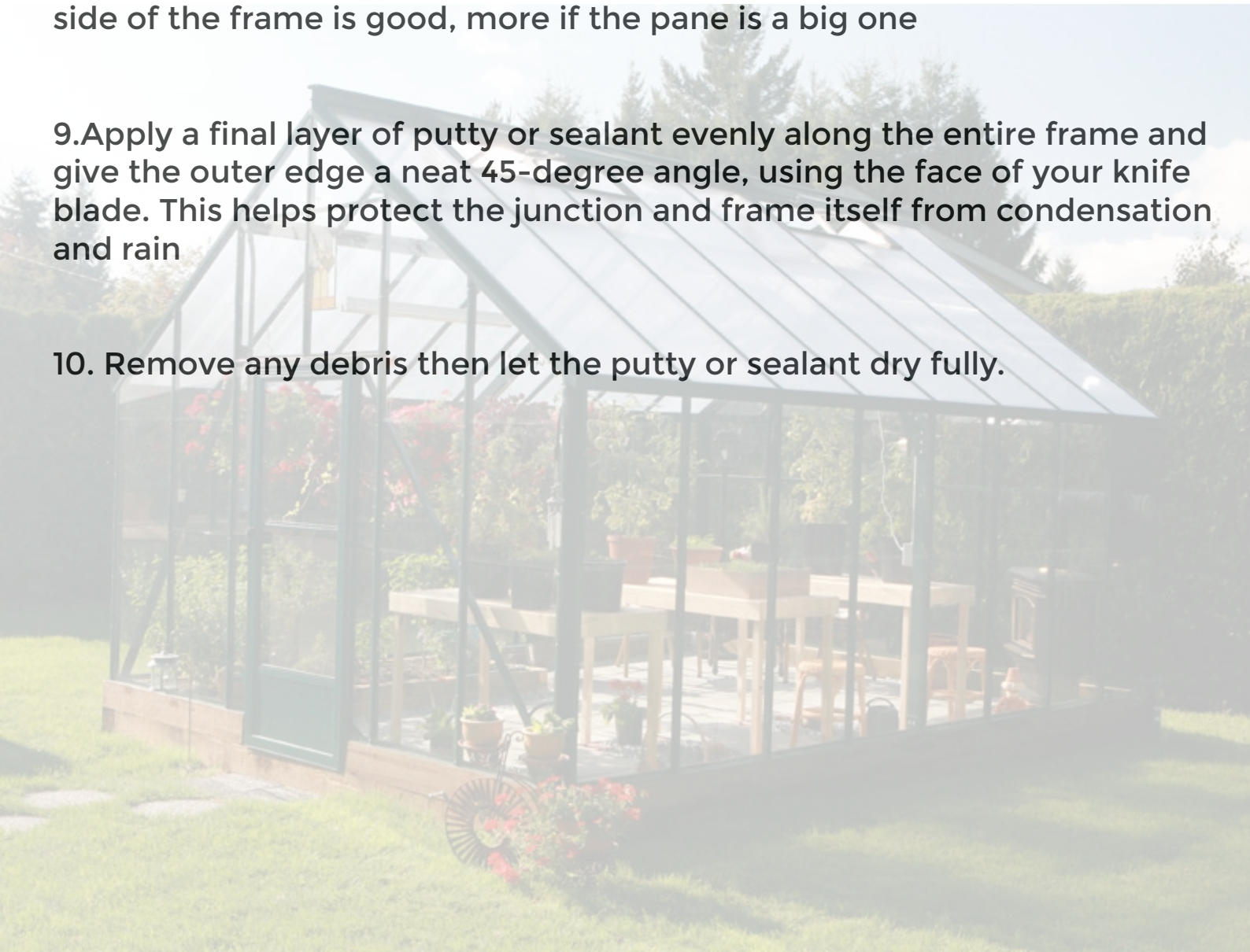
6. Remove the old glazing points and make sure you have a smooth, even and clean surface to fix the new pane to, otherwise you'll compromise its structural integrity

7. Evenly apply putty or adhesive silicone sealant all around the edge of the frame, creating a uniform look

8. Gently press the new pane into the putty or sealant, using glazing points to make it sit squarely in the frame - 2 -3 glazing points on each side of the frame is good, more if the pane is a big one

9. Apply a final layer of putty or sealant evenly along the entire frame and give the outer edge a neat 45-degree angle, using the face of your knife blade. This helps protect the junction and frame itself from condensation and rain

10. Remove any debris then let the putty or sealant dry fully.



## Secondary Glazing

Polycarbonate secondary glazing is the most simplest, affordable and successful way to draught-proof a Sash window.

