

# Fixing Instructions for the P227 Structural Glazing Bar System



Tools you will need to construct  
your roof:

Tape measure  
Screwdriver  
Spirit level  
Hacksaw  
Drill  
Hammer

3 Ravenhurst Court  
Birchwood Park  
Birchwood  
Warrington  
Cheshire  
WA3 6ND

Tel: 01925 826314  
Fax: 01925 852944

## System Description

The P227 System is designed for installing multiwall polycarbonate glazing and will span up to 1400mm unsupported when glazed with multiwall polycarbonate. It consists of an aluminium base and a screw down aluminium capping bar which clamps the multiwall firmly and securely in place. A wide range of complementary items, fixing accessories and matching profiles are available.

## Glazing with Glass

The P227 System can also be used when glass or double glazed units are the preferred glazing material. However the spanning capability is much reduced as are the glazing centres. It is difficult to advise as to what the spans and centres would be as it depends on the thickness and type of glass. **Mechanical end plates should be fitted when glazing with glass.**

## Design Detail

Multiwall polycarbonate is normally used on a roof with a gentle slope, which will allow rainwater to drain into guttering. We recommend the minimum slope should be 5°. The P227 system can be used with glazing sheet up to 25mm thick.

Sheets of polycarbonate will expand and contract as temperatures change. Always leave room to accommodate expansion when joining sheets on glazing bars (see Fig. 1).

Sheet widths should be reduced by 10mm to allow for expansion. For example, if you are installing 16mm sheet and your glazing bars are 990mm apart (centre to centre), use a 980mm wide sheet (Fig. 2).

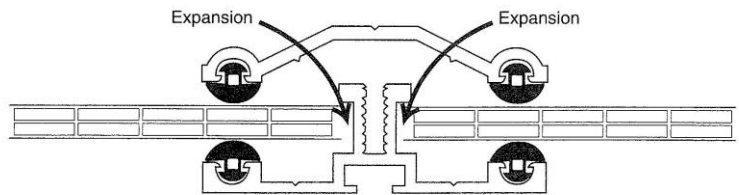


Fig.1

Sheet Thickness	Glazing Bar Centres	Spans Unsupported
10mm	700mm	1400mm
16mm	1000mm	1400mm
25mm	1250mm	1400mm

When ordering or cutting polycarbonate to a required length, remember your sheet should be 10mm shorter than your glazing bars to allow for the fitting of aluminium U profile end closures.

We can supply you with sheet that has been cut to size, blown and sealed in our factory (in which case disregard Step 6).

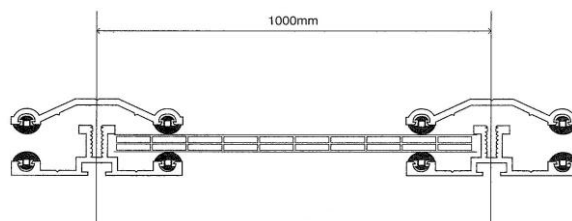
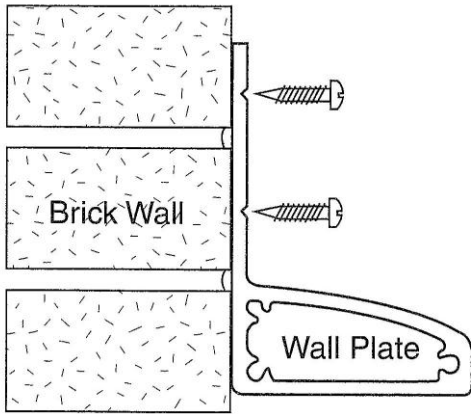


Fig.2

## Span Requirements

For applications using multiwall polycarbonate where a span longer than 1400mm is required, we would recommend using a heavier duty Glazing Bar System, such as the 280/283, 320/286, 280/288 or 600 system (for multiwall only). Alternatively the base bar can be fitted onto purlins or rafters. The base bar must be fitted at the eaves, the ridge and to any purlin. If fitting to rafters, the base bar should be secured to the rafter every 300mm.

