

## Tighter Sewer Joints – The Responsible Choice

**Municipal engineers can ensure sewer piping systems remain leak-free throughout their operating life by specifying solutions that offer tighter sewer joints.**

Leaking joints in a sewer piping system result in the loss of soil fines in the bedding around the pipe. As water percolates out of a leaky joint, it mechanically erodes the bedding material around the pipe joint. While this loss not only undermines the pipe's structural integrity, it also eventually results in a pipeline failure or pavement settlement at ground surface level. Consequently, sink holes and pot holes are occurring at an increased rate throughout North America and costly emergency repairs are becoming more commonplace. With limited municipal budgets and funding for infrastructure, leaking joints can no longer be tolerated.

an outlet's water balance and quality may potentially impart devastating effects on the surrounding ecosystem. Canada has some of the most abundant and best protected water resources in the world, and maintaining the quality and performance of sewer systems and drains is paramount to protecting this most valued resource.



The quality and quantity of flow in a sewage piping system is also a concern for engineers and utility owners. Infiltration into sewer pipes due to leaky joints can drain groundwater levels and/or surrounding surface water, potentially transporting leached contaminants from one site to another. This change in

IPEX Ring-Tite, Enviro-Tite DR35 and Ultra-Rib PVC sewer pipe and fitting joints are third-party tested to 50 psi hydrostatic pressure.

Infiltration of a sewer piping system can also cost municipalities and taxpayers significant amounts of money by decreasing the lifetime capacity of a sewage treatment facility and increasing the cost to treat the wastewater. According to the Ontario Ministry of the Environment (MOE), Ontario has more than 300 wastewater treatment facilities. At each of these facilities, pumps must work harder to transport the added capacity caused by infiltration. This imparts an unexpected strain on the pumps and systems, shortening the life expectancy of the equipment. The costs associated with processing additional infiltration and the capital expenditure required for expanding the capacity of existing treatment plants are eventually realized by tax payers in the form of rate increases.

Having long recognized the issue of infiltration of sewer piping systems, the Ontario MOE has developed a specification citing the importance of tight joints for buried sewer pipes. Currently, the MOE specification for common trench installations of sewer pipe and watermains requires joints to be qualified to a hydrostatic pressure of 50 psi (345 kpa). This specification reinforces the need for a tight joint to prevent infiltration, maintain the structural integrity of piping systems and roads, protect neighbouring ecosystems and improve the life expectancy of wastewater treatment facilities.

With the need to reduce capital expenditures for infrastructure projects, municipal engineers need sewer piping solutions that limit infiltration. IPEX, a manufacturer of sewage piping solutions, applauds the MOE for its 50 psi sewer pipe joint tightness requirement, but suggests going one step further. IPEX recommends that all sewer pipes also be low-pressure air tested in the field to an air pressure of 5 psi per Ontario Provincial Standards. The air test is a very economical yet stringent test that ensures there are no pinhole leaks in the barrel of the pipeline or at any of the joints. Municipal



engineers can ensure leak-free joints that are watertight and air-tight by simply **specifying sewer pipe and fittings from a single manufacturer with joints that are third-party certified to a hydrostatic pressure of 50 psi and by specifying low-pressure air testing in the field to an air pressure of 5 psi per CSA B182.11.**

While some sewer pipe products on the market today may not be able to meet these requirements, IPEX PVC sewer pipe will do the job. IPEX Ring-Tite, Enviro-Tite DR35 and Ultra-Rib PVC sewer pipe and fitting joints are third-party tested to **50 psi** hydrostatic pressure. All IPEX sewer pipes are also **suitable for 5 psi air testing** in the field. Another key advantage of using PVC for sewage piping systems is the ability to deploy full 4-metre (m) lay lengths versus the typical 2.5-m lengths of traditional sewer pipe, which results in far fewer joints throughout the sewer piping system. Unlike traditional materials susceptible to hydrogen sulfide, PVC's high level of corrosion resistance also ensures that its joints will not deteriorate over time and permit leakage.

Ultra-Rib, Ring-Tite and Enviro-Tite sewer pipe from IPEX have a decades-long proven track record of superior performance. Municipal engineers can rest assured that IPEX PVC sewer pipe provides owners with near bottle-tight joints today, while continuing to keep our communities healthy and sustainable for generations to come.

