

Course Outline Part 1

Features and Design of Ductile Iron Pipe

Covers the history of iron pipe going back centuries and the differences between cast iron pipe and ductile iron. Goes through the pipe manufacturing process as well as the thickness design calculations. Discusses the available joint types and their uses as well as the different lining and gaskets available.

Installation of Ductile Iron Pipe

Covers the recommended installation steps for ductile iron pipe in the field from start to finish. Goes over the assembly steps for different joint types available including common restrained joints. Highlights the importance of safety during installation including trench safety and backfilling requirements. Covers the steps for proper flushing, pressure testing, and disinfecting of ductile iron pipe after installation.

Thrust Restraint For Ductile Iron Pipe

Explains what causes thrust forces in a pressurized pipeline system and why they need to be counteracted. It then goes through in detail the different thrust restraint methods (thrust blocks, restrained joint systems, combined systems) including the design calculations for each. Includes example problems as well as real world case studies.

Horizontal Directional Drilling with Ductile Iron Pipe

Starts off by explaining the horizontal directional drilling process in general. Then goes through the steps of the different methods available for using ductile iron pipe for HDD. Covers several real world examples and case studies from utilities of different pipe size and directional drill lengths. Also covers corrosion control installation for ductile iron pipe used for directional drilling.

Learning Outcomes

Course attendees will learn how to properly design and install ductile iron pipe for any given project or environment. Attendees will also learn how to design and install thrust restraint devices for ductile iron pipe as well as how to utilize ductile iron pipe for horizontal directional drilling. 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.