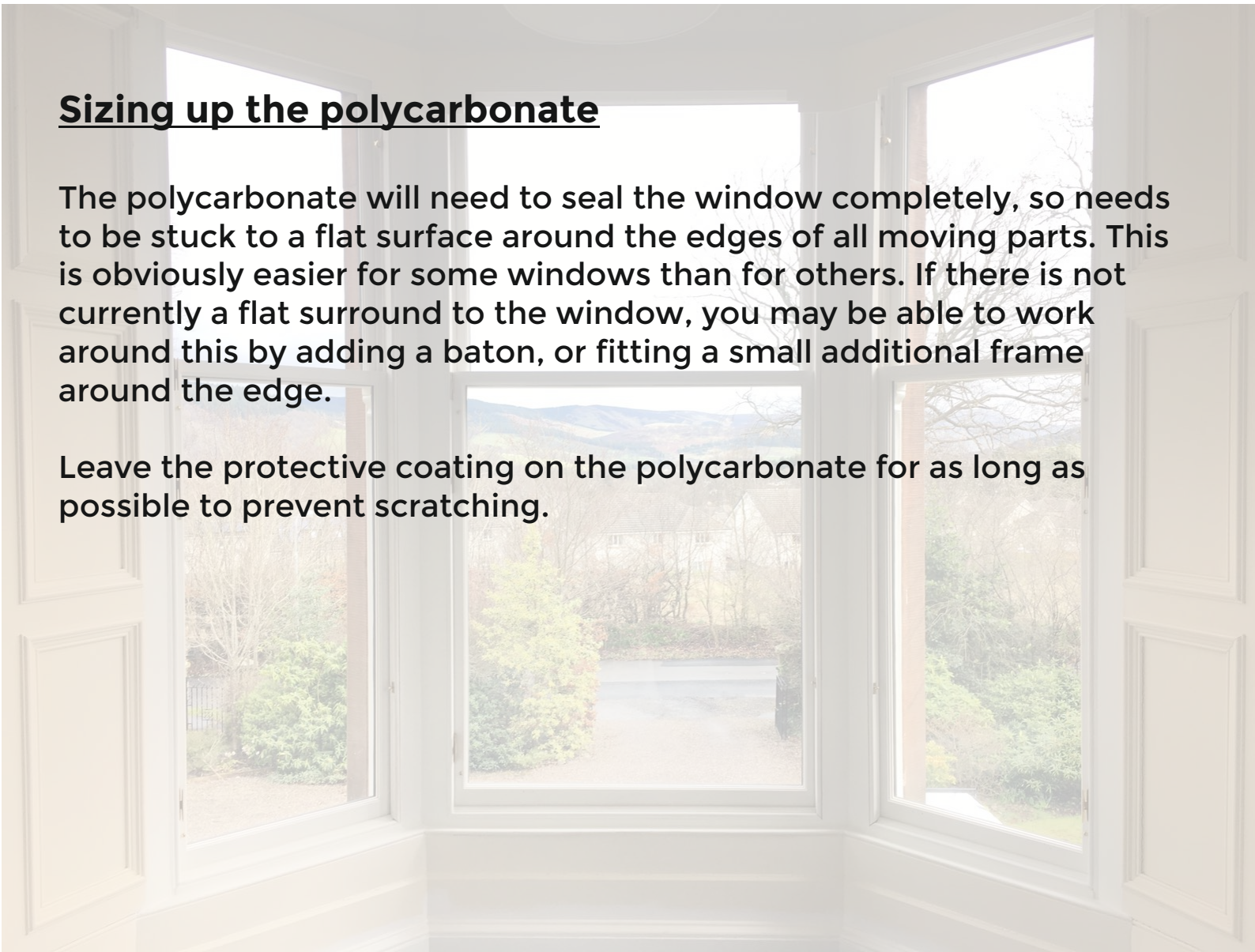
This provides a cheap and easy option for draught-proofing leaky windows, and one that also looks attractive.

The polycarbonate sheets can be stored under a bed during the summer, and attached to the window frames with magnetic strips during the winter. The magnetic strips (usually provided in dark brown/black) can be gloss painted to match the window frames to blend in with your window frames when not in use.

### Sizing up the polycarbonate

The polycarbonate will need to seal the window completely, so needs to be stuck to a flat surface around the edges of all moving parts. This is obviously easier for some windows than for others. If there is not currently a flat surround to the window, you may be able to work around this by adding a baton, or fitting a small additional frame around the edge.

Leave the protective coating on the polycarbonate for as long as possible to prevent scratching.

