

Installation Guide using CrysticROOF Resin & Topcoat

Step 1 - Before installation

Make sure that before starting any GRP roof work that the outside temperature is above 7.5°C (Summer – CrysticROOF) / 5°C (Winter – CrysticCOOL Cure) and it is unlikely to rain within 2 hours of finishing the roof in order to allow the resins to properly catalyst and cure. Polyester resins and topcoats will not cure sufficiently in very cold and / or wet conditions and the roof could fail if you ignore this. Scott Bader always advises that Resins and Topcoats are kept indoors and bought up to 15°C prior to being used.



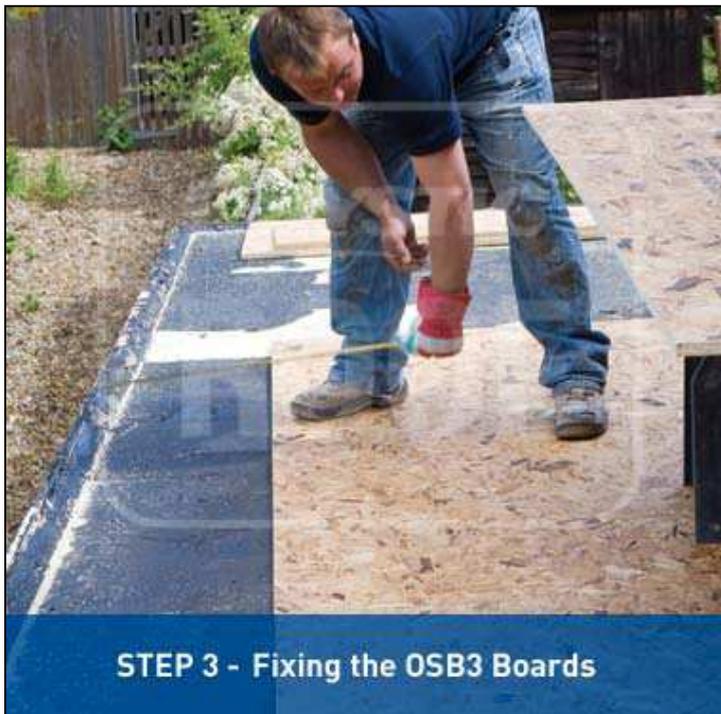
Step 2 - Preparing the roof deck

Strip the old roof covering from the timber substrate. If the existing timber deck is unfit, this must be replaced with OSB3 board. We recommend SmartPly® OSB 18mm boards with tongue and grooved edges – these measure 2400 x 600mm. Ensure joists or rafters are straight and level, free from debris, and pre-treated with water-based preservatives before commencing.



Step 3 - Fixing the OSB3 Boards

Place the OSB3 Boards at an angle of 90° to the existing roof beams and screw in place. As with any wooden floor or deck, stagger the joints in such a way to create a strong structure. Start placing the boards from the furthest edge from the drip trim. If a board is laid along a wall, an expansion gap of 25mm should be left. Timber absorbs moisture so before you start the laminating process ensure that the deck boards are totally dry to avoid future movement that may cause joint failures.



Step 4 - Support & flashing preparation

If working conditions allow, incorporate a drainage channel in the roof surface to allow standing water to escape from the roof. If this is not possible you should add some triangulated extensions to the roof joists before adding the OSB3 deck.



Step 5 - Attaching the roof trims

Always ensure that there are no gaps between the OSB3 boards once in place and that a 25mm expansion gap is left where there are adjoining walls. Trims and upstands will be placed here to create the required watertight seal. It is particularly important to prepare well to ensure the roof is constructed to last and be problem-free. A screw gun is recommended to fix the deck to the joists and you must ensure screws are of sufficient length to give enough penetration to the joists below. This ensures the structural integrity of the finished roof.



