

Test Report

Product Tested: Press-Seal Gasket Corporation **8Q PSX:Direct Drive**
Flexible Pipe-to-Structure Connectors

Specification: *ASTM C 923-00: Standard Specification for Resilient
Connectors for Reinforced Concrete Manhole Structures,
Pipes, and Laterals*

Date of Testing: April 2, 2003
Date of Report: April 7, 2003

Purpose of Test: Testing was conducted to confirm performance of the Press-Seal PSX:Direct Drive connectors with the requirements of ASTM C 923-00. PSX:Direct Drive is a mechanically-installed, boot-type connector. The connector is installed into a formed hole in the structure, using a torque-limiting wrench. Pipe is inserted through the opening of the connector and attached to the connector by tightening a clamp around the connector against the pipe.

Test Method: This test was conducted using a PSX:Direct Drive connector for 4" PVC pipe. The connector was installed into a preformed hole in the facing wall of a 24" x 24" x 24" (internal dimensions – 6" walls) wet cast inlet box. The precaster also made a flat-top cover for the inlet box, supplied with three cast-in pipe nipples for connecting water supply, evacuating air, and measuring internal pressures. A small flaw in the inlet allowed some water leakage through the concrete structure. However, the leakage was minimal, and did not affect the integrity of the testing of the PSX:Direct Drive connector.

One section of SDR 40 PVC sewer pipe was inserted into the connector from the outside of the structure. The PSX:Direct Drive connector was clamped to the pipe, as is the standard practice. All clamps were tightened using a pre-set (60 in/lbs) torque ratchet. Power Sleeve Torque connectors consisted of 3/8" – 16 thread bolts with 7/16" hex bolts to 12 ft-lbs. All clamps were tightened using a pre-set (60 in/lbs) torque ratchet.

A single piece of 1" Press-Seal EZ-STIK Butyl Sealant was placed around the top surface of the structure and the precast top was lowered into place. A confinement frame was placed on the top and bottom of the structure and carefully tightened to provide a seal. Shear forces were supplied using a hydraulic cylinder, rather than dead-weight loads. All gauges used to measure pressure within these tests were NIST traceable and in current calibration.

Testing was conducted in accordance with the requirements of ASTM C 923-00, Section 7, *Test Methods and Requirements*.

Test Results:

Test Condition One: Pipe in straight alignment and assembly subjected to minimum hydrostatic pressure of 13 psi for ten minutes.

Result: **PASS**; 8Q PSX:Direct Drive was subjected to a hydrostatic pressure of 13.5-14.0 psi for 10 minutes without leaking.

Test Condition Two: Pipe placed at a minimum 7-degree angular deflection and assembly subjected to minimum hydrostatic pressure of 10 psi for 10 minutes.

Result: **PASS**; the pipe entering the 8Q PSX:Direct Drive connector was moved to an angular deflection of 7 degrees and the assembly was subjected to a hydrostatic pressure of 10.0-10.5 psi for ten minutes without leaking.

Test Condition Three: Pipe placed in shear load of 150 lbs/in diameter and assembly subjected to minimum hydrostatic pressure of 10 psi for ten minutes.

Result: **PASS**; The pipe entering the 8Q PSX:Direct Drive connector was shear-loaded with 650 lbf at center point of pipe 24" from the structure. The assembly was subjected to a hydrostatic pressure of 10.0-10.5 psi for 10 minutes without leaking.

Conclusions:

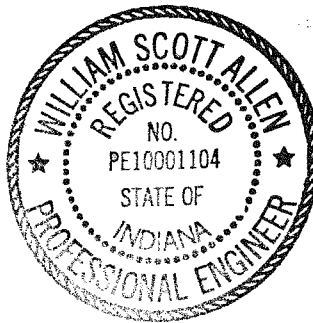
8Q PSX:Direct Drive, as manufactured and supplied by Press-Seal Gasket Corporation, has passed all performance requirements of ASTM C 923-00, Section 7.

Respectfully submitted,

GAI Consultants, Inc.



W. Scott Allen, PE
State of Indiana
PE 10001104



STATE OF INDIANA
COUNTY OF ALLEN

Subscribed and sworn to before me this 1th day of May, 2003, by W. Scott Allen, P.E.


Notary Public

County of Residence: 

My commission expires: 8/23/07

SANDY L. ARMSTRONG, NOTARY PUBLIC
STATE OF INDIANA, ALLEN COUNTY
COMMISSION NUMBER 461536
EXPIRES AUG. 23, 2007