
**DUCTILE IRON PIPE RESEARCH ASSOCIATION
SEMINARS/LECTURES**



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SINCE ITS INCEPTION IN 1915, an essential service of the Ductile Iron Pipe Research Association (DIPRA) has been its extensive field research and testing. Drawing largely on data and other findings from such research, DIPRA has for years conducted seminars and presented numerous lectures throughout North America, mostly to consulting and utility engineers. Since 1968 DIPRA has offered the Concentrated Consulting Engineering Program (ConCEP), a group of lectures on a variety of topics that can be **easily tailored** to address the needs and concerns of specific groups. Also popular has been DIPRA's Corrosion Control Seminar, presented in one and two-day formats since 1972. ConCEPs and the Corrosion Control Seminar are conducted by DIPRA's Regional Engineers, each of whom is a registered professional engineer and a highly trained expert in all aspects of Cast and Ductile Iron pipe design and use. In addition, most are NACE-certified corrosion specialists.

ConCEP Presentations

Since the ConCEP program began, DIPRA's Regional Engineers have made more than 40,000 ConCEP presentations. The content, depth and scope of these slide-illustrated lectures can be tailored specifically for your group - whether it consists of seasoned engineers or individuals with less experience. Although designed for consulting and utility engineers in the water and wastewater fields, these programs also can benefit others such as construction and maintenance personnel and inspectors, utility officials, industry groups and associations. The ConCEPs are presented in an atmosphere that encourages open dialogue among participants and the DIPRA Regional Engineers conducting the presentations. The exchange of questions and ideas is encouraged. You can arrange for one or a combination of several ConCEP lectures, each of which last 30 minutes to 1 hour.

Primary ConCEP Lectures

Your DIPRA Regional Engineer can fashion ConCEP lectures so that they address your group's specific needs. Along with numerous specialty presentations, DIPRA offers the following primary presentations:

- **Ductile Iron Pipe for Modern Water or Wastewater Systems** provides an introductory overview of Ductile Iron's most common applications for water and wastewater systems. Material covered includes the manufacturing of Ductile Iron pipe, its properties, and characteristics, as well as a look at available pipe sizes, joints, fittings and linings. This ConCEP also has an orientation to the complete series of ANSI/AWWA and ANSI/ASTM Standards that cover Ductile Iron pipe.
- **Ductile Iron Pipe Design** provides a thorough review of the thickness design criteria for Ductile Iron pipe as embodied in the American National Standard for the Thickness Design of Ductile Iron Pipe (ANSI/AWWA C150/A21.50). It also reviews design theory and includes discussions of considerations made for water hammer, earth load, trench requirements and safety factors. This program can include sample design thickness problems and comparisons of required pipe thicknesses as they relate to various trench conditions.
- **Ductile Iron Pipe Installation** includes handling of pipe prior to installation, excavating and backfilling trenches, jointing and cutting, service connections, testing and disinfection. This program focuses on the relationship between design considerations and construction and installation procedures. Because of that, it has proved especially valuable to design engineers, construction and maintenance personnel and inspectors.
- **Thrust Restraint Design for Ductile Iron Pipe Systems** reviews solutions to thrust force problems. Internal hydrostatic pressure results in unbalanced forces - known as thrust forces - at various locations in a piping system. These locations must be provided with sufficient thrust restraint. This program reviews design procedures for thrust blocks, restrained joints, and other restraining techniques.
- **Corrosion: Its Causes, Effects and Prevention** includes discussion of ways to identify corrosive environments and ways to protect pipe in these environments. It also outlines the development and performance of polyethylene encasement as the recommended corrosion protection system for Ductile Iron pipe. Also presented in this lecture is a review of the type of research that led to the adoption of the American National Standard for Polyethylene Encasement for Ductile Iron Pipe Systems (ANSI/AWWA C105/A21.5) and numerous case histories that establish the efficacy of polyethylene encasement.

• **Subaqueous Pipelines** provides an overview of the three basic subaqueous installation techniques for Ductile Iron pipe: bank installation, barge installation and dry installation. Discussions cover ball and socket river crossing joints used in these situations. Other topics covered include permitting, corrosion protection, inspection and testing, and trenching and backfilling.

• **All Pipe Materials Are Not Equal** compares the differences between Ductile Iron pipe and substitute materials such as pvc pipe, steel pipe, hdpe, or concrete cylinder pipe. Discussions offer a relative comparison of the design, features, and installation of these different materials.

• **Ductile Iron Pipe on Supports** reviews the pertinent design considerations for both aboveground and underground Ductile Iron pipe-on-supports installations. This discussion covers such topics as flexural, ring and beam-bending stresses; beam deflection; and proper sizing and location of the support.

Corrosion Control Seminar

The Corrosion Control Seminar is a basic introduction to pipeline corrosion and offers practical solutions to corrosion problems. This seminar is unique in that it primarily addresses corrosion problems related to Ductile Iron piping systems, which differ greatly from steel, concrete, and other types of piping materials. By attending, you'll have the opportunity to observe laboratory demonstrations and become familiar with equipment and procedures used in corrosion testing.

Seminar topics typically include: features of Ductile Iron pipe; the basic corrosion cell; resistivity; soil testing; corrosion of other materials; polyethylene encasement and other coatings; cathodic protection; and stray current/bonded joints.

The seminar is designed to provide a better understanding of corrosion and its associated terminology, especially with respect to Ductile Iron pipe. It will show you how to properly identify corrosive environments and implement practical methods of corrosion control. You also develop an understanding of the relationship between corrosion and other problems pertaining to pipelines. Along with consulting and utility engineers, this seminar is of particular value to design engineers, utility management personnel, and individuals who are currently active in the study and prevention of corrosion.

All of the DIPRA Regional Engineers conducting this seminar have years of practical field experience with corrosion and corrosion protection. All are members of NACE International, with most being Certified NACE International Corrosion Specialists.

Each participant is provided a useful reference notebook, and after completing the seminar is eligible for Continuing Education Units (CEUs). Participation in this seminar does require a small fee.

Rely on the Experience of DIPRA's Regional Engineers

Since 1960, DIPRA's Regional Engineers have assisted piping specifiers and users in the proper design and applications of Ductile Iron pipe. Along with their professional qualifications, many of DIPRA's Regional Engineers previously worked for years with utilities or as consulting engineers, receiving invaluable experience along the way. And the ConCEP lectures and Corrosion Control Seminar are just some of the services offered. DIPRA's Regional Engineers also assist utilities and consulting engineers with specific design and installation problems and corrosion control; investigate problems with pipe in service; and perform soil surveys and stray current investigations.

For more information about ConCEP presentations, the Corrosion Control seminar or other DIPRA programs, call your DIPRA Regional Engineer or DIPRA Headquarters in Birmingham at 205-402-8700. Or write for information to DIPRA: 245 Riverchase Parkway East, Suite O, Birmingham, Alabama 35244.

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DUCTILE IRON PIPE RESEARCH ASSOCIATION



An association of quality producers dedicated to highest pipe standards through a program of continuing research.

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DUCTILE IRON PIPE THE RIGHT DECISION



Manufactured from recycled materials.