

DICL Advantages



Exhibits Tremendous Tensile Strength

A pipe must be able to withstand severe stresses caused externally by shifting ground and heavy loads and internally by water pressure and water hammer. Ductile Iron has minimum strength requirements of 60,000 psi tensile strength, 42,000 psi yield strength, and 10 percent minimum elongation.



Withstands Severe Crushing Loads

Extreme traffic loads, heavy backfill, or earth movements caused by freezing, thawing, and soil swell pressures impose tremendous forces on buried pipes. Beam tests, free bend tests, and—toughest of all—ring tests, which determine the pipe's ability to resist concentrated loads, all demonstrate the superiority of Ductile Iron pipe.



Has Great Beam Strength

Ductile Iron will bend or give considerably before it will ultimately fail. This characteristic is what makes its ductility so desirable. Ductile Iron's ability to bend under load greatly increases its resistance to beam load.



Is Corrosion Resistant

Numerous laboratory and field tests have proven that Ductile Iron's corrosion resistance is equal to or greater than that of Gray Iron, which has served a number of U.S. utilities for more than 150 years with no external corrosion protection. In the majority of soils, Ductile Iron needs no external corrosion protection. In most areas of highly corrosive soil, simple, economical polyethylene encasement has provided excellent corrosion protection for the pipe.



Has Extremely High Impact Resistance

In test after test, Ductile Iron has exhibited tremendous impact resistance. Ductile's toughness makes it much less vulnerable to damage from improper handling or abnormal service conditions. And it stands up under heavy traffic conditions in unstable soil environments where other materials might fail due to the stresses caused by unusual loading.



Demonstrates Tremendous Bursting Strength

Ductile's tremendous bursting strength makes it ideally suited for high-pressure applications. Six-inch Pressure Class 350 Ductile Iron, for example, has a bursting pressure exceeding 3,500 psi. Ductile's bursting strength also provides an additional safety factor against water hammer.



Is Easy to Install

Ductile Iron is easy to install in the field. A wide variety of joints and standard fittings are available for every application. Ductile Iron can be cut and direct tapped in the field. And it requires no complex laying schedules or line-and-grade drawings.



Is Virtually Maintenance Free

Years of experience in operating systems throughout the world have proven that, once installed, Ductile Iron requires little, if any, maintenance over the life of the pipeline. Ductile's longevity can be witnessed in the outstanding service records of Gray Iron pipe over the past 150 years.



Offers Impressive Energy Savings

Ductile's high flow coefficient ($C=140$) and generally larger-than-nominal inside diameters can result in increased flow capacity, lower head loss, lower pumping costs, and significant energy savings over the life of the pipeline.