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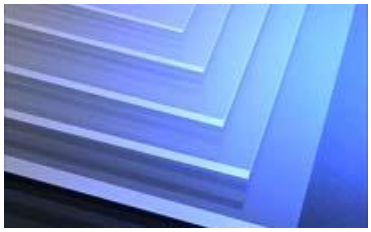
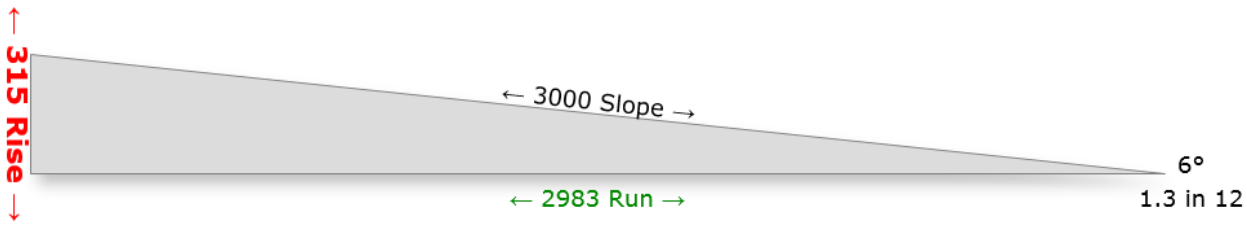
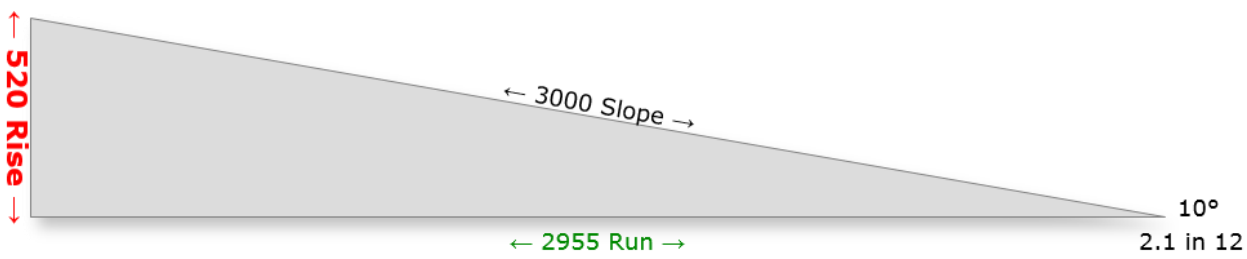


ROOFS WITH TIMBER RAFTERS - THE PARTS

Sheeting - 10mm Twinwall,16mm Triplewall Polycarbonate available in clear, bronze tint or opal. 16mm thickness offers about 23% more insulation than 10mm and being more rigid can span a greater width with less glazing bars.
Both bronze tint and opal reduce the light transmission by more than 50% so it is not necessarily a good idea to fit these if the building covers a small house window where the internal room has no other light source.
Bronze tint can look aesthetically pleasing from the outside but the tint is not so obvious when looking from the inside. **It will not stop the glare from the sun.**
Opal white (my favourite) reduces light transmission, cuts out most of the glare and when the sun goes down provides a nice ceiling effect when lit from below.

If you are coming off the side of a bungalow underneath the fascia, please make sure that you have a reasonable fall otherwise you may find that the water does not drain away fast enough and somehow finds its way through the glazing bar profile. **Absolute minimum pitch 6 degrees** (fall of 305mm/12" over 3m/10') although at this angle the roof is **not guaranteed watertight**.
Recommended pitch 10 degrees + (fall of 500mm/20" over 3m/10' length).





Rafter glazing bars - Two part glazing bars (aluminium base + plastic cap). These are intended to be fitted to timber rafters. They do not span purlins. For polycarbonate roofing you need rafters running down the slope and not purlins which run left to right (usually fitted in conjunction with corrugated roofing sheets). If you have the latter framework you have the choice of removing them in favour of rafters or inserting noggins (pieces of timber running top to bottom between the purlins) as a conversion. Any timbers visible from above the roof and not covered by the aluminium/pvc glazing bars should be painted white to avoid heat build-up. Top plastic cap just clips into the aluminium base.

