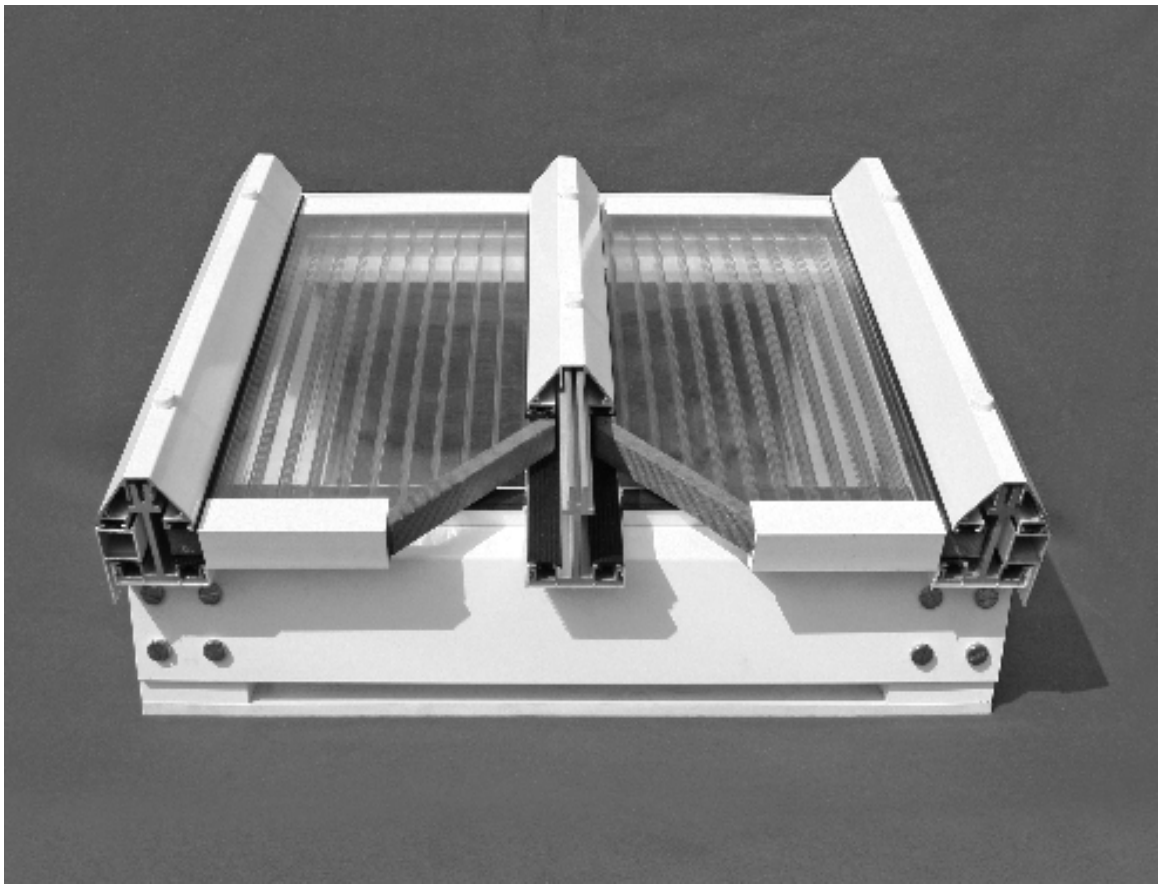
Fixing Instructions for the Twinfix

280/288 (P288) and 280/288/284 (P288U)

Structural Glazing Bar Systems



Tools you will need to construct your Twinfix roof:

- Tape measure
- Screwdriver
- Spirit level
- Hacksaw
- Drill
- Hammer

201 Cavendish Place
Birchwood Park
Birchwood
Warrington
Cheshire
WA3 6WU

Tel: 01925 811311
Fax: 01925 852955
Email: enquiries@twinfix.co.uk
Website: www.twinfix.co.uk

System Description

The 280/288 System is designed for installing 25mm multiwall polycarbonate glazing (1250mm centres) and 24mm double glazed units (600mm centres). The system will span up to 4000mm unsupported when glazed with multiwall polycarbonate and 2600mm when glazed with 24mm units. It consists of an aluminium base and a screw down aluminium capping bar that clamps the multiwall firmly and securely in place. A wide range of complementary items, fixing accessories and matching profiles are available. If used in an application with enclosed sides, order it as the P288U system. It would be supplied with a UPVC thermal underclad clipped to the base bar to help prevent condensation forming.

