

Test Report

Product Tested: Press-Seal Gasket Corporation **PSX:Direct Drive** 11" and 12" Flexible Pipe-to-Structure Connectors

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

Date of Testing: December 20, 2002

Date of Report: December 30, 2002

Purpose of Test: Testing was conducted to confirm performance of the Press-Seal PSX:Direct Drive connectors with the requirements of ASTM C 923. 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 two sizes of PSX:Direct Drive connectors for 8" PVC pipe, 11" and 12". Both connectors were installed into preformed holes in the facing walls of a 24" x 24" x 24" (internal dimensions – 6" walls) wetcast 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.

One section of SDR 35 ASTM D 3034 PVC sewer pipe was inserted into each connector from the outside of the structure. These pipe sections were connected inside the structure using a double-clamped flexible C-7 connector manufactured by Press-Seal Gasket. The PSX:Direct Drive connectors were also clamped to the pipe, as is their standard practice. 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, 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**; 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 11" PSX:Direct Drive connector was moved to an angular deflection of 9 degrees and the assembly was subjected to a hydrostatic pressure of 10.5 psi for ten minutes without leaking.

Test Condition Two: *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 11" Direct Drive connector was shear-loaded with 1260 lbf at center point of pipe and then the assembly was subjected to a hydrostatic pressure of 10.5 psi for 10 minutes without leaking.

Conclusions:

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

Respectfully submitted,

GAI Consultants, Inc.

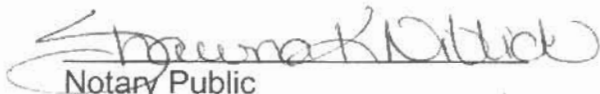


W. Scott Allen, PE
State of Indiana
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STATE OF INDIANA
COUNTY OF ALLEN

Subscribed and sworn to before me this 9th day of January, 2003, by W. Scott Allen, P.E.



Notary Public

County of Residence:

My commission expires:

Allen
5-27-07