DIPRA MINUTE

Strength and Durability for Life®

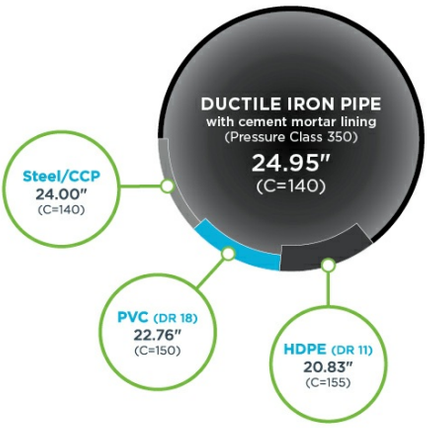
August 18, 2020

One of the concerns that water utilities deal with on a daily basis is head loss in their pipeline networks. Head loss is a loss of energy that must be overcome, increasing the energy needed to pump water through a pipe. When you reduce energy needs, you save pumping costs.

HYDRAULIC ANALYSIS OF DUCTILE IRON PIPE | Download Now

Inside Pipe Diameter

Head loss is affected by the smoothness of the pipe lining and the actual inside diameter of the pipe. For a given flow, a larger inside diameter results in lower head loss. Ductile iron pipe has a larger than nominal inside diameter, so, combined with its smooth cement-mortar lining, less energy is needed to pump water through Ductile iron than through other piping materials.



ACTUAL INSIDE PIPE DIAMETERS

(Based on a 24" pipe using manufacturer recommended Hazel-Williams C factors)

Smooth Interior

The smoother the interior of the pipe, the higher the Hazen-Williams **C-factor**. The higher the C-factor, the more savings in pumping costs over the life of the pipe.

Bottom Line

Analysis shows utilities they can realize annual energy savings because of lower pumping costs with Ductile iron pipe versus other pipe materials. This energy savings also translates into a reduction in greenhouse gas emissions.

We invite you to learn more about the value of Ductile Iron pipe with our free web-based Hydraulic Analysis of Ductile Iron Pipe and Greenhouse Gas Emissions **calculator** and check out the **Hydraulics FAQs** on our **website**.

*(**ICYMI:** DIPRA recently conducted flow tests on the first cement-mortar lined iron pipe that was installed in Charleston, SC in 1922. The **results** confirmed the longevity of the lining, and validated DIPRA's recommendation of a C factor of 140 for cement-mortar lined Ductile iron pipe. The **video** provides further detail on procedures, test results and commentary.)*

Thank you,
Patrick Hogan
President, DIPRA