

# Jana Labs' Report on PE Pipe Performance in Potable Water

*Long-Term Performance of Polyethylene Piping Materials in Potable Water Applications* by Patrick Vibien, Sarah Chung, Sheyla Fong, & Ken Oliphant

## **Abstract**

“Polyethylene (PE) piping materials have demonstrated a strong track record in potable water applications since their introduction in the early sixties. In the decades since the introduction of those early materials, advances in polymer science have driven considerable evolution in both the pressure-carrying capabilities and the long-term service lifetime forecast. Due to the dramatic improvements in PE piping materials, projecting performance of current PE piping materials based on past performance is likely to provide an overly conservative picture. In order to forecast performance of current generation PE piping, the industry has been actively developing accelerated methodologies for validating the long-term performance of PE piping materials in potable water applications. This paper reports on the current state of the research and presents a methodology to project long-term PE pipe performance as a function of specific water quality, operating temperature and operating stress. Based on this methodology, case studies for four specific utilities and an average utility are presented that show that greater than 100 years performance is projected in these systems for the higher performance PE3408 and PE4710 materials examined.”

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