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**Rehabilitation in Spain of a 10 km long asbestos cement drinking water main with flexible relining technology.**

**Abstract:**

Utility providers all over the world are confronted with deteriorating drinking water pipeline infrastructure. Only in Spain there is around 40.000 km of asbestos cement pipe that is still in contact with drinking water and, as in the rest of the world, this pipes are approaching the end of their useful life. How to attempt their replacement is a great concern and the study of the best methods to replace them has to be done with a focus on safety, cost and environmental protection.

Although trenchless technologies are well-established in the sewer industry, little progress has been made in the drinking water arena up to now. The paper introduces the alternatives to the replacement or rehabilitation of asbestos cement pipes and the reasons that can move the decisions to the use of Trenchless Technologies.

This paper presents an innovative flexible relining technology that has been conceived for the trenchless rehabilitation of pressure pipes. The paper shows the composition of the Primus Line hose and addresses the specifically developed termination fittings which complete the system.

Furthermore, the paper demonstrates that this technology permits long insertion lengths and the negotiation of bends. Finally, a case study from Reocín, Spain will address the deployment of the Primus Line technology for the rehabilitation of a 10 km long drinking water main. In particular, the complete installation process will be lined out. The case study shows that the flexible relining technology is characterized by short construction periods with significant cost and time savings compared to traditional open trench methods, ease of installation and minimum equipment needs on-site. The paper concludes with an outline of the benefits and limitation of the Primus Line technology.