

The CLEAR GUIDE To Replacing Your Glass In Double Glazing Quickly & Easily



By Steven Sanderson

<http://www.replacedoubleglazing.com>

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We also advise that the reader makes themselves aware of the following report: The Building Regulations 2000 - 'Glazing - safety in relation to impact, opening and cleaning' Approved Document N.

The author, Steven Sanderson, does stipulate that the replacement procedure of Double Glazed units is straightforward, but he always recommends that a fully qualified window fitter should be employed to replace any Double Glazed units and accepts no responsibility for an undesirable consequences if someone attempts the installation themselves.

Preface

In addition to this free report, we have produced a series of 8 Step by Step Videos called the '[Step by Step Guide – Replacing the Glass in Your Double Glazing](http://www.replacedoubleglazing.com)'. I, Steven Sanderson from Sanderson Windows (a qualified Window fitter) teach you how to replace the glass in your Double Glazed pane quickly and efficiently and cheaply. You watch over my shoulder as I take you through the 4 different systems there are out there, how to identify them & how to replace them. **You can check it out at <http://www.replacedoubleglazing.com>**



NB. It is important to identify which system you have before you start any work.

What is a Broken Down or Misted Up Double Glazed Unit?

We all know that a Double Glazed Unit consists of two panes of glass with a void in the middle, all packaged as one single unit. Misting up of a unit is essentially where condensation creeps into the void in the middle causing an unsightly appearance. This worsens over time until you can no longer see through it clearly (see photo). It becomes extremely apparent when the sun

shines on it, just as it is painfully obvious that your windows are dirty when the sun shines directly on them.

Why Do Double Glazed Units Mist Up?

The main reason why a double-glazed sealed unit can mist up (or 'break down' as it is referred to in the trade) is due to premature failure of the perimeter seal, which is obviously dependent on how the sealed unit was originally made. Also, another reason for a double glazed unit misting up is dependant on how the framework it is fitted into was made or how the double-glazed sealed unit was fitted into the framework.

Additionally, severe weather conditions such as wind and rain as well as some cleaning chemicals can have an effect on the Double Glazed unit over time.

What actually happens is the perimeter edge of the unit loses its integrity and lets in moisture

somewhere. Initially it may only be visible when the sun shines directly on it and heats the moisture within drawing it upwards and thus appearing as condensation. It will however, worsen over time until the unit is described as being totally broken down.

The only simple and cost effective answer is to replace the double-glazed sealed units with new ones. We are not talking about replacing the window frames themselves, just the glass (the Double Glazing). There will be no alteration to the existing framework. It is useless trying to separate the 2 glass panes to then remove the condensation, as the sealed unit is factory made



with the panes bonded together to last a lifetime.

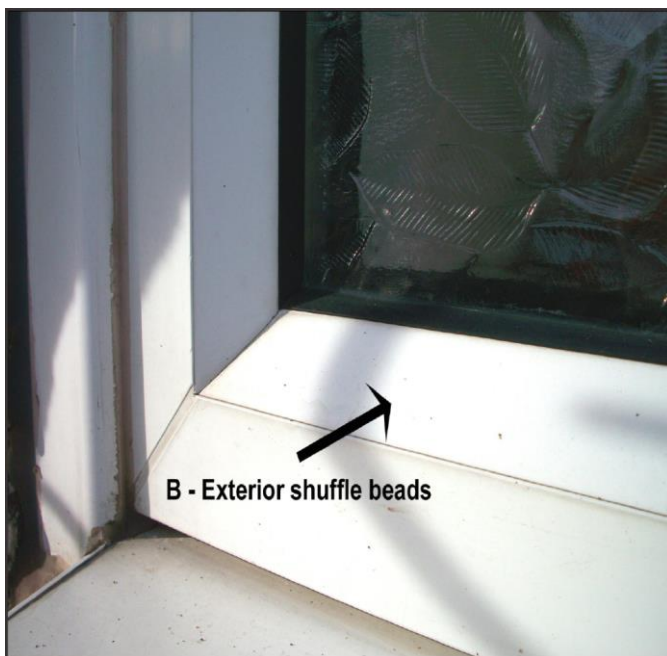
Window Manufacturers however do offer guarantees for windows and glazing but the reality is that manufacturing companies come and go throughout their guarantee period and can therefore be sometimes hard to trace.

