

Applying the resin

Once the bridge and injector are set up in the correct position, you are ready to apply the windscreen repair resin.

The BS251 compliance standard applies only when Esprit resin is used during the repair.

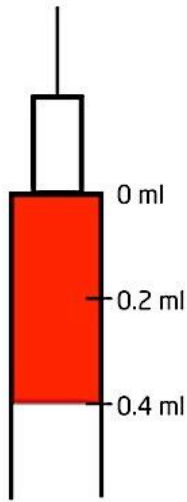


To begin, take a 1mm syringe and a blunt needle from the resin pack. Assemble and loosely place into the valve in the neck of the bottle. Do not force the needle into the bottle, as this will damage the valve.

Upend the bottle and syringe assembly to draw the resin.



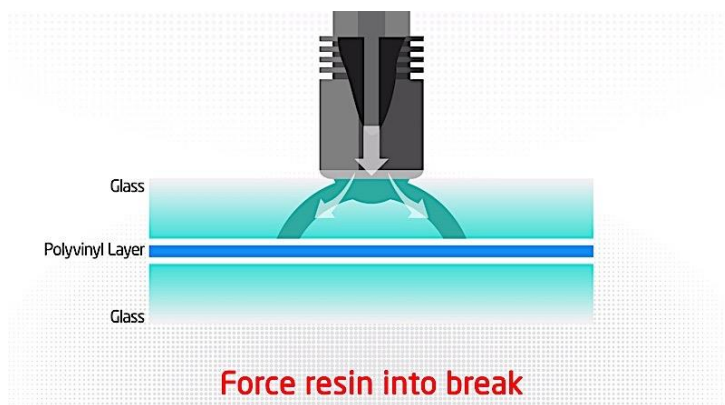
A typical repair will use 0.2ml of resin. To load the resin, first carefully draw the plunger back to 0.4ml, then push back to 0.2ml. This ensures there is no air present in the syringe and needle.



Gently place the needle all the way into the open end of the injector barrel and inject the resin so that it falls onto the damage.



Take the male plunger and gently screw this into the female injector. As the plunger is screwed down, it will force the resin into the break.



Creating too much pressure will cause the injector seal to blow, and the resin to leak. You can avoid this by monitoring the injector seal with the attached mirror.

As the plunger is screwed down you will see the aperture at the centre of the seal starting to expand. A dark ring appears as the seal is forming. The aperture should widen out from being 3mm in diameter, to no more than 5 or 6mm. Over-tightening will not produce a better result and should be avoided.



Use the timer to count three minutes, giving time for the resin to fully penetrate the break.



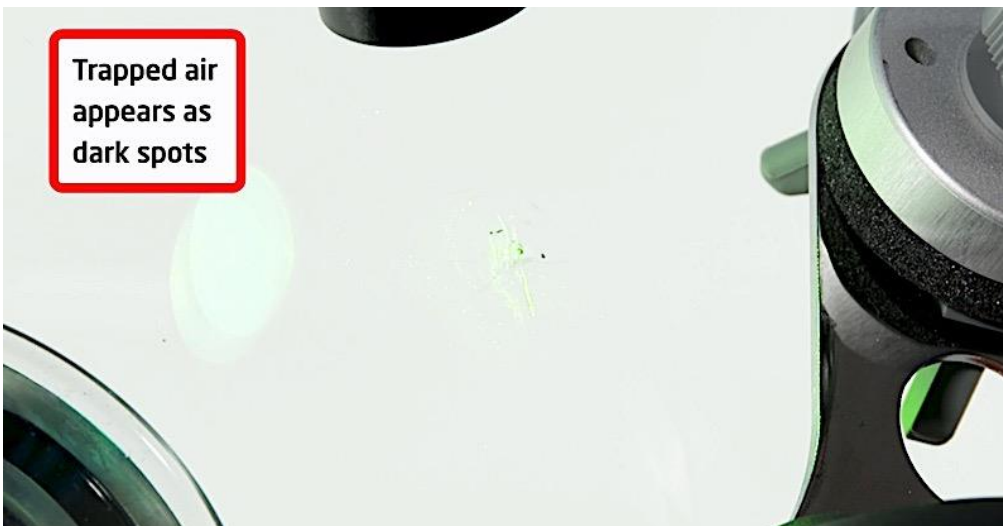
After three minutes, unscrew the plunger by around 5mm and wait for a further 30 seconds. This creates a vacuum which helps to draw any remaining air out of the break.



Wait another
30 seconds

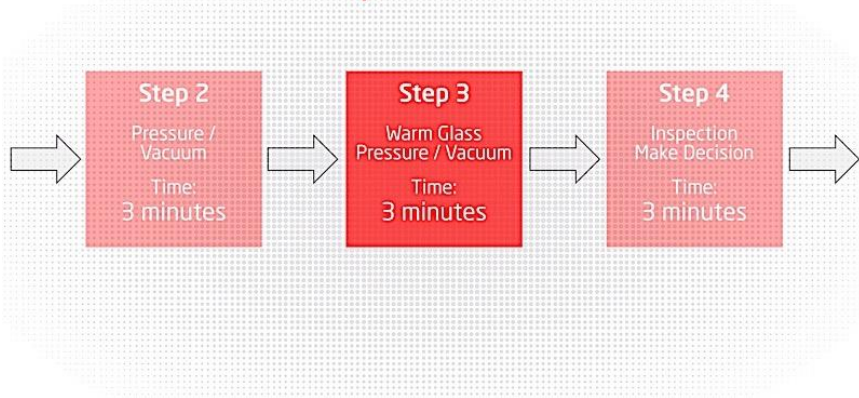


Visually inspect the damaged area, looking for any evidence of trapped air. Trapped air will look like dark spots or areas of air trapped in the glass around the damage.



