

Joining technology

Fusion joining of PE

General electrofusion

Using electrofusion to join PE pipes and valves enables a secure, systematic, economical and efficient installation of PE piping systems.

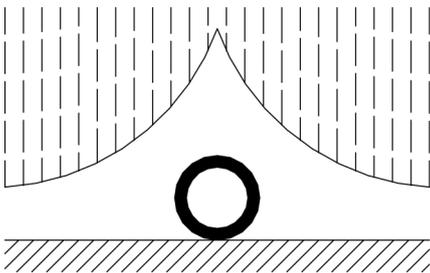
ELGEF Plus electrofusion products are supplied with a magnetic card, which contains all relevant product information (trace code) and fusion data.



Processing notes

The quality of the joint depends to a considerable extent on the care with which the preparatory work is performed. Electrofusion joining should be carried out only by trained personnel.

The melt flow range (MFR) of ELGEF® Plus electrofusion products is in the range 0.4 to 1.4 g/10 min. They can be fused with PE pipes with a melt flow range between 0.2 and 1.4 g/10 min.



Protect the fusion zone against bad weather, such as rain, snow or wind. Admissible temperature range for electrofusion is $-10\text{ }^{\circ}\text{C}$ to $+45\text{ }^{\circ}\text{C}$.

The national guidelines are to be observed. A more uniform temperature profile around the entire pipe circumference can be achieved by shielding the fusion zone against direct sunlight or inclement weather.

Especially check that the electrofusion automatic machine and the fusion zone are placed under the same climatic conditions.

Storage

ELGEF Plus electrofusion fittings are packed separately in a polythene bag. If the fittings are protected from direct sunlight in the original packing and not stored above $50\text{ }^{\circ}\text{C}$, they can be stored for almost 10 years.

The storage duration commences on the date that the fittings are produced.

Protection of fusion area

The pipe and fitting surfaces to be fused should be carefully protected from dust, grease, oil and lubricants. Use only cleaning agents that are suitable for PE.

Attention: There should be no grease (such as hand cream, oily rags, silicone etc.) in the fusion zone!

Fusion preparation

The pipe should be wiped clean, scraped and finally cleaned with PE cleaner. Rotating scraping tools can be used for uniform and time-saving pipe preparation.

Please comply with the assembly and operating instructions.



Adhere to the following scraping measurements:

d Pipe	Min. chip thickness	Max. chip thickness*
20–25 mm	0.20 mm	0.20 mm
32–63 mm	0.20 mm	0.25 mm
75–225 mm	0.20 mm	0.30 mm
>225 mm	0.20 mm	0.35 mm

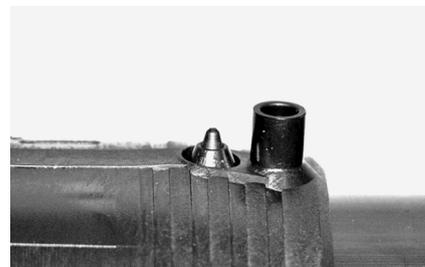
Tip: maximum permitted pipe ovality 1.5 %

* The data refers to the pipe inner diameter without "+ tolerance"

Welding indicators

After welding, check the welding indicators. The following picture shows the change of the welding indicator. They only indicate that energy has reached the fusion zone: they are not a guarantee for the quality of the welding. The height of the welding indicator depends on the fitting used, the pipe material and the pipe tolerances.

Remark: For welding of ELGEF® Plus fittings or for use of the MSA electrofusion machines, please consult the further information in the "Technical Handbook Distribution Piping Systems".



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