It is however, always recommended that you use a qualified Window fitter to replace your Double Glazed (DG) panes. Even though a straightforward task, if you do your own, you undertake the task at your own risk.

Measuring The Double Glazed Unit

This section deals with measuring the double glazed replacement pane and you need to imagine you are facing the window from the outside. You also need to refer to the photos in this section to get a full understanding of what exactly is being measured.

Look at the bead (B) - the angled section that meets the windowpane.



Double Glazing pane. It is that simple and it does not get a lot harder.

<http://www.replac>

You need to measure from A to B in millimetres across the width and measure from C to D in millimetres across the height. Then from both measurements deduct 10mm. WHEN ORDERING, qualified window fitters ALWAYS GIVE THE WIDTH FIRST. This is the size of



Example :

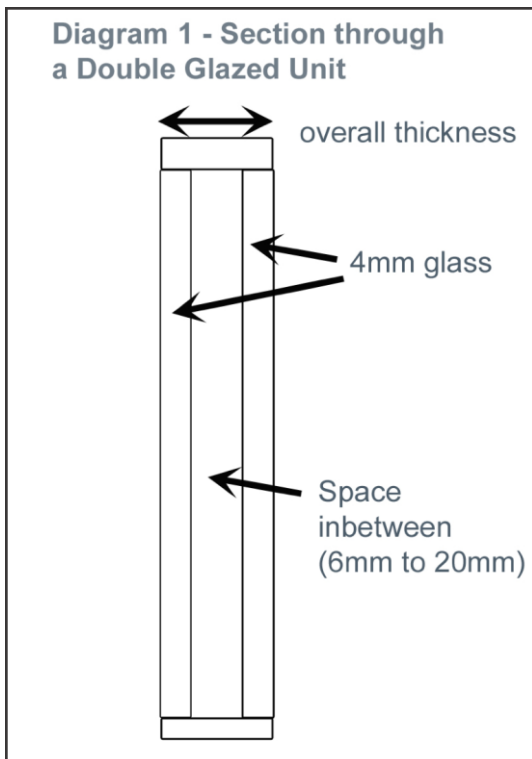
Measurement A to B is 855mm

Measurement C to D is 875 mm

The window size that would be ordered is 845mm (width) and 865mm (height)

Thickness of Double Glazed Unit

The supplier of the Double Glazing panes also need to know the overall thickness of the Double Glazed unit (please see Diagram 1). There are two ways of establishing the thickness of the overall pane (No 1 is very expensive and can be only justified if you are going to replace a substantial number of them).



1) There is a kit that you can use that has several instruments in; two of them can indicate what type of glass you are looking at and the third one measures the thickness of the glass pane. One such supplier is Merlin Lazer and is called the Merlin Lazer Glass Analysis kit (approx £300 plus VAT). Measurements can be taken simply by placing the instruments up to the glass pane and taking the measurements.

Merlin Lazer contact details are as follows: tel: (01892) 654141 or website is www.merlinlazer.com.

2) The installer can take the unit into a glass supplier (these can be found in Yellow Pages or Thomson

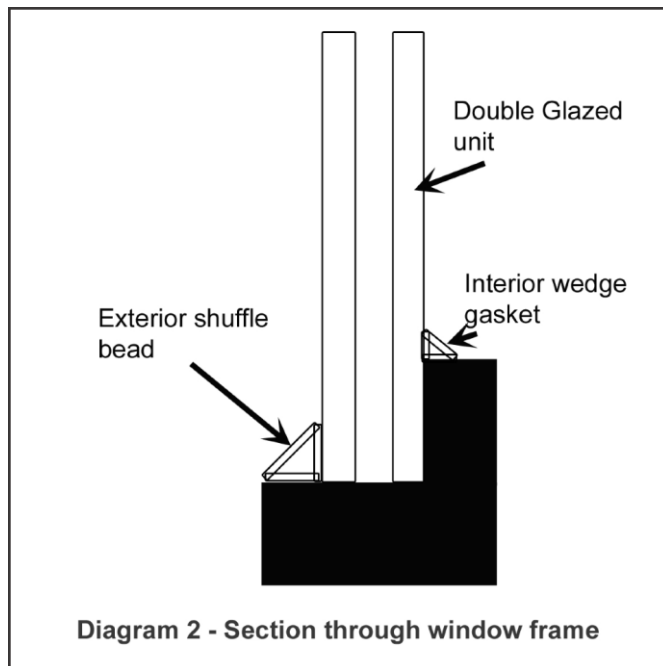
Directory in the UK or under 'glass suppliers' on Google. They could then measure it for you.

