

Electrofusion of Driscopipe® 8000 Pipes

Performance Pipe and its predecessor company, Phillips Driscopipe, Inc. have not tested joining of Driscopipe® 8000 pipe with electrofusion couplings. As such Performance Pipe offers no instruction for electrofusion and makes no recommendation on whether Driscopipe® 8000 can be joined by electrofusion. Recently we received reports from our customers that Driscopipe® 8000 pipes displayed “bubbling” of the fusion areas during electrofusion which may have affected the integrity of the pipe joint. Figure 1 is an example of the reported exterior appearance of bubbling formed during an attempted electrofusion joint.

Historically, Driscopipe® 8000 pipe was known on occasion to have moisture adsorbed into the pipe molecular structure that released as a moisture bubble when you applied butt fusion or sidewall fusion heater plates. This was reported at that time to not affect the butt or saddle joint quality. In 2006 section X2.7.2.2 was added to ASTM D2513 cautioning that liquid hydrocarbons adsorbed into PE pipes during service as a gas pipeline could bubble out of the pipe during heat fusion process and could negatively affect the joint quality.

Performance Pipe has not conducted an investigation into any of the recent reports related to electrofusion and we do not know if the source of the bubbling was similar to the descriptions above, or if the source is something different or whether it may be unique to Driscopipe® 8000 pipe.

Identifying Driscopipe® 8000 Pipes

Driscopipe® 8000 pipes were produced from late 1979 through 1997 by Phillips Products Company, a subsidiary of Phillips Chemical Company which was later called Phillips Driscopipe, Inc. In some areas of the country, sales continued for a few years after production stopped. The pipes were produced from Marlex® M-8000 compounded black resin produced by Phillips Chemical Company. In some cases utilities referred to the pipes as ‘M8000 pipe’ or ‘8000 pipe’.

Driscopipe®8000 pipes were solid black PE3408 pipes with burnished gloss surface and a yellow print line. The pipe was available in sizes from ¼” through 8” diameter. Figure 1 is an example of the exterior appearance of bubbling formed during an attempted electrofusion joint.



Figure 1

Example of a melt pattern from a saddle heater used to pre-test for an electrofusion coupling



Figure 2

Increase in bubbling after extended heat time

Can I use electrofusion couplings on Driscopipe® 8000 pipe?

Performance Pipe has not conducted testing on the joining of Driscopipe® 8000 pipe with electrofusion couplings, and cannot make a recommendation as to its appropriateness. Given the limited information reported to us regarding bubbling that at least a few customers have experienced Performance Pipe recommends that our customers evaluate their piping and piping systems to determine if heat fusion, including electrofusion, is appropriate for them.

What should I do if there is bubbling when applying heat to Driscopipe® 8000?

ASTM D2513 section X2.7.2.2 recommends that mechanical fittings be used to join pipes that show signs of bubbling that may be the result of a liquid hydrocarbon release. Significant bubbling of the ID or OD surfaces, whether caused by liquid hydrocarbon release, electrofusion or otherwise, may have affected the integrity of the pipe joint.