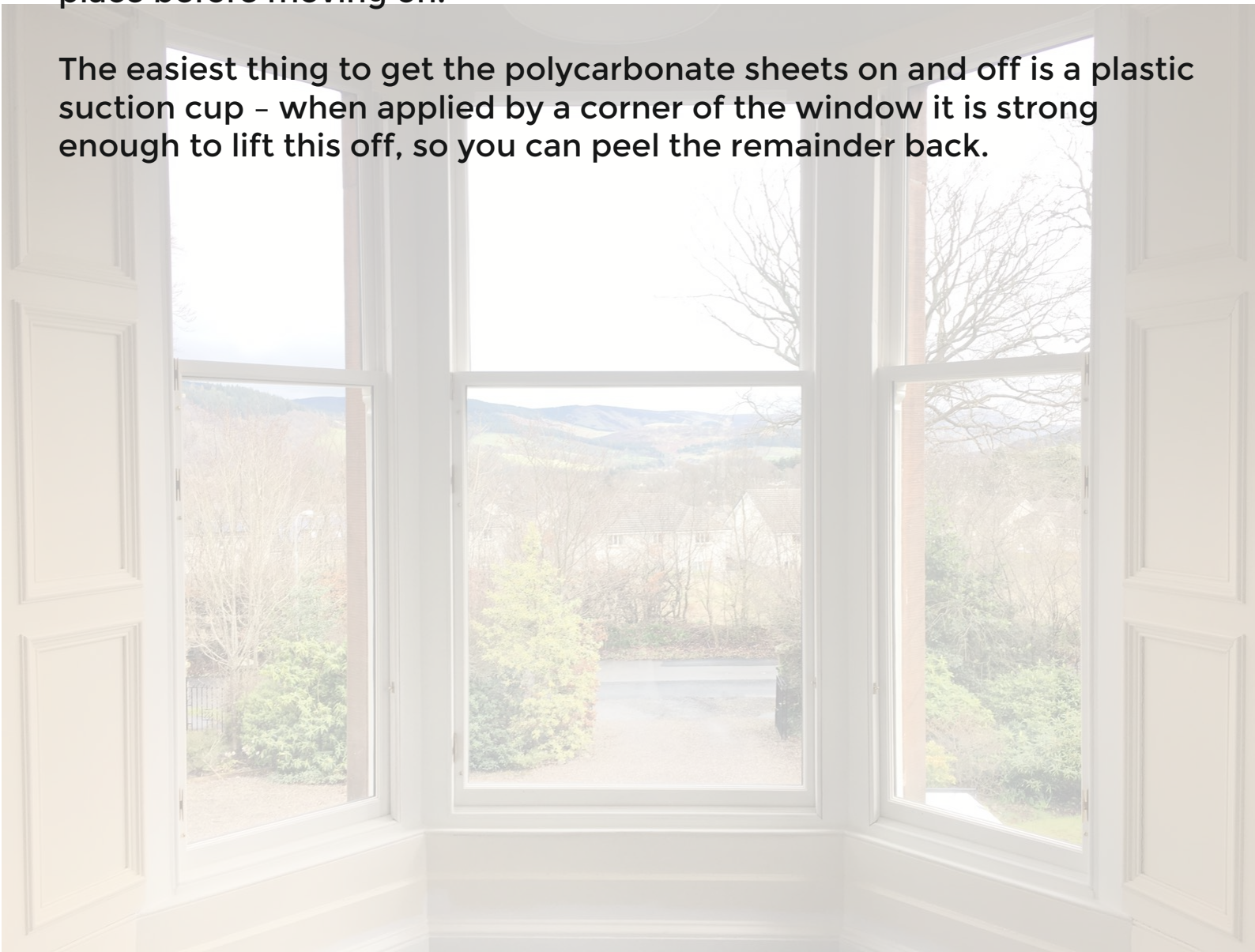


### Fixing in place

Fixing the magnetic strips onto the windows/frames is very straight forward, but needs care to ensure that there is an exact fit. The best approach is to stick the strip to the polycarbonate first, place the corresponding magnetic strip on top, and stick to whole thing to the window frame so you know that the sections will match up exactly.

When sticking in place, take care to ensure the magnetic strip is aligned exactly to the edge of the polycarbonate, so it follows a straight line. The glue is very strong and difficult to remove once stuck on, expose just a small section of tape at a time, and press firmly into place before moving on.

The easiest thing to get the polycarbonate sheets on and off is a plastic suction cup – when applied by a corner of the window it is strong enough to lift this off, so you can peel the remainder back.



## Fabrication

The Polycarbonate Store has a team of fabrication specialists with years of experience turning customers designs into real masterpieces.

We can fabricate many types of plastics from Acrylic, Polycarbonate, PETG, Aluminium Composite and many more.

We work with many types of projects from a single display stand to a full production run of leaflet holders.

To request a free quotation, simply send your requirements/ drawing to [sales@thepolycarbonatestore.co.uk](mailto:sales@thepolycarbonatestore.co.uk).





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