The glass itself is nearly always 4mm thick hence the two panes are 8mm. The space in between can be 6mm, 8mm, 10mm, 12mm, 14mm, 16mm, 18mm or 20mm.

Hence if you are looking at a Double Glazed unit that has a spacer of 12 mm, the overall thickness is 12mm (space) plus 8mm (glass) totalling 20mm thickness and this is expressed as 4 12 4.

If you are looking at a Double Glazed unit that has a spacer of 16 mm, the overall thickness is 16mm (space) plus 8mm (glass) totalling 24mm thickness and this is expressed as 4 16 4.

Diagram 2 - An Example of A Window System



Type of Glass Out There

There are lots of different types of glass available and below is a brief description of the common ones.

Standard clear glass

This glass was the first and only type to be installed in millions of houses throughout the years and is fast being replaced with more thermally efficient versions.

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Low E/K glass

This improved glass (in comparison to Standard glass) has an increased environmental performance with less CO₂ emissions and better thermal efficiency and nowadays it is compulsory (to comply with Building Regulations) to put Low E/K Glass into NEW houses. It is also good practice to try and replace windows in existing houses with Low E / K glass but this is not always practical. The reasons being that K glass has a slight tint to it and it will not match the rest of the property if the remaining windows has standard glass. But, if you upgrade all your windows to the more efficient K glass, you will benefit from reduced energy bills. You will obviously only replace them all for K glass if quite a few of your existing windows have already broken down.

Both of the above types of glass, including patterned glass can come as Toughened Glass.

Toughened glass is exactly what it is described as – toughened or tempered. It has been manufactured by controlled thermal or chemical treatments to increase its strength compared with normal glass. It will usually shatter into small fragments instead of sharp shards when broken, making it less likely to cause any injury if smashed.

From The Building Regulations 2000 – Safety In Relation To Impact, Opening & Cleaning **Approved Document N**

Critical locations

In some areas and at certain heights, toughened glass will be required to be used and the best place to check all this information is in the above Building Regulations and this can be downloaded Free Of Charge at:

<http://www.communities.gov.uk/publications/planningandbuilding/buildingapproveddocumentsn>.

This website address was correct at the time of this report being published.

For information only, these 'critical areas' are generally between finished floor level and 800mm

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above that level in internal and external walls and partitions AND between finished floor level and 1500mm above that level in a door or in a side panel, close to either edge of the door. Please refer to the Approved Document N (as mentioned above) and **you will see clear diagrams in the Building Regs detailing this.**

It would be true to say that qualified Window fitters replace like for like i.e. whatever glass is taken out is replaced new with the same. Most of the time this will result in the correct type of glass being installed but they are relying on the person who installed before them getting it right.

It is strongly advisable to get a copy of The Building Regulations 2000 - 'Glazing - safety in relation to impact, opening and cleaning' Approved Document N. This can be bought online at www.tso.co.uk for £7.50 or you can download for free on:

<http://www.communities.gov.uk/publications/planningandbuilding/buildingapproveddocumentn>

It can be hard to assess what type of glass it is currently in the frame at a glance. If it does have a kite mark on it, it is more likely to be toughened glass but this should not be left to chance.

Pattern or Plain Glass

Glass suppliers will have a brochure of all the different patterned glass they supply and you will come across lots of various patterns out there.

Type of Spacers

The two panes of glass in a Double Glazed unit are separated by an air gap and you will see all around the perimeter of the sealed unit there is a spacer bar. These come in silver, bronze or gold and the idea is to just replace like for like.

What Windows Will You Find Out There?

The majority of windows in the UK are either uPVC or timber, with uPVC far outweighing the timber. These two cover the vast majority of the domestic window industry. You will find that a Double Glazed Unit for a uPVC is just the same as it is for a timber window, although the units installed in timber windows are generally thinner in overall thickness than those installed in uPVC.

It is a well known fact within the window industry that Double Glazed units fail more within a timber window than a uPVC one. However, most replacements come from the uPVC market in the UK; the simple reason being the majority of houses have uPVC windows installed and this is ever increasing.

uPVC windows have been fitted in properties for years now and over recent years, the Double Glazing units have improved somewhat. The old style of glazing is simply known as EXTERIOR glazed and the more modern glazing is referred to as INTERIOR glazed.

