



# Guidelines For Post Installation Testing Of BOSS HDPE Pipe

## Flexible Pipe

Through deflection, BOSS High Density Polyethylene (HDPE) flexible pipe reacts to vertical soil loads when buried in a trench. As such, deflection demonstrates that the pipe works with the surrounding soil (backfill) so it can easily withstand common and even extreme soil loads. While testing for deflection is important, it is also essential to proceed with post installation testing to validate the water tightness of the sewer pipe system.

Therefore, post installation testing of flexible pipes may include deflection testing and leak testing. It is recommended that deflection testing occurs after the final backfill and compaction has been in place at least 30 days and prior to putting the pipe in operation. Final deflection testing should be performed in the 12<sup>th</sup> month of operation and prior to expiration of the Contractor's warranty and performance bond (Ref. 1, 2).

A recommended sequence for testing of sewer systems follows (Ref. 2):

1. Cleaning and flushing with high-pressure water blasting
2. Deflection testing
3. Watertightness (leakage) testing
4. Laser profiling and Closed Circuit Television (CCTV) testing

## DEFLECTION TESTING

Deflection testing determines whether the internal diameter of the barrel has been reduced more than the acceptable limit. Proper backfill and compaction of the backfill envelope are vital to control pipe deflection. CSA B182.11 establishes the allowable deflection limit for thermoplastic pipes at 7.5% of the pipe's internal diameter. There are several acceptable methods for measuring BOSS HDPE pipe deflection.

## Visual Inspection / Direct Measurement

Visual inspection is practical for diameters larger than 600mm (24in). A visual inspection can be performed by examining the pipe surface for shape issues such as cracking and localized flattening. Direct measurement of vertical deflection can be made using a measuring tape or any other acceptable method. Often a vertical measurement is recorded every 3.0 m (10.0 ft) or at a pipe joint and in the middle of the pipe length. A minimum of four measurements per pip installation is required (Ref. 3).





