International No-Dig 2019
37th International Conference and Exhibition

Florence, Italy
30th September – 2nd October 2019

Paper Ref
(the paper ref# will be supplied to authors)

Leak detection using Helium as a tracer gas and the Primus Line solution for pipe rehabilitation

Abstract:
Utility providers around the world are challenged with leaks of aging water infrastructure. Drinking water is a precious resource and should be protected from being lost in the pipe system. There is an ongoing struggle to locate leaks and reduce water loss to the minimum possible. Most common leak detection technologies are based on acoustic systems but experience shows that they may lead to inaccuracies due to interference with external noise, low pressure in the network, plastic pipes and limitation of the physical principle of sound propagation, therefore insufficient in order to detect sounds produced by water leakage.
The paper will show the process of leak detection using Helium gas in an under pressure operating water main. Furthermore, the paper will present in general the Primus Line solution to potential leaking pipes. The paper will present a case study on the trenchless rehabilitation of water mains using the Primus Line system. The case study will demonstrate that it is possible to rehabilitate a 1km DN400 PN16 water main located in the middle of an urban area. The paper will conclude with the advantages of this leak detection method.