The latter are far better for security and far easier to install as it can all be done from the inside hence requiring no ladders. 80% of the market at this moment in time in the UK however is connected to the EXTERIOR glazed system as this is the older type and we see more units requiring upgrading due to their age.

Over time, we will find that the INTERNAL glazed system will generate more replacement enquiries as these units also age, hence the replacement of the Double Glazed units is only set to become easier in the future.

How To Replace a Double Glazed Unit

To replace a Double Glazed unit, it is a simple procedure of removing the glazing beads & gaskets of which there are various different systems (this is all in our Step By Step Video Guide:



['The Step by Step Guide For Replacing the Glass in Double Glazing'](#) where I take you through real examples of how I take out and replace Double Glazing panes simply and efficiently). This Step by Step video series explains every detail on what to measure, how to easily identify YOUR systems quickly and easily, what tools you need (simple ones), how to remove the glass pane quickly & safely, how & where to position the packers and how to re-

install. They also cover where to source your glass cheaply. You watch over my shoulder as I take you by the hand every step of the way no matter what system you have – it almost feels like 1 to 1 guidance. Check it out here: [: 'The Step by Step Guide For Replacing the Glass in Double Glazing'](#)

OK so we have mentioned that there are 4 different systems so I am now going to take you through these 1 of these systems and briefly explain what to do to replace your glass panes but remember that Step by Step video training can be obtained by clicking on the link above: **'The Step by Step Guide For Replacing the Glass in Double glazing'** to access all online videos. Here you will find all 4 systems fully explained (not just one) as well as how to identify which one if yours – **VERY** important if you do want to cause any damage.

SYSTEM NUMBER ONE – The External Shuffle Bead System

This system is where the glazing beads are on the outside of the window and the internal wedge gasket is on the inside of the window.

PROCEDURE: First go to the inside of the window and remove the wedge gasket from between the window frame and the glass; on this system the gasket should come out easily as shown in our video set: [**'Step by Step Guide – Replacing the Glass in Double Glazing**](#). After removing the gasket, you now need to go to the outside of the window where you will see the external glazing beads. These beads should now be loose as the internal gasket acts as a wedge which pushes the glass forwards to tighten up the beads into a groove. So, as the gasket has been removed, the beads should now be loose.

Remove all the beads leaving the top bead until last as this will help to prevent the glass from falling forwards. Make sure you note where any glazing packs are around the glass at this point.

Remove the double glazed unit and place to one side. Now ensure there are glazing packs in the bottom of the window. Pick up the new double glazed unit and place it into the window frame ensuring it is sat on the bottom glazing packs and any other glazing packs noted earlier are put back into place around the double glazed unit.

Ensure you keep a secure hand on the double glazed unit to prevent it from falling forwards. Now replace the glazing beads in reverse order of how they were removed ensuring the bead is clipped into place securely.

Now go back to the inside of the window and put the wedge gasket back into place between the window frame and the glass in reverse order of how it was removed, this will slowly push the glass forwards locking the outside beads into place.

This is the most common system out there today but is being replaced by the Internal Clip In System – this internal system is now being installed in all new houses (see below)

For a full video Step by Step guide (watch over my shoulder guide – please check out our 'Step by Step Guide – Replacing the Glass in Double Glazing [CLICK HERE FOR ACCESS**](#)**

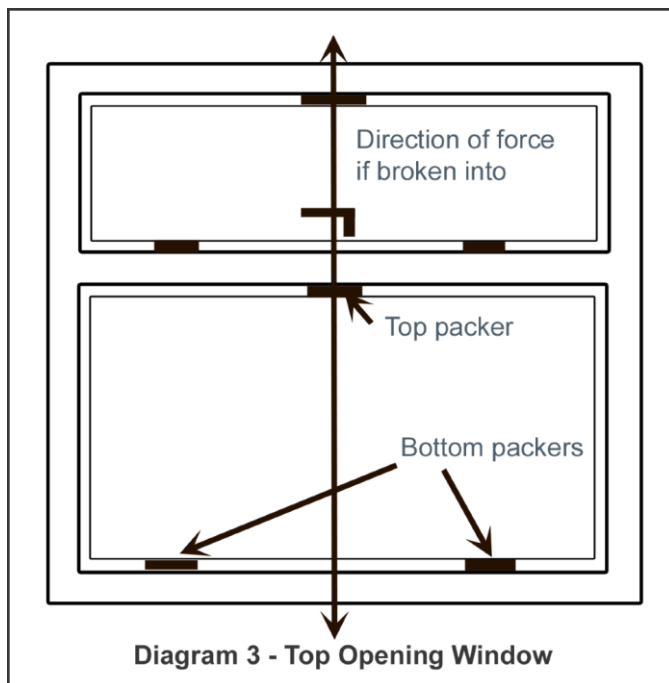
PLEASE NOTE.