A full repair will usually require two or more cycles. Before reapplying a second time, you need to gently warm the screen to expand cracks and fissures and aid the ingress of resin.

Windscreen Repair Procedure Flowchart



Depress and hold the switch on the Esprit 12v heater for 40-50 seconds. The heater will automatically warm up to 70°C. When it is ready you will hear a click and see the green LED go out. When fully warmed, apply the heater to the inside of the vehicle for 10 seconds only.

**Use the Esprit
12V heater
provided**

**Do not use
alternative sources
of heat**



**Apply heat for
only 10 seconds**



Test the temperature of the glass using the back of your forefinger and repeat the 10 second warming process for as many times as necessary to warm the glass to slightly above skin temperature.

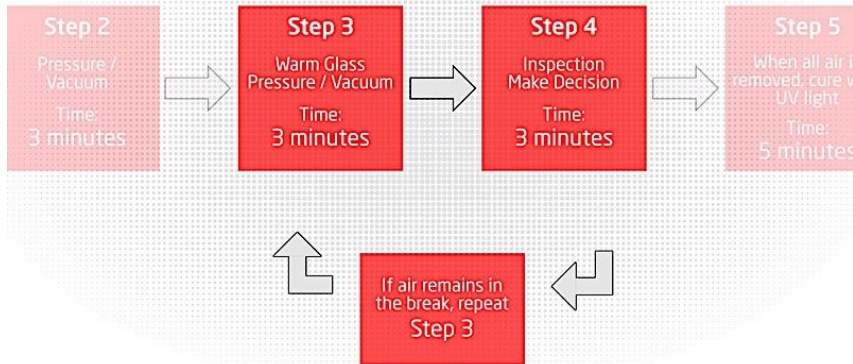
**Test heat with
back of
forefinger**



Take care not to overheat the glass as too much heat will close-up the cracks and fissures.

Once warmed repeat the three-minute pressure cycle, followed by the 30 seconds with the pressure off. The cycle of warming, pressure and vacuum should be repeated for as many times as it takes to remove any remaining traces of air from the break.

Windscreen Repair Procedure Flowchart



The final inspection of the break is the most important stage of the repair.

The plunger should first be unscrewed to form a vacuum.

The arm of the bridge can then be moved, taking care to stay within the outer markers.

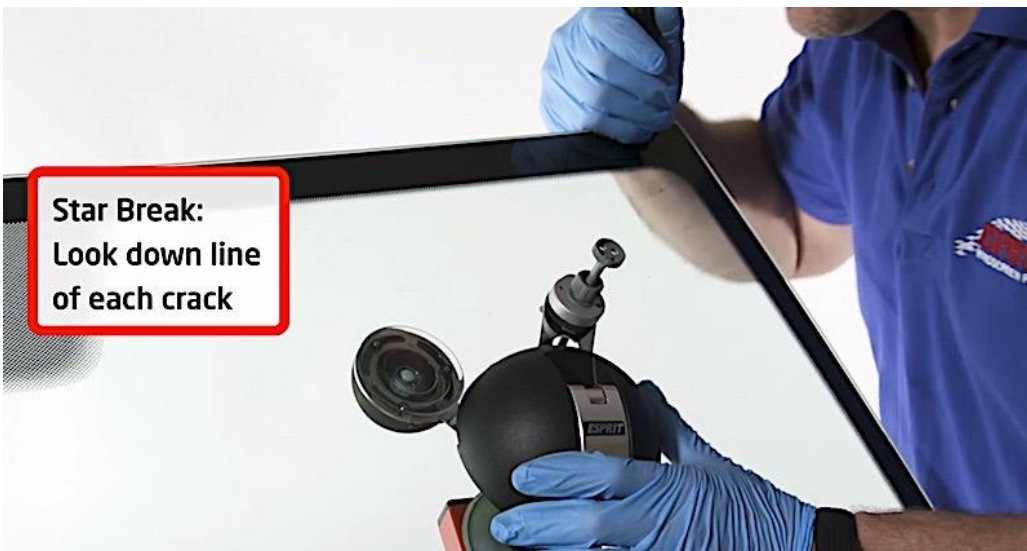


Great care should be taken in trying to identify any remaining signs of damage or trapped air prior to curing. Use the LED torch to assist with the visual inspection.

A successful repair should give a minimum 70% return of the optical clarity to the screen. A return of around 85% of the optical clarity is achievable if care is taken.



If you are repairing a 'star' break, bring your eyeline close to the windscreen surface and inspect along each individual crack of the star. When looking from this angle, each line of damage should have disappeared.



Once the resin has been applied and you are satisfied that the damage is cleared you are ready to cure the resin with the UV lamp.