

DIPRA Facts & Figures

Polyethylene Encasement and Corrosion Control

For decades, utilities have addressed the possibility of corrosion of Ductile Iron Pipe by installing polyethylene encasement, an innovative and state-of-the-art method of wrapping pipe with tubes or sheets of polyethylene immediately before installation. This proven system is effective, economical, and easy to install.

Key facts about polyethylene encasement:

- The American Water Works Association adopted the first national standard polyethylene encasement in 1972. An international standard was adopted in 1985.
- A recent American Water Works Association report shows that the average expected service life for Ductile Iron Pipe with polyethylene encasement is at least 105 years—longer than any other pipe material on the market today.
- Polyethylene encasement is the only method of supplemental corrosion protection for Ductile Iron Pipe that is standardized by the American Water Works Association, which has rejected a standard for the use of bonded coatings on Ductile Iron Pipe.
- Polyethylene encasement was first used experimentally in severely corrosive conditions in 1951 in Birmingham, Alabama, the Everglades in Florida, and in a tidal marsh outside of Atlantic City, New Jersey. Successful results led to polyethylene use in water systems beginning in 1958 in Lafourche Parish, LA and 1959 in Philadelphia, PA.
- It works. It has been used for decades on hundreds of millions of feet of iron pipe with outstanding results. Hundreds of inspections of polyethylene-encased cast and Ductile Iron Pipe, including installations from 40 to 50 years in service show that properly-installed polyethylene encasement provides effective, economical corrosion control.
- Acts as an unbonded film, which prevents direct contact between the pipe and corrosive soil.
- Provides a uniform environment that eliminates corrosion cells and has a dielectric property to help control stray currents.
- Installation is extremely economical. The cost of both material and installation is only pennies per foot in most sizes.
- Unlike bonded coatings, polyethylene encasement protects the pipe without the formation of accelerated corrosion concentration cells at coating “holidays” or gaps.
- The risk of pipe damage is reduced significantly since all installation occurs on site, and any repairs can be performed easily at the job site.
- It is a passive system. No monitoring or maintenance is necessary after installation.

For details about the benefits of Ductile Iron Pipe or the Ductile Iron Pipe Research Association visit www.dipra.org



Strength and **Durability** for **Life**®

