August 17, 2021



The summer heat can spark wildfires that threaten the integrity of plastic water service lines that lay above ground or are buried right below the surface.

When PVC pipe is subject to temperature increases, its tensile strength decreases and affects the pipe's performance by limiting its pressure rating. At the higher temperatures resulting from wildfires, PVC may warp, experience undesirable expansion or contraction, and suffer joint buckling. If directly exposed to those temperatures, PVC can even melt.

But where PVC pales, Ductile iron pipe shines. Manufacturer's tests proved Ductile iron pipe's resilience when exposed to direct flame and heat exceeding 1,500°F, and can be designed to perform under internal water temperatures of up to 200°F, with no change in performance, stability, or deliverability.



Comparison of tensile strengths—Ductile iron pipe and PVC pipe—test data based on minimum values per the applicable standards, specimens taken from 6" Pressure Class 350 Ductile iron pipe (the lowest available pressure class for 6" Ductile iron pipe) and 6" DR 18 PVC pipe.

Tests have revealed that Ductile iron pipe:

- Withstands direct flames and heat exceeding 1,500°F
- Is not affected by typical temperature changes in the water flowing through the pipe
- Resists forces caused by internal hydrostatic pressure and water hammer

Compare Ductile Iron to Other Materials Now

To find out more about maximum service temperatures for Ductile iron pipe, read DIPRA's publications on <u>linings</u> available for Ductile iron pipe, as well as <u>gasket materials</u>.

Ductile iron, a proven, innovative material, is designed to serve water transmission systems for 100 years and beyond. Even under the most extreme conditions, Ductile iron pipes deliver safe drinking water.



Contact one of our engineers today to learn more about Ductile iron pipe for your community's water distribution system needs.

Contact a DIPRA Engineer Today

Thank you, Patrick Hogan President, DIPRA



Strength and Durability for LiFe®

