



A guide to Reinforcing in uPVC window and uPVC door frames

“Save money and don't order fully reinforced frames thinking you are buying a superior product.”

SHOULD MY FRAMES BE REINFORCED?

Years ago when uPVC windows first came onto the market, some of the frames available just wouldn't have performed well at all if they didn't have reinforcing in them. These early frames were only 50mm or 55mm deep with 2mm wall thickness and constructed with only two chambers. Nowadays it's a different story. Virtually all of the top extruders supply 70mm profiles with 3mm wall thickness and constructed with five chambers and all of them have BS, CEN and BBA certification for their products.

There are a few 60mm to 65mm profiles available, mostly used for commercial or housing developments where cost is a factor but so far as the general public is concerned, so long as you buy a 70mm profile from a reputable supplier, you should have no problems.

WHAT IS REINFORCING?

Reinforcing of uPVC frames is one of the most misunderstood things about Windows and Doors. Most people, including some builders and architects, think it is necessary to specify fully reinforced frames when ordering uPVC products thinking that: -

1. They will be stronger if they are fully reinforced.
2. The frames can be used as a structural element to hold up other parts of the structure.
3. uPVC isn't up to the job unless it's reinforced.

However, this is not so. In most cases, especially with small frames, reinforcing is not needed at all. In fact for outer window frames, most fabricators don't consider reinforcing unless the frame is over 1800mm in length, in which case it is usually reinforced as a matter of course. For window frames under this size it really doesn't need it as uPVC profile frames are extremely strong.

WHY ARE FRAMES REINFORCED?

The purpose of reinforcing uPVC window and door frames is to control the rate of expansion and to provide rigidity to frame sections over a certain size. It is also used to provide rigidity for hardware, particularly where door locking mechanisms are fitted. Reinforcing can be specified in exposed and coastal areas where wind loading on larger frames is a consideration.

However, there is a case for fully reinforcing uPVC frames. All foiled (wood grain) products are fully reinforced as standard. The reason for this is to provide an enhanced control of the rate of expansion for these products. The dark finish and the coloured uPVC extrusions absorb heat far more than white extrusions and can deform if not controlled by reinforcing. All of EasyFit foiled and wood grain products are fully reinforced automatically as well as all uPVC door products.

WHAT ARE uPVC WINDOW AND DOOR FRAMES REINFORCED WITH?

uPVC windows and uPVC door frames are reinforced with either aluminium or galvanised steel. The choice is the preference of the fabricator and there is a small cost differential too. Aluminium is slightly more expensive but it is easier to work with and doesn't add too much weight to the products whereas steel is heavier but cheaper. The actual shape is no more than an "L" or "U" section of thin steel or aluminium and does not go the full length of the profile; it stops several centimetres short so as not to foul or interfere with the welding process and where there are mullion or transom joints, the reinforcing is fitted in pieces and is not normally inserted as a full length. Therefore reinforcement is not suitable for structural support but purely for the reasons outlined above.

For bay poles, bay posts and structural mullions, a thicker section is used. This is to provide strength and rigidity where frames are to be joined together and to provide a strong fixing ground. Bay poles and posts can be used in a structural situation and jacking plates are available if required.

CONCLUSION

Don't get hung up about reinforcing, leave it to your supplier to provide a correctly fabricated product that will give you trouble free service throughout its life. You can be assured that if you buy your frames from EasyFit Window Warehouse the you will always be supplied with the correct reinforcement suitable for your requirements.