



## Your timber window buying advice guide and jargon buster.

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Here are the crucial things you should know and keep in mind when buying wooden period sliding sash and hinged casement windows. This advice is out there if you look hard enough but we thought we'd put it all together here for you to make life a little easier. Why trust our advice? Well we've been in this business for 25 years which is certainly long enough to know about every aspect of period joinery and long enough to care that things are done properly.

### **Governance.**

Building Regulations 2014 states that if you replace a window or door *including* the sub-frame you should comply with Part L Building Regs. These regulations govern the thermal performance of new windows and doors. Make sure your supplier is following the rules on this one because the ultimate responsibility is yours. Windows and doors that don't comply would be condemned and would have to be replaced. If you're replacing part components, for example a window but not the main frame, which incidentally is a very viable solution for a lot of home owners because sub-frame timbers are usually far better preserved, then you don't need to comply with PartL even though your installation can match PartL thermal performance. Listed buildings are exempt from PartL.

### **Conservation areas.**

Some housing stock areas are protected by locally enforced measures generally referred to Conservation Areas where home owners are required to install windows and doors that do not differ from the original style of fenestration in evidence. For example if a house holder was to be considering plastic windows in a conservation area and ignored, or didn't look into the current conservation status then they would have to remove those offending articles and seek to replace them with original featured windows. However installations are still required to meet PartL Building Regs as described above. Good joiners are able to remake windows and doors that are carbon copies of the original detail but are able to house within those items slim sealed units filled with special gases that are equivalent in thermal performance to their plastic counterparts in complying with PartL Building Regs.

### **Jargon buster and general practical advice.**

Just like any environment the window and door joinery business has its own. Here's a list of words and phrases you can refer to. Under each term we've written a bit about what you should expect from a quality installation.

*Double, triple or single glazed:* refers to the quantity of panes of glass incorporated into a sealed unit. Clear glazing should be just that with no tints as can be found with some cheaper glazing. There should be no marks between the panes of glass. It should have 'warm edge spacers' that divide the glass at the perimeter, not aluminium. The inert gas that is sealed inbetween the panes of glass help, along with LowE glass and warm edge spacers, to cause a thermal break between exterior and interior of house temperatures. Krypton gas is referred to in the 'Glazing' section below. Because it's a more dense gas than commonly used argon it allows sealed units to be made that are slimmer in their overall build and this is crucial when your concern is revealing those same aesthetics that belong to period fenestration.

*Weather stripping or draught proofing:* refers to the perimeter material that is attached to the windows that seals the window shut against draughts, noise (and bugs) when you close the window. This should be a durable material and unobtrusive.

*Staff bead for sash windows or jamb for casements:* this refers to the timber beadings that are fixed to the whole perimeter of the window frame and to which the window closes up against. Perfectionists points: The staff bead should overlay (stick out from) the interior of the frame/lining. A jamb should not.

*Counter balances:* When blancing a sash window with internal weights consideration might be made to the type of balance employed. Traditionally lead weights are used but as we all know lead is a heavy metal and it is quite dangerous, especially around children. There are other options out there. In fact Sashpro has pioneered a balance system that works extremely efficiently.

*Dimensional:* If you're considering an extension or additional window to your home it is advised that for the sash window dimensional detail to follow the norm in that the average sash window dimension is approximately 1700mm high by 1000mm wide. This will allow the sliding sashes within the frame to be taller than they are wider which in turn facilitates a smoother action. Sliding sashes that are wider than they are taller will bind on the frame sides.

*Material:* Original 17<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> century timber windows were made from the following timber species: Pitch pine; european pine and douglas fir, larch or sometimes oak. Today we no longer have pitch pine in such abundance but douglas fir and european pine are farmed and forested and they are the best timbers to use, especially douglas fir. Hardwoods such as sepele and iroko should be used for the tread of a door or the cill of a window as they are invulnerable to wear and tear.

*Paint systems:* vary but in general the acrylic paint is preferred over oil based paints. This is because it is a sustainable product but more crucially for the home owner they are UV stable and a high quality one should last intact for 7-9 years.

### **More on timber.**

When it comes to selecting timber for particular uses, such as household items like windows and doors, density is the number one consideration as it relates to stability and strength, however even more



insight into how timbers behave and related to the abundance of species is necessary. The heaviest densest timbers (mahogany) are very 'oily' and this quality, though necessary in keeping the timber 'alive' and therefore structurally strong, resists colour painting as the oil pushes paint off which is why these species are found used in their bare, humanly unadorned nature. With window and door timbers further selection relating to the inherent qualities of similar species is required. Timber sash windows are by design held or braced within a structural framework, in this case the channels that the sashes slide up and down in and this 'set-up', to a degree, means that warpage is very unlikely. Casement windows are 'hung' onto a frame with hinges and only when in the closed position with a centrally, vertically placed handle and a bottom stay arm will it resist warpage and twisting. The same goes for doors. Left open for more than three to six hours and casement windows and doors made from the wrong timber will warp.

