

Florida Department of Transportation Report No. 94-7A High Density Polyethylene Pipe Fire Risk Evaluation

Following is the Executive Summary of the Florida Department of Transportation, Report No. 94-7A, High Density Polyethylene Pipe, Fire Risk Evaluation. The full report is available from ADS.

Executive Summary

High density polyethylene pipe (HDPE) is gaining widespread use in highway drainage applications. Florida has used HDPE pipe on a limited basis for approximately five years.

Recent concerns expressed relative to the flammability of HDPE pipe has prompted the Florida Department of Transportation (FDOT) to conduct a study to determine the actual risk of fire in typical pipe installations.

The study included field burn tests, a state-by-state survey of HDPE pipe usage and experience and standard laboratory burn tests on polyethylene coupons. Also included in the field tests was a burn test on a mitered end section with concrete apron as presently proposed for FDOT approval by the plastic pipe industry.

The results of the study indicate that HDPE pipe is not at significant risk of fire when installed to present standards and exposed to fire such as that which may be encountered in roadside grass fires. The results of the burn tests on the mitered end section indicates that this design is susceptible to ignition in a roadside grass fire.

The state-by-state survey shows that at least forty-one states use HDPE pipe. Of the forty-one responses to the survey, only four reported fires in polyethylene pipe and these were judged as minor isolated instances.

The results of the study confirm FDOT's present policies and specifications relative to the use of HDPE pipe. The study concludes that only a minimal risk of fire exists and that no changes to FDOT's policies and specifications are warranted.

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