Article 3

ELECTROFUSION JOINTING OF PE PIPES FOR THE
WATER INDUSTRY
THE EUROPEAN WAY

Why does the UK Water Industry not take responsibility for the installation of PE electrofusion installation?

The Plastic Pipes Group of the British Plastics Federation, in this its third article on this subject, looks at practices across Europe.

The method of electrofusion jointing is uniform across Europe. Two ends of pipe are overlapped by a fitting which has internal resistance wires heated up by the application of electrical energy. This melts the inside of the fitting and the outside of the pipe wall which then welds together to produce a very strong homogeneous joint.

However, the quality of the electrofusion weld is dependent upon the quality of the welder carrying out all the installation procedures correctly.

In the UK the welder is not mandated to be:

- Trained
- Examined
- Certified
- Supervised

This lack of expertise and accountability contributes to the costly and wasteful ongoing UK water leakage problem.

There has been a relevant training and certification Standard available in the UK since 2003: “BS EN 13067:2012 -Plastics welding personnel. Qualification testing of welders. Thermoplastics welded assemblies.” This Standard has not been adopted by the UK Water Industry resulting in the on-going problems with the quality of electrofusion jointing.

In Europe, the Water Utilities take far greater responsibility for the electrofusion jointing process. In some countries the Water Utilities require that the welder is third party certified. There are many Institutes available to provide training, testing and certification in accordance with DVS Standards which are judged to be preferable to EN 13067.
The 2 main Standards used are DVS 2207-1 and DVS 2212-1.

DVS 2207-1 covers electrofusion, Butt Fusion and Socket Fusion welding. The process descriptions are no different to those used in the UK but do include a number of specific statements and requirements in relation to quality and training:

- The quality of the welded joints depends on the qualification of the welder………
- The welding work must be monitored.
- Every welder has to be trained and has to be in possession of a valid qualification certificate.
- The welding zone must be protected from bad weather influences.
- ……….coils are oval and bent……….must be prepared before welding………

DVS 2212-1 also covers electrofusion, Butt Fusion and Socket Fusion welding and applies to the qualification testing of the knowledge and skills of welders. The Standard includes the following statement:

- It must be applied wherever customers or agencies responsible for the area of application demand the deployment of certified plastic welders.

Why does the UK Water Industry not take responsibility for the installation of PE electrofusion installation?

The following manufacturers have contributed to this article: DuraFuse, George Fischer, GPS PE Pipe Systems and Radius Systems.

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