



## TR-XTREME®

### DUCTILE IRON PIPE FOR UNSTABLE SOILS AND SEISMIC ACTIVITY

Potable water is a critical component to post-earthquake recovery. Water municipalities have recognized the importance of seismic resiliency and have begun incorporating the use of ERDIP (Earthquake Resistant Ductile Iron Pipe) into their systems. ERDIP is any pipe that accommodates transient or permanent ground deformations from seismic activity. Permanent ground deformations pose the greatest hazard for pipelines and materialize in the form of faulting, liquefaction, blocking, slope failure, and settlement. To accommodate permanent ground deformation a pipeline must deflect and also expand

or contract. A segmented pipe's ability to withstand strains correlates to the pipe material and the joint integrity. TR XTREME is manufactured out of ductile iron, a material that has a long and successful history to withstand seismic activity. Joint integrity is accomplished by a robust and unique extended bell that provides 2.9" of expansion and contraction capability with up to 4° of deflection per joint. TR XTREME incorporates technology we've learned from over 40 years of designing restrained joints for the water works industry. The TR XTREME joint is one of the strongest and most robustly designed restrained joints

for water works as proven by Cornell University during full-scale 3rd party testing. The TR XTREME restrained joint utilizes the time proven and drop-tight Tyton Gasket for a reliable seal. It is manufactured in Northern California, meets AIS requirements, and is available in 18' lengths up to 16-inch diameter. Additionally US Pipe offers a complete line of standard and custom fittings to complement TR XTREME pipe. The features incorporated into TR XTREME help ensure that when disaster strikes, water will be available.

#### FEATURES & BENEFITS

- Available in 6", 8", 12", and 16" diameters
- 2.9" of expansion with up to 4° of deflection
- Only domestic ductile iron pipe that provides deflection and extension in a single pipe joint
- Ease of installation and contractor familiarity
- Complete line of standard and specialty fittings allowing full resiliency



#### PIPE

FABRICATION

RESTRAINED JOINTS

FITTINGS

GASKETS

COATINGS & LININGS

[www.construtec.com](http://www.construtec.com)



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**CORNELL UNIVERSITY REPORT FINDINGS**

*“THE PIPELINE WITH TR-XTREME JOINTS WAS ABLE TO ACCOMMODATE SIGNIFICANT FAULT MOVEMENT THROUGH AXIAL PULLOUT AND ROTATION OF THE JOINTS. FAULT RUPTURE SIMULATED IN THE LARGE-SCALE TEST IS ALSO REPRESENTATIVE OF THE MOST SEVERE GROUND DEFORMATION THAT OCCURS ALONG THE MARGINS OF LIQUEFACTION-INDUCED LATERAL SPREADS AND LANDSLIDES.”*

**LARGE-SCALE LIFELINES TESTING FACILITY:**

- **BENDING TEST**
- **JOINT TENSION & COMPRESSION**
- **AXIAL SOIL/PIPE RESISTANCE**
- **PIPELINE RESPONSE TO FAULT RUPTURE**



**GENERAL SPECIFICATIONS**

INCH	PSI		DEGREES	INCHES
DIAMETER	WORKING PRESSURE	NO. OF D.I. LOCKING SEGMENTS	MAX. DEFLECTION ANGLE	PULLOUT
6	350	2	4°	2.9
8	350	2	4°	2.9
12	350	4	4°	2.9
16	350	4	3°	2.9

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