Edge trim - At the gable ends of the roof a standard glazing bar is used. This is completed on the outside edge with either an "edge trim" which has a downward return leg suitable for covering any exterior cladding or if up against a wall the pvc cap counterbalanced with either an off-cut of sheet or a piece of wood. This can then be flashed over on to the roof with butyl tape.

Breathable closure tape – The open flutes at both ends of the sheets must be closed with breathable closure tape. This prevents the ingress of dirt & insects and reduces algae whilst allowing any condensation to drain out or to evaporate. Condensation sometimes occurs inside the sheets mainly caused by a difference in temperature between outside and in.

Sheet closure – Also at both ends, the sheet needs to be capped with a rigid pvc sheet closure to prevent deterioration of the closure tape and to stop rainwater from entering the flutes. At one time this was only fitted to the gutter edge but I note that some manufacturers are now recommending both ends. For the small difference in cost it is better to play safe.

Eavesfiller – A simple expanding foam strip to fill the gap between the underside of the sheet and the front wall just before the fascia. The sheet is held off by the thickness of the glazing bar base allowing air to pass. This flexible strip should seal the gap even when the sheet flexes in the wind.

Silicone sealant – Not used for making the roof water tight. See sections: "Sheeting" & "Sheet closure" overleaf. Only use the sealant provided with the kit as other conventional types can degrade the polycarbonate.

Fixings – Suitable wood screws are provided to screw the glazing bars down on to the timber rafters.

Spacers – When fitting the sheets, a gap should be left between the sides of the sheet and the sides of the aluminium glazing bars to allow for thermal movement. To make this easier I supply some temporary plastic spacers for insertion into the gap. (3mm for 10mm sheet & 5mm for 16mm sheet)

Butyl flashing – Not included in the kit price as some existing buildings may already have lead flashing etc which can be re-used. I offer this as an optional extra. This is an excellent self-adhesive flashing tape especially designed to work with polycarbonate. **DO NOT USE** bitumastic tapes as these will degrade the sheeting. Butyl tape sticks really well to a clean dust-free surface even in cold weather. Always prime the wall first to seal it.

FITTING TIPS THAT OTHER SUPPLIERS MAY NOT TELL YOU, BUT CAN MAKE ALL THE DIFFERENCE TO THE FINISHED ROOF

Sheeting – Max. recommended widths 10mm – 700mm, 16mm – 980mm. Always read the protective covering as one side (usually the printed) is more UV treated and should face the sun. The protective covering creates a lot of static within the sheets, which are supplied with the ends taped over to stop any dust being attracted into the flutes. Leave this in place for as long as possible and remove it away from any dust source. The flutes will eventually be covered with the breathable tape. If you need to cut the sheet to length DO NOT use a saw as this will again create swarf which is then liable to be sucked inside. Cutting to length is best with a new Stanley knife blade (and straight edge) although it helps to make a guide for the knife with a sharp (I use a laminate blade). 16mm will possibly need cutting from both sides. This job is not brilliantly easy but in most cases you will be able to hide the cut edge under the flashing against the house wall. The factories clear the flutes with an airline. Although this is not always 100% it is acceptable. Sheets can be cut lengthways with an ordinary saw.
Do not store sheets in direct sunlight even if covered up.

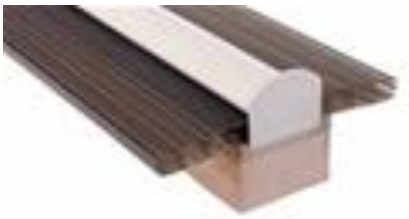
Clear,
Opal white
Bronze tint
16mm
Triplewall

Clear 10mm Twinwall

Before fitting the sheet: Fit the eavesfiller strip in between the glazing bars where the underside of the sheet meets the top of the front wall. Occasionally a customer may experience a sheet working its way down the slope over a period of time. I have never been able to reach any conclusion over this. The obvious one is that the glazing bar caps have not been correctly fitted but this not the answer. Most likely the sheets are moving by vibration in the wind. Where the sheets were already installed I used to suggest a small fixing being inserted at the top of the sheet under the flashing. If you want to avoid the possibility of having to climb

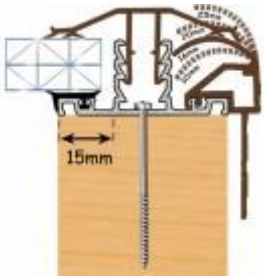
around on top of the sheet at a later date, perhaps a couple of blobs of silicone placed inside the glazing bars at the top during installation may help.

