

01 / ELECTROFUSION PREPARATION

Scraping checklist

A printable revision checklist for preparing PE pipe and spigot surfaces before electrofusion.

For trained operatives and supervised trainees. Use alongside the approved jointing procedure and the instructions for the actual pipe, fitting and equipment. This is a revision aid, not permission to carry out or accept a joint.

Before the scraper touches the pipe [1]

- **Confirm the system.** Identify pipe material, diameter, SDR and fitting compatibility. Barrier, coated and multilayer pipes need their own preparation instructions; do not treat them as plain PE.
- **Prepare the work area.** Use the required shelter, support and safe working arrangements. Keep the fusion area dry and protected from dirt. Keep hands clear of scraper blades and moving parts.
- **Check the tool.** Use the correct scraper for the pipe and fitting system. Check blade condition and the manufacturer's removal limits. Do not substitute sandpaper or a file.
- **Prepare and mark.** Remove loose dirt first. For couplers, check the square cut and the required insertion depth. Mark the preparation area and witness lines as specified; saddle preparation covers its specified footprint.

Inspect the prepared surface [1, 2]

- **Remove the surface layer completely.** Scraping exposes fresh PE; wiping or roughening alone is not equivalent. Work over the whole specified fusion area, including the underside.
- **Check the result.** Look for remaining witness marks, missed strips, ridges, damage or an uneven cut. Check material removal using the tool/fitting instructions. Do not keep scraping simply to force a fitting on.
- **Protect the preparation.** Keep swarf away from the joint. Complete deburring and re-rounding in the manufacturer's sequence. Do not touch the prepared fusion surfaces.
- **Clean and allow to dry.** Use the specified PE cleaner and clean, non-linting material. Do not wipe contamination from the untreated pipe onto the prepared area. Allow cleaner to evaporate fully before assembly and fusion.

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Final checks before fusion

A completed checklist supports a discussion with your trainer. It does not replace the project weld record or inspection plan.

- **Check the fitting.** Keep it in its protective packaging until required. Check condition and follow the fitting manufacturer's cleaning instructions. Do not scrape the fitting's internal heating zone.
- **Re-mark and assemble.** Restore insertion or position marks as instructed. Check full engagement and correct alignment. Avoid bending loads and cable strain on the joint.
- **Restrain and verify.** Use the required supports, alignment clamps and re-rounding equipment. Confirm the barcode and displayed data match the fitting. Plan the specified cooling period before starting.

Stop and ask: If the preparation is contaminated, damaged, uneven, over-scraped or outside dimensional limits, do not fuse. Protect the parts and ask the competent supervisor to determine whether re-preparation or replacement is permitted. Never guess a universal scraping depth.

Record for a supervised practice joint

Trainee: _____ Date: _____
Pipe / diameter / SDR: _____
Fitting and batch: _____
Scraper / blade check: _____
Manufacturer instruction and revision: _____
Concern raised / trainer feedback: _____

Three points to remember

1. A clean-looking pipe still needs the specified surface preparation.
2. Complete, controlled removal matters more than repeated scraping.
3. Protection, restraint and cooling remain essential after scraping.

Sources and scope

[1] **Aliaxis, FRIALEN safety fittings assembly instructions.** 12614_en_2026-03-16, sections 7.2-7.10 and 8.1-8.2 (pp. 17-33). Main basis for the preparation checks. Brand-specific requirements must not be generalised.

[Open source](#)

[2] **GF Central Plastics, Electrofusion Installation and Training Manual.** Scraping/peeling discussion, p. 18. Used for the explanation of oxidation and witness marks only; US dimensions and settings are not adopted.

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