**Fig. 3**



**Step 1:**

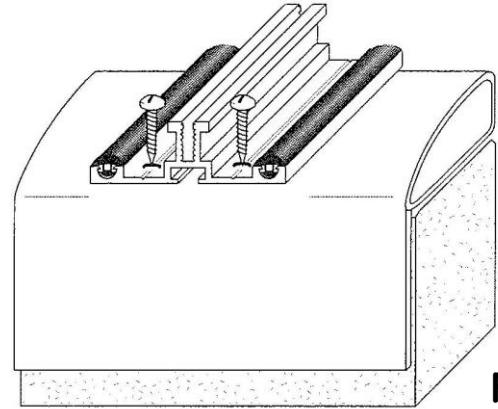
Fit the aluminium wall plate (Ref. 290). The wall plate can accommodate all our structural bar systems at angles ranging from 5° to 25° (see Fig. 3). Fix the end plate for a neat finish to the ends of the wall plate.

**Step 2:**

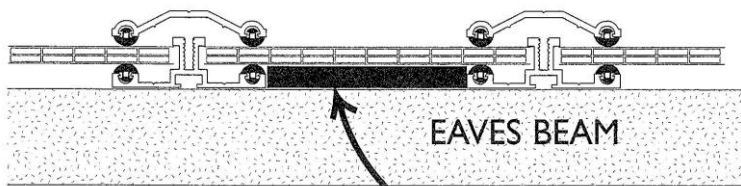
Fit the aluminium eaves beam (Ref. 291). The eaves beam can accommodate all our structural bar systems at angles ranging from 5° to 25°. Fix the end plate for a neat finish to the ends of the eaves beam.

**Step 3:**

Screw the aluminium base bar (ref. 227) to the eaves beam and wall plate and to any purlins if they are being used, remembering to start and finish the roof with a base bar (see Fig 4A). Slide in the 226G gasket. If buying the bars in the pre-packs, the gasket is supplied already pressed into the bars.



**Fig. 4A**



**Fig. 4B**

Eaves Filler

**Step 4:**

Fit the eaves filler (ref. P226F) at the eaves of the structure. This fills the gap between the underside of the sheet and the top of the support structure (see Fig 4B). If other materials are being used as a wall plate and/or eaves beam, please use barrier tape to avoid electrolyte corrosion between the 226/227 glazing bar and the wall plate/eaves beam.

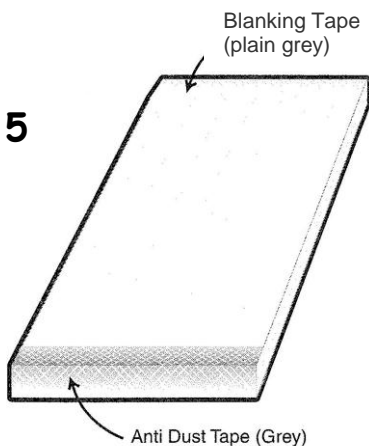
**Step 5:**

Cut the glazing bar cap (ref. 226) to the required length and drill the cap at regular intervals with holes no more than 300mm apart, ensuring the holes will line up uniformly with the holes on each of the other bars once on the roof. The drill holes should be of a size to accommodate a 10swg screw. Slide the 226G gasket into each side of the glazing bar cap. If buying the bars in a pre-pack, the gasket is supplied already pressed into the bars.

**Step 6:**

Cut to size sheet is supplied blown free of dust and taped, ready to fit. If cutting sheet on site, you must ensure the flutes of the polycarbonate are free of any dust or swarf.

**Fig. 5**



This is done by blowing air through the flutes and sealing the ridge end of the sheet with blanking tape. Seal the eaves (gutter) end of the sheet with anti-dust breather tape (with the ventilation holes). This process helps prevent dust entry whilst allowing condensation drainage (see Fig 5).

**You can now start to fix the roof sheets; starting at one side of the roof and working across, fixing and dressing down flashings as you go.**

Please note, some polycarbonates are UV coated on one side only. The sheet should have a protective film on both sides but only one side of this film is printed. This is the side that should face outwards towards the sun. Do not forget to remove the masking film on both sides of the sheet.