TO PREVENT DAMAGE TO YOUR WINDOW IT IS VERY IMPORTANT YOU IDENTIFY WHICH BEAD SYSTEM YOUR WINDOW FRAME HAS, THIS CAN BE IDENTIFIED AS SHOWN IN OUR VIDEOS '**Step by Step Guide – Replacing the Glass in Double Glazing**
[CLICK HERE FOR ACCESS](#)

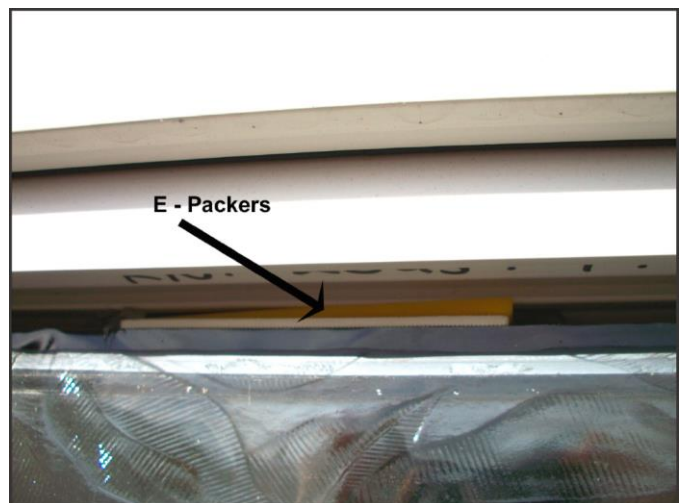
There are 3 reasons why we need to pack a Double Glazed unit.

To position the Double Glazed unit properly into the window frame - when we lift the new Double Glazed unit into position, there will be a small gap all around the unit and to enable it to sit

properly in the window frame, you need to pack inbetween the new Double Glazed unit and the window frame. Importantly, the packers raise the unit up so that it will never be sitting in water.



The frame is designed such that the water can ingress into the window frame and there are seep holes in the frame where this water is allowed to escape.



For security reasons – Plastic is flexible and if someone tries to break into a property via the window, there are certain precautionary measures that can be taken to ensure the windows are as secure as possible.

The secret lies in the way the hidden packers are positioned within the window frame. The diagrams below (4 & 5) illustrate how the packers should be aligned in two different scenarios.

To 'toe and heel' the side opening windows or doors for strength and stability (explained later).

Diagram 3 (above) illustrates a top opening window. Look at where the packers are situated. The two at the bottom of the windows (on both the top and bottom windows) sit the units up off the frame to prevent it sitting in any water that may have seeped in. The ones at the top are positioned so that it strengthens the unit in the vertical plane if anyone for instance used a crow bar to prise open the window via the handle.