Glazing bars – The aluminium base of the glazing bar has several notches for the pvc cap to engage into. The bottom notch is for 10mm thickness and the next one up for 16mm. Initially fit the top caps by hand but you will probably need to use a mallet and block of wood to carefully tap them down to the required level. Protect the top of the cap against marking. Once the caps are fitted they are not easily removed but if you have to, try not to strip off the bottom engaging lip. Keep aluminium bases away from pvc caps after opening as the caps mark easily. Manufacturers fitting instructions supplied with the bar.



For spacing of glazing bars;
Bar centre to edge of sheet
= 10.5mm (10mm sheet)
= 12.5mm (16mm sheet)
Therefore sheet width + 2 x above
= glazing bar centre to centre.
Not for end bar – see below.

Edge trim – This fits into the end glazing bar. Dispense with the gasket. There is a gap of about 4mm between the inside of the down-ward return and the edge of the glazing bar. If you wish to fit exterior cladding or fascia along this gable edge it would be good to put it behind the return. This means thinking carefully about the exact positioning of the glazing bar and possibly the end timber rafter. You may wish to allow for a small overhang.



Sheet closure – Not a problem with these simple clip-on pvc sections except that they tend to come off after a while. Use a small amount of silicone sealant inside the leading upper edge to keep it in place. Best to fit glazing bar end caps first and then cut the sheet closure to fit between them.

Fixing buttons – Don't use them!! These toadstool looking buttons have a centre stem that goes down through the sheet to the timber to prevent the screw being over-tightened and thus not allowing the sheet to expand and contract. The button is theoretically sealed by a foam washer but after fitting this loses its bounce. Even applying silicone to the washer doesn't help because the seal breaks

during thermal movement. Glazing bars allow for movement and incorporate a drainage channel. If you fit a polycarbonate roof with the correct width of sheet you should not need any further fixings. Go for a leak free roof!

Planning & preparation

You may wish to line the glazing bars up with your existing window frames and doors. You may wish to fit sheets of the same width rather than have an odd cut width at one end. Your existing glazing bars may differ in spacing from the sheets supplied.

In any of the above cases you may require extra sheets & glazing bars to cover your area. These should be ordered with the kit. I shall be pleased to quote for the additional cost.

In preparing your building, remember to seal the wall where the self-adhesive flashing will go before fitting any sheets.

The tops of any timbers immediately beneath the sheeting and exposed to the sun should be painted white to avoid heat build-up.

Sheets can be cut to length before you start if you are confident of the correct measurement. Otherwise cut as you go, remembering to apply the breather tape immediately afterwards to avoid getting dust etc inside the flutes.

Suggested installation sequence

Option A – Fit glazing bars & sheets one at a time as you progress across the roof

Option B – Fit all glazing bars first and then cut sheets as you go.

General:

Fit the end glazing bar in accordance with the previous “edge trim” note.

Hopefully the corner of your building will be square otherwise you may have to cut the side of the sheet at an angle. Intermediate glazing bars must be fitted square with the front wall otherwise the bottom edges of the sheets will not run in a straight line. There needs to be a space between the edges of the sheet and the glazing bar centres (use spacers provided). Before fitting the sheets, fit the self-adhesive expanding eavesfiller between the glazing bars, along the top outside edge of the front timber where the sheet passes closest. Before final fitting of the sheets and the top caps apply the breather tape to both ends of the sheet and the sheet closure to the top end (no silicone needed at this end). You might like to think about whether you wish to apply the self-adhesive flashing as you go, to avoid climbing onto the roof afterwards. After fitting the sheets, fit the glazing bar end caps. The remaining sheet closure should now be fitted to the bottom of the sheet (cut to fit between the end caps) applying a small amount of silicone sealant along the inside of the top leading edge.

The glazing bar packs contain fitting information.