Given the above criteria we can separate and select one timber species from another and arrive at a choice of timber that even different types of windows will require. Okay, so now you know the basics of how and why timber is selected. Now I'll let you in on the truth about 'common knowledge' and expert knowledge. Many people think there's a major difference between hardwoods and softwoods, given their unfortunate titles who can blame them. Really the only difference between them is that hardwoods lose their leaves in winter (deciduous) and softwoods do not (generally coniferous). Structurally, many 'softwoods' can be as dense and structurally strong as hardwoods, some are far less brittle and most were used in the general manufacture of windows and doors in the northern hemisphere.

So, now you know how it works here are your industry recommendations in selecting the right timber

for your home improvement investment project...



### **Timber Species for use in windows and doors**

The best wood for sash windows, casement windows and exterior timber doors is guided by a knowledge of how the vast array of available timber species behave in a variety of environments. These environments are expansive but the essential basics consist usage and purpose and geographical aspect: Usage and purpose relates to what the item being made actually is and therefore how durable it needs to be and also whether exterior or interior performance is required. Geographical aspect relates to variant locational temperatures and weather conditions even within the United Kingdom.

For example, we all know that balsa wood, commonly used to make those little toy aeroplanes that children throw into the air and then watch crash gently to the ground a few moments later, would not have sufficient inherent strength to make, for example, a chair.

At the other end of the scale try flying that same toy if it were to be made out of mahogany – a common name given to the wide variety of species of dark hardwoods – it would crash to the floor almost immediately but used in making a chair it would last for years, even centuries.

It's all about the density of the grain of the timber. When timber is physically lighter in weight it has a cell structure, referred to as the grain that contains less wood and more air and conversely a heavier timber has more wood than air. In practice we refer to tight and loose grain timber.

Generally tighter grained timbers are less likely to warp or twist than lighter open grained timbers and this is due to less ambient moisture penetrating the timber cells which are also capillary in their layout hence their ability to draw in moisture and rot. This is, of course, an important consideration when making timber windows and doors.

Recommended Timber Species and Glazing Units for Period Doors and Windows

Timber Species advised and offered by Sashpro for your project will depend on the general usage and demand.

A prerequisite is that the wood we use is properly sourced using FCOC certification as well as cut, dried and stored in a manner that will provide for superb joinery.

### **World sustainable species list as used by us and other fine joineries**

#### Accoya:

Other names:- none

Uses: Everything exterior.

Sashpro's explanation:

This very special timber is produced by way of a process that engages easily grown and abundant redwoods (pine) and pressure treats it (acetylation) with raw vinegar. This seals the capillaries within the timber to produce probably the most stable and ecologically famed timber in the world. Commonly referred to as the Teak of the 20th century.

#### Douglas Fir:

Other names:- British Columbian Pine (Uk);

Oregon Pine (USA)

Note: Not a true pine.

Uses: Exterior and interior joinery as well as a plethora of industrial applications.

Sashpro's explanation:

#### Iroko:

Other names:- mvulu; odum

Uses: Boat building; interior and exterior joinery, furniture making and carvery.

Sashpro's explanation: A very stable timber species readily available today with huge stability and minimal movement in service. Great for period timber doors.

#### European Oak:

Other names:- Quercus Robur

Uses: Used for exterior joinery such as windows and doors only in reasonably sheltered conditions.

Sashpro's explanation: Because of numerous enquiries of this famed species we thought it prudent to add it here. However due to its propensity to season very slowly and as it does so to crack and warp it is best used for fine furniture only.

Most of the UK's conurbation's windows were made from a species called "Pitch Pine". With similar properties, Douglas Fir, lacks the problematic exuding of resin and is generally knot free. It also has exceptional insulating qualities and a U Value of .2 (when dried to a 14% -approx-moisture content). Acrylic paints that are more environmentally friendly and last longer intact than oil based paints, this species takes readily to them. There is little movement in service and this species is suitable for doors, sash and casement windows.

### **Glazing**

There's really only one type of glazing that complies with both Building Regs and is easy on the eye. Ultra slim sealed units made with Warm Edge technology, Inert gas (Krypton) and Pilkington K A or Planitherm Total + Low E glass all add up to discreet high performance. Where period windows and doors must improve insulation properties dramatically while keeping traditional looks intact these products (and there are



very few variations) have allowed a quiet revolution to take place. In an ever increasing noise filled environment you'll be amazed at how much ambient noise is reduced whn employing state of the art double glazed sealed units into traditional timber windows and doors.

We hope you are now more familiar, through being properly informed, with the detail that you should be aware of when making decisions involving your home improvement project. Feel free to call our office or drop us a line. We've also started a blog recently and although I try to make it readable by being a bit light-hearted there are some interesting facts strewn throughout.

Kind regards

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Managing Director

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