



Installation Guide

GF ELGEF Couplers 20 mm – 500 mm

This guide outlines the recommended preparation and welding procedures for GF, ELGEF couplers.

Installation

The act of welding polyethylene fittings is mechanically quite simple. All the difficult and challenging engineering was done by the GF engineers who designed the fittings.

Like all welds, the key to a joint that will last the expected life span of the product and perform without issue is preparation. Poor preparation will result in contamination of the weld area, which can lead to premature failure. No welding process responds well to contaminants in the weld area and PE is no exception.

Most welding is related to temperature and time. PE also requires the use of pressure so the use of proper tools is essential.

Please Note: This guide is not intended to replace proper training. All welding should be undertaken by suitable trained individuals and in conjunction with the standards and guides listed below.

The following is intended to help guide you through the basic steps and avoid some of the common errors.

The result of a weld performed in accordance with the standards is a joint that is stronger than the pipe it is attached to.

AS/NZS 4129. Fittings for Polyethylene (PE) Pipes for Pressure Applications.

AS/NZS 4130. Polyethylene (PE) Pipes for Pressure Applications.

PIPA (Plastic Industry Pipe Association of Australia Limited) Industry Guidelines.



Electrofusion Jointing of PE Pipes and Fittings for Pressure Applications.

Required Tools

- Pipe cutter
- Rotary peeler
- PE cleaner, ISO Propyl Alcohol (IPA) not less than 80% alcohol.
- Lint free, colourless and clean cloth.
- Ruler
- Permanent marker
- Screwdriver (20 mm to 63 mm with integral pipe fixation only).
- Fusion unit

NOTICE

Insufficient preparations can lead to a defective fusion connection. The functionality and life-time of the product may be affected.

Follow this installation manual, the data in the “Technical Manual for PE Piping Systems in Utilities” and the user manual for fusion units.

This is intended as a guide and is not intended to replace formal training.

Process

1. Clean pipe roughly, then cut at right angles to the pipe with a pipe cutter as required. If necessary, deburr the edges. Pipe ends need to be at 90 degrees to the pipeline for jointing.

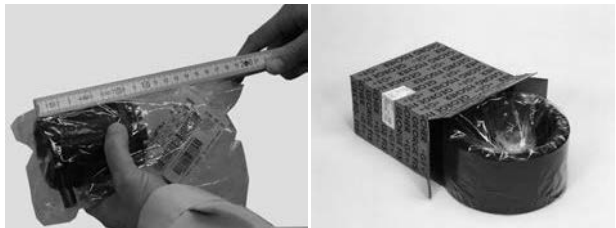


2. Check pipe diameter with pipe tape before and after the peeling operation. Refer to the standard data to ensure the pipe remains within tolerance.



3. Measure pipe roundness against specifications. If the pipe is outside tolerance, re-rounding tools must be used for the entire fusion process

4. Measure the area which must be peeled by measuring the fitting while it is still in its bag. Do not remove the fitting from the bag yet.



5. Measure and mark the area which must be peeled on the pipe, (*electrofusion fitting plus 1 cm*). Place the mark outside the peeling area.



6. Peel pipe with a rotary peeler. Note the minimum peel thickness of 0.2 mm as well as the maximum allowable wall thickness reduction. Note also that peeling equipment must be clean.

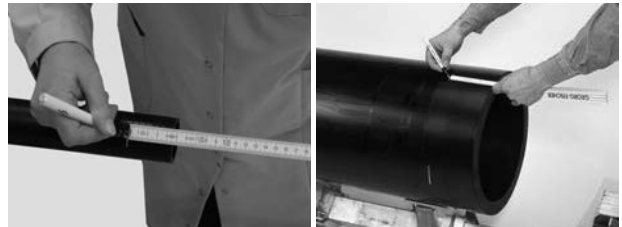


7. Clean the pipe in the peeled area with approved PE cleaner and lint free, colourless clean cloth. Clean around the circumference of the pipe in one direction only (*not a scrubbing action*). Allow the cleaner to evaporate completely. Do not touch the fusion zone and avoid contamination.

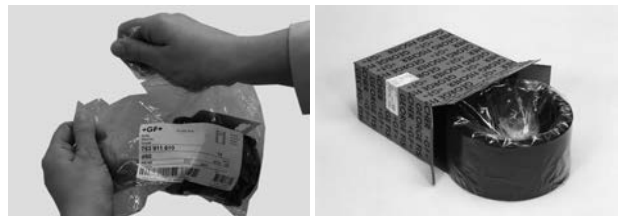
Ensure blades are sharp.



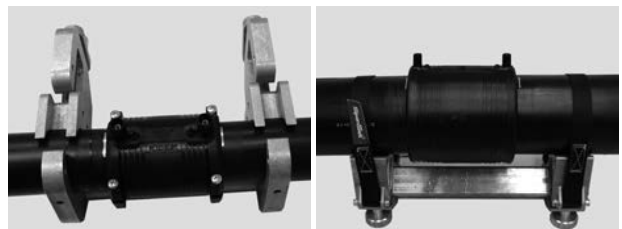
8. Mark the insertion depth of the coupling on the pipe with a ruler and permanent marker, outside the fusion area.



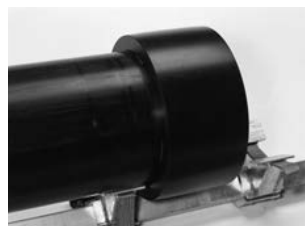
9. Without touching the fusion zone, remove the fitting from the bag. This should only occur when ready to install the fitting.



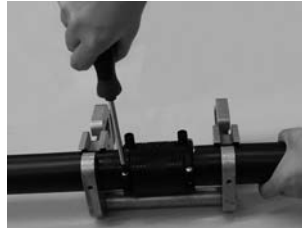
10. Electrofusion jointing must be stress free during the entire weld cycle. It is recommended to use pipe clamps to prevent pipe movement and maintain alignment on all sizes.



11. Without touching the fusion zone, push both ends of the pipe into the electrofusion fitting. Make sure the pipes are inserted evenly. Use the depth marks on the pipe from step 8.

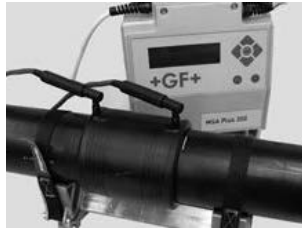


- 11a. For 20 mm to 63 mm couplings with integral pipe fixation only, tighten pipe fixing screws on the couplings with a screw driver alternately and evenly until it is no longer possible to rotate or move electrofusion fitting on the pipe.



12. Fuse in accordance with the relevant user manuals and the fusion information of the coupling.

Allow to cool completely.



NOTE:

- During and after fusion, check that the fusion indicators on the product have moved to indicate pressure in the joint.
- After fusion check the messages on the fusion machine for any faults.
- To ensure the fusion area remains stress free for the full cycle, do not remove clamps until the cooling cycle is complete.
- Do not pressure test until minimum cooling time has passed.
- Do not use hand wipes as they can contain chemicals such as moisturisers that can contaminate the weld.

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