



McWANE DUCTILE

BRIDGE INSTALLATIONS

BEST PRACTICE RECOMMENDATIONS

This document is provided by McWane Ductile as a guide to properly plan and specify products to be used in aerial spans such as pipelines along bridges or similar structures.

PLANS AND SPECIFICATION CHECKLIST:

- Products specified will perform as required – are they the best option? (TR Flex® recommended)
- Ensure the pipe manufacturer can provide material to meet specifications.
 - Any special coatings required?
 - Are there lining requirements?
- Review lay-out to make sure Bill of Material will align with spacing for supports.
 - Are there existing supports or will they be newly installed?
 - Are supports within 2 feet of the joints and on the bell side of the joint?
- Review hanger system to ensure it will provide necessary perpendicular and lateral support.
 - One hanger per joint minimum.
 - Hourglass Supports may be single or double.
 - Single roller supports require a strap over the pipe to prevent upward movements under pressure or surges.
- The hanger system supports the entire weight of pipe and contained fluids. McWane Pocket Engineer Volume Calculator and Tonnage Calculator can be used to determine these weights. Add 5 to 15 lbs. /foot for cement lining depending on pipe diameter.
- Review the entrance and exit of the piping on the bridge.
 - Will the entry or exit be fixed in-place, Link-Seal, or grouting through an abutment or other structure? If so, pressurization and/or full extension of the entire pipeline must be accomplished first.
 - Are casing spacers required?
 - Type of fittings?
- Are there any “specials” to be aware of?
 - Expansion joints or Flex Couplings?
 - Expansion joints are typically not needed when using TR Flex.
 - Placement of expansion joints, if required, should be in conjunction with expansion joints within the bridge.
 - Guideline for thermal expansion/contraction: 1,000-feet of Ductile iron pipe can expand/contract 0.75 inches through a 10-degree temperature change. Each TR Flex joint contains 0.36 to 0.60 inches of expansion/contraction depending on pipe diameter. There can be 55 joints in 1,000-feet of TR Flex pipe lending 20 to 33-inches of total available expansion.
 - Air Release Valves?
 - Drainage point provided?
 - Will each pipe length scheduled land its bell face 2-feet ahead of each hanger/support?
- Class of pipe is dictated by Internal pressure/Test pressure.