End Plates

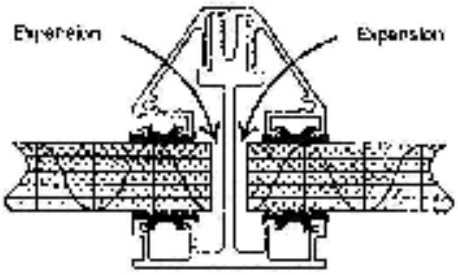
When glazed with polycarbonate or glass, a mechanically fixed end plate should be fixed at the eaves end of every glazing bar (Step 3). These are usually powder coated steel and are screw fitted to the underside of the base bar. An aluminium version could be used but steel is preferred when glass is the selected glazing material.

Design Detail

Multiwall polycarbonate is normally used on a roof with a gentle slope, which will allow rainwater to drain into guttering. We recommend that the minimum slope should be 5°.

Fig.1

Sheets of polycarbonate will expand and contract as temperatures change. Always leave room to accommodate expansion when joining sheets on glazing bars (Fig. 1). Sheet widths should be reduced by 10mm to allow for expansion. For example, if you are installing 25mm sheet and your glazing bars are 1250mm apart (centre to centre), use a 1240mm wide sheet (Fig. 2).



Sheet Thickness	Glazing Bar Centres	Spans Unsupported
25mm polycarbonate	1,250mm	4,000mm
24mm glass units	600mm	2,600mm

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 7).

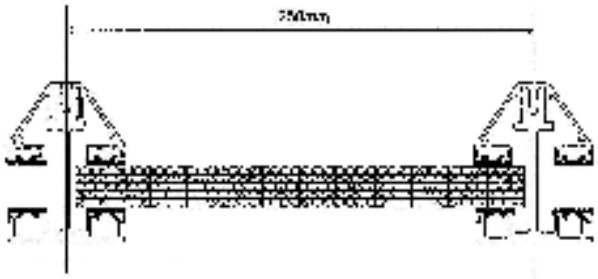
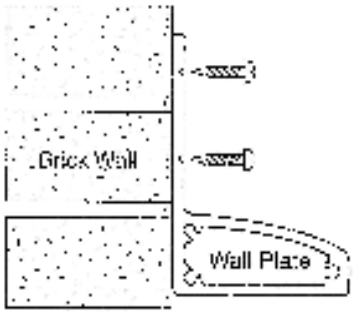


Fig.2

Span Requirements

For applications where a shorter span is required, we would recommend using a lighter Twinfix Glazing System such as the 226/227, 320/286 or 280/283. 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.

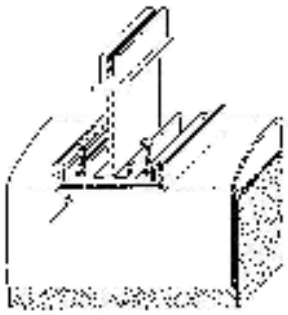
Fig.3



Step 1: Fit the aluminium wall plate (Ref. 290). The wall plate can accommodate all the Twinfix structural bar systems at angles ranging from 5° to 25° (Fig.3). For a neat finish fix an end plate to each end of the wall plate.

Step 2: Fit the aluminium eaves beam (Ref. 291). The eaves beam can accommodate all the Twinfix structural bar systems at angles ranging from 5° to 25°. For a neat finish fix an end plate to each end of the eaves beam.

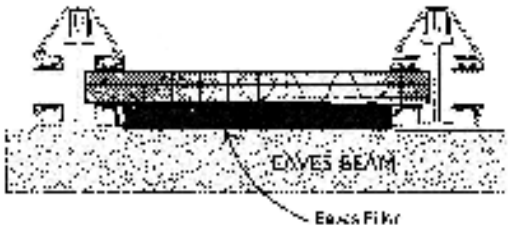
Fig.4



Step 3: If required, fit the underclad to the base bar. Screw fit the mechanical end plate at the eaves end through the holes in the end plate into the gasket ports in the 288 base.

Step 4: Screw the aluminium base bar (ref. 288) 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 (Fig.4). Slide in the 280G gasket. If buying the bars in the pre-packs, the gasket is supplied already pressed into the bars.

Fig.4a



Step 5: Fit the eaves filler (ref. P285F) at the eaves of the structure. This fills the gap between the underside of the sheet and the top of the support structure (Fig.4A). If other materials are being used as a wall plate and/or eaves beam, please use barrier tape to avoid electrolyte corrosion between the 280/288 glazing bar and the wall plate/eaves beam.

Step 6: Cut the glazing bar cap (ref. 280) 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 280G 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. If you are using a glazing material thinner than 24mm, you will need to use the Twinfix gasket carrier bar – see Step 7 below.