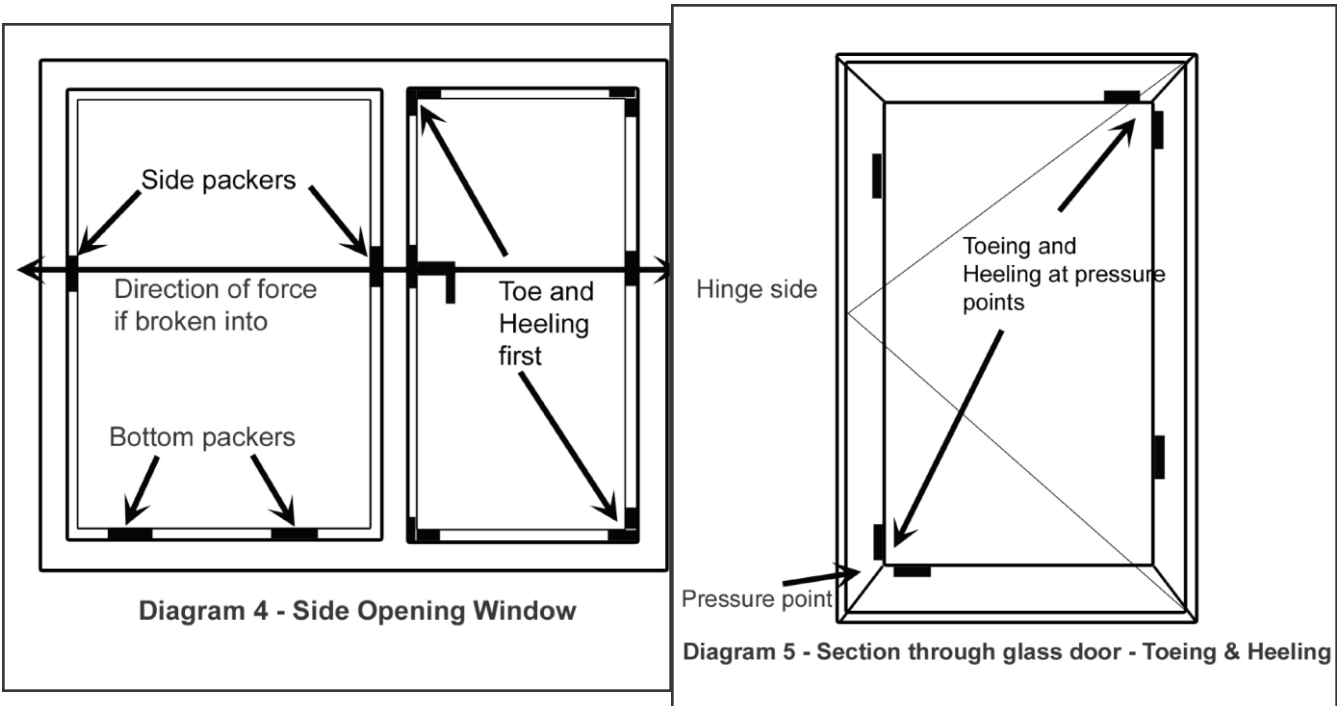


Diagram 4 illustrates a side opening window. Look at where the packers are situated. The two at the bottom of the windows (on both the left and right windows) sit the units up off the frame to prevent it sitting in water that may have seeped in.

The ones at the side are positioned so that it strengthens the unit in the horizontal plane if anyone for instance used a crow bar to prise open the window via the handle. Diagram 4 also illustrates toeing and heeling a side hanging window.

The dead weight is supported on the hinge side when it is opened and there is nothing on the lock side to support the weight. Sooner or later the window will drop on the handle side hence the need to brace the unit using the same principles which joiners use to brace gates - where a length of timber is fixed to the gate in a diagonal slope from the top outside edge down to the bottom hinge (inside edge) thus forming a triangular shape and throwing the weight down to the bottom hinge side.

Diagram 5 illustrates a uPVC hanging door. These doors are heavy, and although the dead weight is supported on the hinge side when it is opened, there is nothing on the lock side to support the weight. Sooner or later the door will drop on the handle side, making it difficult to open or close and making the locks difficult to use.

We need to position the packers in a 'toe and heeling' fashion. To stop a door dropping the glass itself has to be braced diagonally corner to corner by the insertion of plastic packers slipped in the gap between the glass and frame, under the beading. On the hinge side the packers go at the bottom corner, whilst on the lock side, the packers go at the top (opposite) corner.

It is also good practice to pack on both sides as well. If this seems hard to understand, imagine a timber ledged and braced door – it has three horizontal planks running along the top, middle and bottom of the door. Inbetween these ledges, there are diagonal planks of wood to brace across hence take the weight of the door and therefore to stop the gate dropping on the lock/handle side.

Conclusion

I hope this has given you a really good insight into why Double Glazed units break down and mist up, how to measure the units properly, the more common type of glass out there today as well as the components of Double Glazed units. And importantly download the The Building Regulations 2000 - 'Glazing - safety in relation to impact, opening and cleaning' Approved Document N.

For more indepth knowledge on how Window Installers replace the Double Glazed units and how simple a task it is, we have constructed a series of 8 videos which shows you step by step, exactly how the various panes are replaced out there today and the different systems out there today and how to easily identify yours. The easiest way to illustrate this is by video and because of the time and effort gone into constructing these information videos, we are charging just a small fee for them. [ACCESS HERE](#)

Thankyou for reading.

Steven Sanderson

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