

Course Outline Part 2

Corrosion and Corrosion Control for Ductile Iron Pipe

Explains the basic corrosion process for buried pipelines and what causes it to happen. Then explains how to select the appropriate corrosion control method for a given ductile iron pipe installation. Also goes over some of the history and research that DIPRA has done with corrosion control as well as case studies from utilities across the country and their corrosion control results.

Installation and Inspection of Polyethylene Encasement

It discusses the different polyethylene encasement wrapping methods step by step to include real project examples. Goes over what to look for during inspection to ensure that there are no issues. Also goes over some real world examples from utilities of the right way and wrong way to install polyethylene encasement. Also covers proper tapping methods of ductile iron pipe with polyethylene encasement.

Ductile Iron Pipe vs Plastic Pipe

Discusses the physical material differences between ductile iron pipe and plastic pipe (PVC and HDPE). Goes over the thickness design process for plastic pipe materials and how it varies from ductile iron. Goes through the design and calculation steps for plastic pipe to get equal performance to ductile iron pipe. Discusses some of the real world advantages and disadvantages of each with examples.

Seismic Design of Pipelines Utilizing Ductile Iron Pipe

Goes over the different hazards for buried pipelines due to seismic events and the design requirements for pipelines to be able to withstand these events. Discusses the inherent physical properties that make ductile iron an ideal pipe material for seismic design. Then explains how ductile iron pipelines can be designed to withstand the different hazards associated with seismic events using standard and specialty fittings and joint systems available.

Learning Outcomes

Course attendees will learn how to identify corrosive environments and the basics of corrosion. Methods of corrosion control for ductile iron pipe will be covered as well as the correct installation and inspection of polyethylene encasement. The course will also discuss the differences between ductile iron and plastic pipe. It finishes by discussing how to make pipelines seismically resilient utilizing ductile iron pipe. Collectively, all of the information provided by this course will demonstrate to the attendees how to design, install, and maintain ductile iron pipe such that it meets or exceeds the design life for any installation.