### Step 7:

Having already fitted a base bar to one end of the roof, fix a side trim (ref. 272/273/275) over the base bar to the side of the fascia or building (see Fig 6).

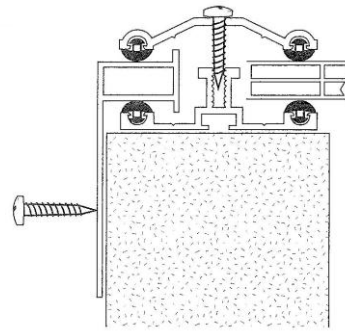


Fig. 6

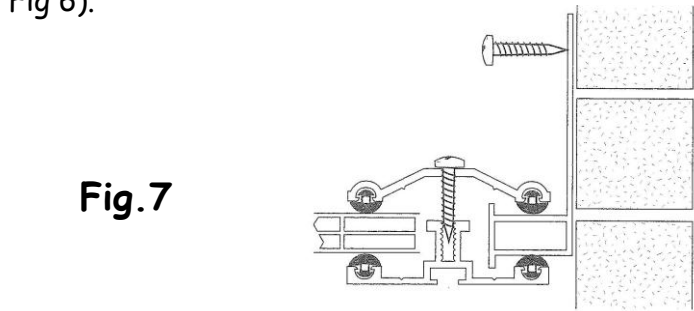


Fig. 7

### Step 8:

If butting a sheet up to a wall, simply upturn the side trim profile, fix to the wall and flash over (see Fig. 7).

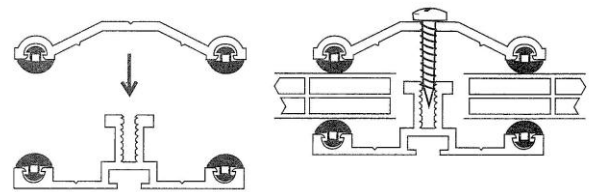


Fig. 8

### Step 9:

Fix the top U profile (ref. 252/253/255) over the sheet. Locate the sheet over the 227 base bar leaving room for expansion. Ensure the sheet is level and fit the glazing bar cap (ref. 226) using the recommended screws, capping each screw with a screw cover cap (see Fig 8).

### Step 10:

Place an adjoining sheet into position with top U profile fitted. Repeat this procedure for the remaining panels ensuring screws are not over tightened as this will limit the expansion and compress the sheet.

### Step 11:

Push fit the polycarbonate end plate (ref. 226EP) onto the end of the 226/227 system (see Fig. 9).

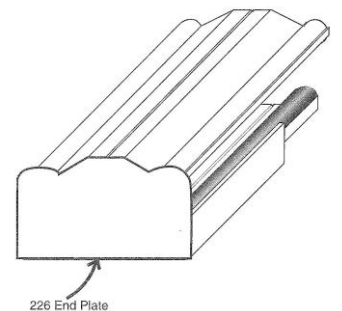
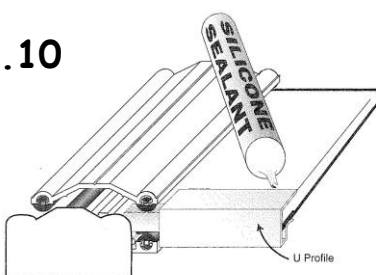


Fig. 9

### Step 12:

Accurately cut the aluminium U profile (ref. 252/3/5) to the appropriate length and fix over the anti-dust tape at the eaves end of the sheet between the glazing bars. A bead of silicone sealant can be applied to the upper side of the sheet along the line where it meets the U profile. Only use silicone sealant that is compatible with polycarbonate (see Fig 10).

Fig. 10



### Step 13:

Finally dress down the Butyl Flashing (ref. 200/20)

### Shaped Roofs

On a roof where a hipped bar is required, the base bar (ref. 227) remains the same but the capping bar (ref. 226) is supplied wider at 70mm instead of 60mm and angled to accept the polycarbonate coming in at the angle. The reference number for this product is P227H.