1. Clean the dirt within the welding area of the pipe with a dry cloth (never use soapy water for pre-cleaning). Then mark the welding area. Scrape the pipe surface (~0.2 mm / .007 in) in the welding area to remove the oxide layer with a rotary or manual scraper.

2. Clean the saddle (never use soapy water for pre-cleaning) and wait until the PE cleaner evaporates. (Isopropanol or Isopropyl alcohol)

3. Clean the pipe and wait until the PE cleaner evaporates.

4. Put the saddle onto the pipe and fix the bottom. If the pipe is oval (>1.5 % of the outer diameter or >3 mm / .1 in) rounding tools have to be used.

5. Turn in the screws until the upper and lower parts meet.

6. Welding of saddle (processing temp. -10 °C - +45 °C / 14 F - 113 F). After the fusion is complete the indicator will protrude 2 mm -3 mm (.8 in - .1 in).
**Attention:** Proving the weldability of the welding components by performing welding tests is recommended.

7. The tapping saddle must be already fused and cooled before tapping. Tapping of the pipe by a tapping wrench, or tool, with a width of either 14 (OD 63mm) or 17 (OD>63mm) is possible after the cooling time >20 min is over. Turn the key up to the upper marking on the key (no lower stopper).

8. Turn back onto the endstop.

9. Screw the (EF-)screw cap onto the tapping saddle until stop. Hand Tight Only. Weld the EF-screw cap with a universal welding machine to the tapping saddle (analogous to point 6). Scraping is not necessary.

**Safety Instructions:**
Non-compliance of this installation guideline as well as the following safety instructions may lead to serious accidents, damages to health and property.

- Local standards and regulations concerning occupational health and safety must be followed. If available, the security and safety plan on the construction site must be adhered to.
- During the entire installation procedure appropriate safety clothing must be worn.
- While working in a trench and/or the possible danger of falling objects (e.g. rockfall) an appropriate hard hat must be used.
- When working with scraping tools it is recommended to wear cut resistant gloves.
- PE cleaners are highly flammable. Fumes from cleaning agents can form potentially explosive mixtures. Keep away from ignition sources. Do not smoke. Avoid open flames and other sources of ignition. Keep the container of the PE cleaner tightly closed.
- In general it is recommended to keep a safety distance of at least 6 feet to the e-fitting during the welding process. If this is impossible appropriate personal protective equipment is necessary (long sleeved clothes, gloves and sealed protective glasses).