Step 7: Cut the gasket carrier (ref. 288GCC) to the required length, remove the gasket from the glazing bar cap (ref. 280). Slide the carrier bar into the two gasket ports and insert the 280G gasket into the ports on the carrier bar. Remember for every length of ref. 280 cap you will need two lengths of the ref. 288GCC carrier bar (Fig.5).

Fig.5

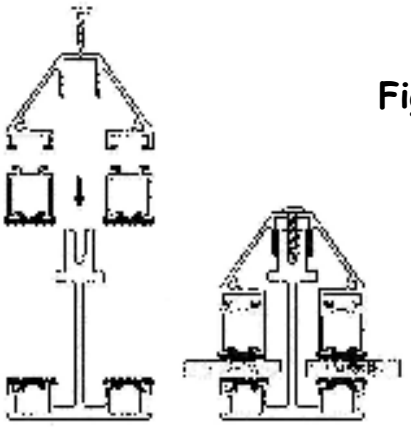
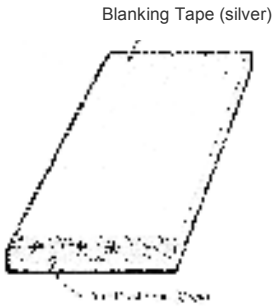


Fig.6

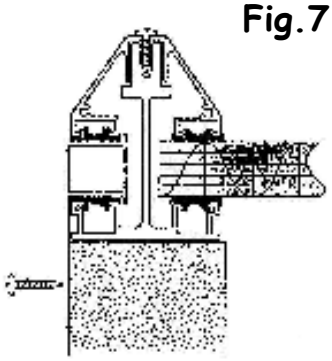


Step 8: Cut to size sheet is supplied blown free of dust and taped, ready to fit. If cutting sheet on site, you must ensure the flutes of the polycarbonate are free of any dust or swarf. This is done by blowing air through the flutes and sealing the ridge end of the sheet with blanking tape (PBT25, silver in colour). Seal the eaves (gutter) end of the sheet with anti-dust breather tape (Ref. FT25, grey in colour). This process helps prevent dust entry whilst allowing condensation drainage (Fig.6).

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.

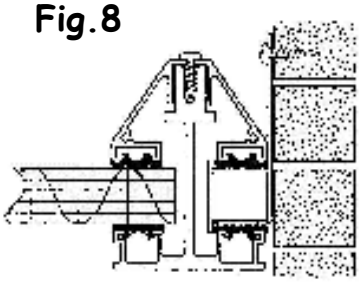
Please note, some polycarbonates are UV coated on one side only. The sheet should have a protective film on both sides but only one side is printed. This is the side that should face outwards towards the sun. Do not forget to remove the masking film on both sides of the sheet.

Fig.7



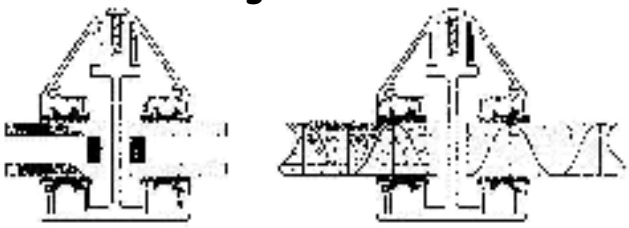
Step 9: Having already fitted a base bar to one end of the roof, fix a side trim (ref. 275) over the base bar to the side of the fascia or building (Fig.7).

Fig.8



Step 10: If butting a sheet up to a wall, simply upturn the side trim profile, fix to the wall and flash over (Fig. 8).

Fig.9

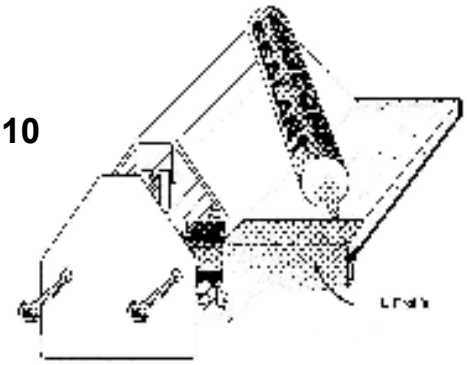


Step 11: Fix the top U profile (ref. 255) over the sheet. Locate the sheet over the 288 base bar, leaving room for expansion. Ensure the sheet is level and fit the glazing bar cap (ref. 280) using the recommended screws, capping each screw with a screw cover cap (Fig.9).

Step 12: 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 13: Accurately cut the aluminium U profile (ref. 255) 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 (Fig.10).

Fig.10



Step 14: Finally, dress down the Butyl Flashing (ref. 200/20).