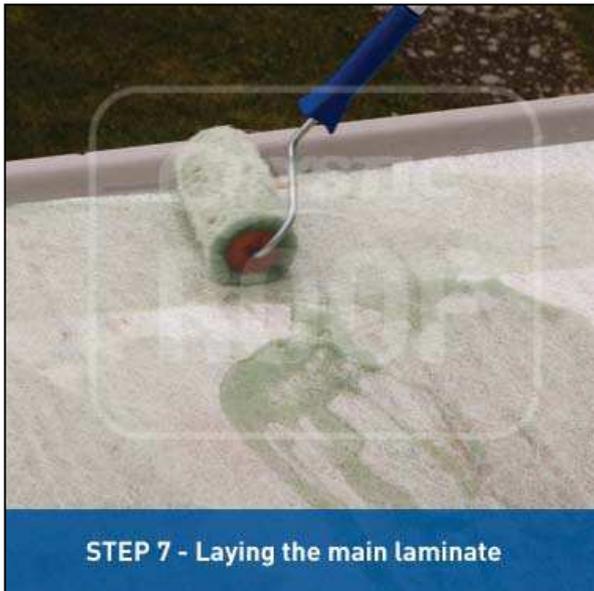
Step 6 - Taping the joints

The roof trims can now be attached and the up-stands secured to any adjoining walls ready to take the GRP flashings. All the board joints and all the trims must be "taped" to the roof to prevent stress cracking at the joints. This is done by applying a 3" wide glass tape to each joint and to all the trim edges. These tapes must be well consolidated. The procedure for taping is the same, on a smaller scale as that used for the main laminate. Decant about 1 kg of CrysticROOF resin into a small bucket and mix with catalyst (see catalyst addition chart for a guide to the correct amount of catalyst). Apply to the board edges and to the trim edges with either a 3" brush or small roller. Roll-out the pre-cut tape over the resin and apply a further amount of resin to the glass tape, consolidating with a small metal consolidation roller. All the detail work may also be completed at this stage. Tape all drain outfalls, channels, pipes and roof fittings using this procedure. You may find a brush easier to use than a roller on complex shapes. Nail or staple the trims to the roof deck. Flat flashing (F300) and angle fillets (D260) need to be bonded using a PU adhesive or Crystic Crestabond from Scott Bader. Non-structural adhesives such as silicone or mastic must not be used as the bond strength will not be sufficient to prevent leaks.



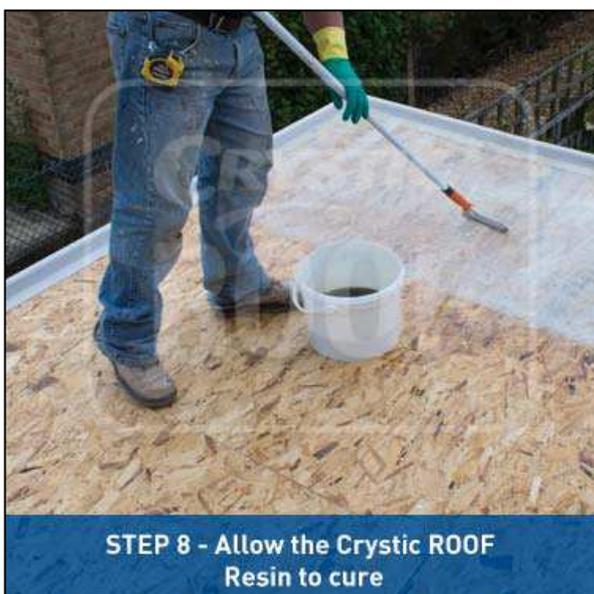
Step 7 - Laying the main laminate

The main laminate may be applied before or after the tape has cured. The resin will always cure faster in hotter conditions and an allowance must be made for this when deciding how much glass to lay in one mix. (The Glass : Resin ratio should be 1:2.5). Pre-cut the glass to the desired length. It does not matter in which direction the joints are lapped. Mix sufficient resin and catalyst to complete the first "run" (see catalyst addition chart for a guide to the correct amount of catalyst). The resin needs to be applied quickly after adding catalyst as the curing process will have started and you have limited working time. Apply resin to the 1st area to be covered and roll out the glass on top. Apply the remainder of the resin to the glass, allow to wet out for a few minutes, then consolidate the glass with a metal roller ensuring that no dry patches of glass remain and that no air is trapped in the laminate. Continue with the next "run" of glass overlapping the first by 50mm. Do not step on the wet glass and resin. Continue this until the roof has been completely covered and the laminate is well consolidated.



