

PRESS RELEASE – FOR IMMEDIATE RELEASE

NOW PROVEN: 100 YEARS LIFE EXPECTANCY FOR POLYOLEFIN SEWER PIPES

'Polyolefin sewer pipe systems have a service lifetime expectancy of at least 100 years.' This is the conclusion of a recent two-year project commissioned by TEPPFA and independently scrutinised by Professor Heinz Dragaun from the Technical School for higher education (TGM) in Vienna. The project involved the excavation of many samples from in-service pipe networks that were tested and assessed under meticulous laboratory conditions. The results of the analysis and findings of this work are expected to favourably influence those sewer operators faced with major capital investment in new or replacement networks.

Most European countries have their fair share of antiquated sewer networks. They not only leak and lack performance, they also need to be modernized or just replaced. But life expectancy is a critical factor in any investment decision. Polyolefin (polypropylene and polyethylene) systems have been used widely for over 40 years and compared to non-plastic pipe materials, they have consistently offered a longer term solution. However, whereas the life expectancy of polyolefin pipes has been discussed for many years, a definitive conclusion has never been determined. Until now, that is.

Increased confidence

Tony Calton, TEPPFA's general manager is delighted with the project's outcome: "Designers, owners and operators of sewer networks can now be confident that these sewer systems will have an in-service life of at least one hundred years when materials, products and installation practices meet the appropriate requirements."

"The outcome is also vitally important for material suppliers, pipe manufacturers and contractors working closely with the sewer market. Clearly it will lend further appeal and allow polyolefin sewer pipes to be specified with increased confidence as they perform consistently throughout their very long asset life."

Conditions set out by the project team were rigorous and relied on long-term real-time data. For instance, tests included the excavation of pipes that had

already been in use for up to 40 per cent of the proposed in-service lifetime. These tests demonstrated that no excessive deterioration or degradation has occurred over this time. Tony Calton notes that “although the oldest excavated pipes were manufactured using ‘first generation’ material formulations, a residual lifetime of more than 50 years was calculated. And we should also bear in mind that current formulations offer even greater lifetime performance than those earlier materials.”

Other key factors were investigated throughout the duration of this project but these were found not to adversely affect life expectancy. These included the chemical composition of the sewer water, the temperature profile of sewer flows and variations in the kind of installation practices used. The influence of higher mechanical stress concentrations that are typically associated with structured wall pipe systems was also examined. The full technical report and a summary technical report are available on the TEPPFA website. A four-page leaflet outlining the project scope is also available through TEPPFA’s company members and/or National association members. It is also important to note that this project was co-ordinated by TEPPFA in conjunction with LyondellBasell and Borealis and independently reviewed by TGM (Austria).

This work builds on earlier work carried out in 2008 by a major Dutch institute for technical research (TNO) which concluded that ‘the lifetime of PVC sewer pipes will exceed 100 years under most service conditions’. Details of this work are available on the TEPPFA website www.teppfa.eu

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