

Plastic Welder FAQ

With this welder, can I repair any kind of plastic bumper?

Yes. The Mini-Weld Model 6 is the only plastic welder that allows you to repair all three major families of plastic bumpers: polyurethane (PUR), polypropylene (PP/TPO/TEO), and Xenoy (PC/PBT). The airless welding technology is the only one that allows you to control heat input into the substrate, allowing for easy repair to heat-sensitive thermoset PUR materials. It is impossible to weld PUR bumpers with hot air welders. Furthermore, the included FiberFlex universal rod works very well on “problem plastics” like PP and TPO. It can also be used on PUR and other types of flexible plastics.

I've tried adhesives on polyethylene, but they won't stick. Will this plastic welder repair polyethylene?

Yes, in fact, the plastic welder is the *only* way to repair polyethylene. Polyethylene (PE) is a very inert plastic with a low “surface energy.” Like water droplets on a new wax job, adhesives applied to PE would rather ball up and stick to themselves rather than “wet out” on the surface of the PE. However, with the heat of the welder, you can literally melt the PE together with the filler rod to create a strong repair. The plastic welder is the only way to repair ATV fenders, dirt bike fenders, gas tanks, radiator overflow bottles, canoes, kayaks, RV and agricultural storage tanks, and the like.

How does the strength of the repair compare to the original?

Many times, the repair can be made stronger than the original! On thermoplastics, you can melt in the included 2045W Stainless Steel wire mesh directly into the plastic. This reinforces the repair like steel rebar in concrete. Many times, if the plastic cracks again, it will crack at the edge of the mesh, not along the original crack. Even if you cannot melt in the mesh, the strength of the repair will be comparable to the original. In most cases, plastic parts aren't highly stressed. They often crack as a result of impact damage. If the part gets impacted again, it might break again, perhaps at the same location. Big deal! Get the welder out and fix it again!

I'm trying to weld this polyurethane bumper, but the rod just peels off. What's going on?

This is the most common error when welding thermoset polyurethane bumpers (PUR). Unlike every other kind of plastic welding, when you're welding PUR, do NOT melt the base material. Repeat... DO NOT melt the base material. Thermoset plastics are not meltable. If you try to melt them, you will break down the plastic and this goeey liquid will rise to the surface, making it impossible to get adhesion. “Welding” PUR is really more of a brazing process, or a hot melt glue. You melt the rod onto the surface, not together with the base material.

Can I repair fiberglass with the welder?

No, fiberglass is one of the few plastics that cannot be repaired with the plastic welder. Fiberglass is actually a composite of glass fiber reinforced epoxy or polyester resin. These resins are “thermoset” plastics, meaning they cannot be melted. You must use an epoxy or polyester-based adhesive to repair fiberglass.