Step 8 - Allow the Crystic ROOF Resin to cure

The CrysticROOF Resin needs to be left to cure for between 1 and 4 hours depending on application conditions. Test the laminate for cure by using slight finger pressure. The laminate is about half cured when it is impossible to move the glass fibres within the resin matrix. At this point it will withstand light foot traffic so that you may stand on the laminate to complete the top coating. Try not to leave the laminate overnight.



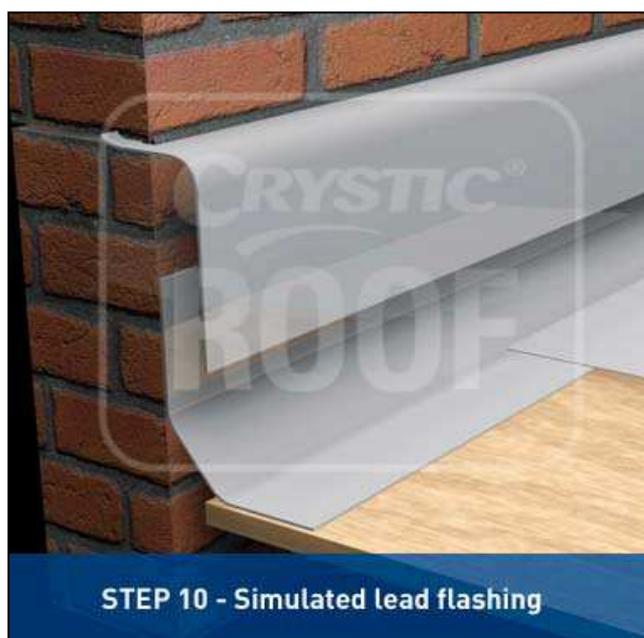
Step 9 - Apply the Topcoat

The CrysticROOF Topcoat can now be applied. Lightly sand the resin surface before applying the topcoat. Stir the topcoat before use, and add the same amount of catalyst as used in the resin and thoroughly mix. The topcoat needs to be applied quickly after adding catalyst as the curing process will have started and you have limited working time. Apply quickly using a brush or roller and ensure there is an even thickness across the surface of 0.5mm. A Topcoat Thickness Gauge can be used to measure the thickness as if the topcoat is applied too generously, it may crack and if it is too thin, it will not cure thoroughly. Topcoat across the whole roof including up and over the face of the roofing trims. If it hasn't been possible to apply the topcoat within 24 hours of laying the laminate, then wipe down the laminate with acetone first to gain a good bond surface.



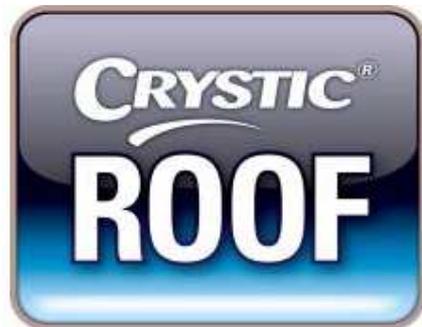
Step 10 - Simulated lead flashing

Slot the flashing into the pre-chased slots in the wall, with the vertical face sitting on top of the D trims. Secure with PU adhesive on the back of the C trims. Apply a bead of clear silicone sealant into the chase length to seal.



Step 11 - Cleaning tools

Acetone can be used to clean uncured resin/topcoat from tools etc if you wish to reuse them. Waste product can also be 'knocked out' of buckets once cured, so that the bucket can be reused.



Step 12 - The finished Roof

The finished laminate needs to be left to cure which will take several days and should not be walked on during this time. It will not deteriorate and maybe cleaned occasionally with soap and warm water. DO NOT USE BLEACH or any strong alkali on the roof. The roof will withstand foot traffic and may have planters or tiles or other decorative finishes applied to it with no detrimental effects.

