

DIPRA Facts & Figures

Ductile Iron Pipe vs PVC Pipe

Ductile Iron Pipe has a proven track record of strength, efficiency, and reliability. Engineers have long supported Ductile Iron Pipe's superior durability and high quality when compared to PVC pipe.

The reasons for its superiority are many and varied:

- Ductile iron's superior strength resists damage during shipping, handling and installation. Ductile Iron Pipe has more than 13 times the impact strength, nine times the tensile strength and four times the burst strength of PVC pipe—and, unlike PVC pipe—it can handle stress. Under stress, PVC failure is a matter of time; and the more stress that is applied, the sooner it will fail. Ductile iron's strength is not compromised over time.
- The cost to pump water through PVC pipe is as much as 38% more expensive than that of Ductile Iron Pipe, increasing life cycle costs and releasing more greenhouse gases.
- Ductile Iron Pipe is made of recycled iron and steel scrap, while the PVC used to make PVC pipe is made from petrochemicals in a process that can be harmful to the environment and human health.
- PVC pipe is sensitive to installation miscues. It cannot withstand relatively minor scratches, and extra care must be taken to avoid large rocks, frozen lumps and debris. A scratch no deeper than the thickness of a dime can ruin an entire length of PVC pipe.
- Ductile Iron Pipe is not affected by temperature changes, while PVC pipe becomes brittle in colder temperatures and weaker in higher temperatures.
- In about one year, PVC pipe can lose 34% of its impact strength from exposure to the sun—which has no impact on Ductile Iron Pipe.
- Ductile Iron Pipe is manufactured to the industry's most rigorous and conservative standards.
- Direct tapping of Ductile Iron Pipe is easier, safer, less expensive, faster and less likely to damage the pipe than PVC tapping. On the other hand, tapping PVC pipe can result in cracked pipes, injured workers and costly flooding until the repairs can be made.
- Locating Ductile Iron Pipe is effortless. PVC pipe requires that locating wires be installed in the trench.
- PVC production releases dangerous chemicals including vinyl chloride, dioxin and ethylene dichloride.



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**®

