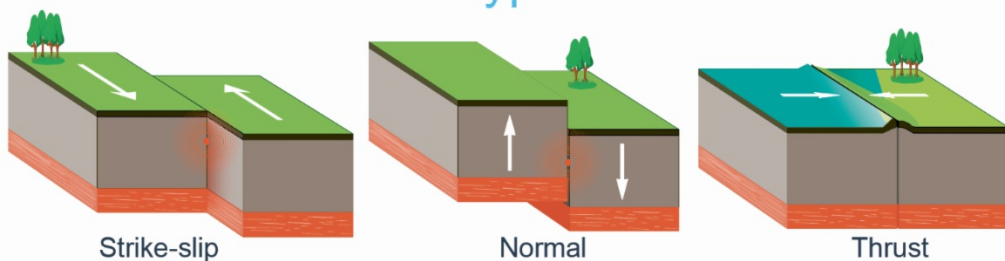


June 15, 2021

## Ductile Iron Pipe Go Ahead - Shake It Up!

Not all infrastructure-damaging seismic events are caused by earthquakes. Utilities need to constantly be aware of “Permanent Ground Deformation” (PGD) conditions caused by unstable slopes, sinkholes, hurricanes, and other natural disasters that affect water pipelines both above and below ground.

### Fault Types



Ductile iron made under ANSI/AWWA C151/A21.51 has a minimum ultimate tensile strength of 60,000 psi, a minimum yield strength of 42,000 psi and an ultimate bending strength of 96,000 psi. Recognizing the strength of Ductile iron pipe, in 2006 the International Standards Organization introduced the only pipe-specific standard for seismic design, ISO 16134 “Earthquake- and subsidence-resistant design of Ductile iron pipelines.” This standard recognizes the strength of Ductile iron pipe and the joints used in developing seismic design models for Ductile iron pipelines.

The additional expansion/contraction capability and the flexibility of seismic joints work to provide Ductile iron pipelines the resilience to withstand seismic events.

- Flexible joints allow for lateral movement and minimize beam bending along the length of the pipeline.
- Seismic joints allow expansion or contraction without joint separation or telescoping.

**DOWNLOAD**

SEISMIC CONSIDERATIONS BROCHURE



An added benefit is in the use of [V-Bio® enhanced polyethylene encasement](#) for Ductile iron pipe. The encasement reduces friction between the moving soil and the pipe, which results in less stress on the pipeline.



[Contact](#) our Regional Engineers to find out more about how Ductile iron pipe can hold up in your region’s specific seismic conditions.

Thank you,  
Patrick Hogan  
President, DIPRA