

Hygroscopic Plastics

Some materials are hygroscopic (i.e. they absorb moisture from the surrounding environment). When hygroscopic welding rod melts, the moisture boils. It will show up as a 'bubbly' appearance on the weld. To avoid this, dry the welding rod before welding. Drying times vary depending on the drying equipment, the amount of welding rod, its moisture level, and outside humidity. Follow the instructions on your dryer.

Drader now uses a regular food dehydrator to dry most hygroscopic welding rod. It is a simple, inexpensive and easy-to-use solution. The internal temperature, created by the blower in the top of the dehydrator is about 75°C or 167°F.

MATERIAL	LENGTH	DRYING TIME
ABS	10 FEET (3000 MM)	5 HOURS
PA 6	10 FEET (3000 MM)	> 24 HOURS
PC	10 FEET (3000 MM)	5 HOURS
PUR	10 FEET (3000 MM)	10 HOURS



Welding Process for X-Linked Polyethylene and UHMWPE

Recommended Welding Unit:

- Injectiweld W30000 or W20000

Weld temperature setting on welder:

- 300 °C or 572 °F

Recommended welding rod material:

- HMWPE
- UHMWPE

Preparation of weld area:

Weld area needs to be clean. Depending on the weld design, the material might need to be beveled out in order to weld to the root.

Pre-heater:

In order to achieve a penetration into the parent material; preheat the area using the process outlined below. Attach a butane torch onto the Injectiweld (see drawings). The torch has an open flame so use care to keep yourself and the equipment safe. Point the flame in front of the Injectiweld tip and lead it by 20 mm (3/4"). Avoid burning to the parent material by starting the welding process immediately after the flame makes contact with the parent material. After welding, turn off the flame to reduce risk of injuries or damage. The distance of the flame to the tip and flame to the parent material is important.

Pre-heater distances:

Flame (contact point to surface) - Tip: 20 mm (3/4")

Flame (nozzle) - Surface: 20 mm (3/4")

Snap-On Pre-Heater

