



TECHNICAL NOTE:

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VISIBLE MELT/WIRE FOR ELECTROFUSION COUPLINGS

Scope: The purpose of this Technical Note is to establish acceptance and rejection criteria for electrofusion coupling joints that exhibit visible melt or exposed wire at the coupling entrances during the fusion process.

History: PE pipe can sometimes become slightly out-of-round during storage or transport. In pipe sizes of 6 IPS and larger the presence of out-of-roundness, if not corrected mechanically before installation, may cause a small amount of melt and the lead-in wire of the fusion coil to extrude to the outer edges of electrofusion couplings during the fusion cycle. A small amount of melt or wire that is visible does not necessarily indicate a poor fusion quality.

In most cases, melt escape can be prevented by mechanically re-rounding the pipe diameter with full-encirclement clamps when the difference in the pipe diameter high and low measurements taken at the end of the pipe indicate an out-of-round condition of 1/8" or more.

GFCP has developed recommendations for acceptance of electrofusion coupling installations that resulted in small amounts of melt visible at the outer edges of the coupling entrance due to out-of-roundness. Our recommendations for acceptance of this condition are that all three of the following must be verified:

- **The fusion process completed normally with no error messages.** Faults such as "Error 4" or "Possible Bind/ Short Stab" indicate that the fusion coil shorted and that other installation errors may exist. Coupling fusions that result in an error message should be removed and replaced.
- **The melt/wire does not extend more than the distance in the table below beyond the outermost edge of the coupling.**
- **The melt/wire does not extend more than amount in the table below of the coupling circumference.**

Pipe Size	Melt beyond end of coupling	Circumference visible
6 IPS / 6 DIPS	1/2 inch	90 Degrees
8 IPS / 8 DIPS	1/2 inch	90 Degrees
10 IPS / DIPS	1/2 inch	180 Degrees
12 IPS / 12 DIPS	1/2 inch	180 Degrees

Any fusions that result in an Error 4 termination should be rejected and removed. Any fusions that result in visible melt that is more than listed above should be rejected and removed.

This recommendation was developed to aid in the acceptance of coupling fusions that were known to have been properly prepared and correctly installed. We do not intend for this recommendation to interfere with or replace visual acceptance practices and policies of the pipeline operator.