



# ECONOSEAL®

## CAST-IN COMPRESSION-TYPE CONNECTOR for 4" to 15" Pipe

### What It Is

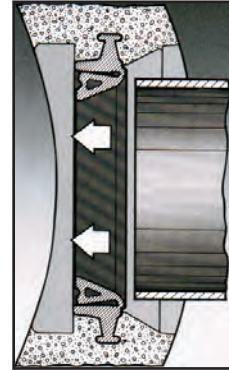
**ECONOSEAL** is a simple, reliable rubber compression-type connector which is embedded in the concrete when the manhole is cast. When the pipe is inserted, **ECONOSEAL** is compressed between the pipe and the concrete, creating a flexible watertight seal.

### How It Works

- Specially developed synthetic rubber is continuously tested and lab-certified
- Reusable tooling holds connector in position during casting process
- Connector is placed in the sealing position at the precast plant
- Manhole arrives at the jobsite ready to receive the pipe
- Pipe is beveled and lubricated, and then inserted through connector
- Manhole may be backfilled immediately

### Why It's Better

- Integrally cast into the structure when the concrete is poured
- Requires low insertion force
- No clamps to tighten or forget
- Fast and easy installation
- Less time in the ditch
- Durable, reusable casting forms



PIPE ENTERING MANHOLE



PIPE AND CONNECTOR  
IN SEALING POSITION

### How It Performs

**ECONOSEAL** meets or exceeds all requirements of the following Specifications and/or Test Methods:

**ASTM C 923**  
**ASTM C 1244**  
**ASTM C 1478**

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## Submittal Specification

A watertight flexible pipe-to-manhole connector shall be employed in the connection of the sanitary sewer and/or stormwater pipe to precast manholes or other structures.

The connector shall be ECONOSEAL as manufactured by Press-Seal Gasket Corporation, Fort Wayne, Indiana, or approved equal.

The connector shall be the sole element relied on to assure a flexible watertight seal of the pipe to the structure. The rubber connector shall be constructed solely of synthetic or natural rubber, shall meet/exceed the requirements of ASTM C 923, and shall have a minimum tensile strength of 1600 psi.

The connector shall be directly cast into the structure using casting accessories available from the connector manufacturer. Selection of the

proper casting accessories for the manhole and pipe requirement, and installation thereof, shall be in strict conformance with the recommendations of the connector manufacturer. Any dead end pipe stubs installed in connectors shall be restrained from movement per ASTM C 923.

The finished connection shall provide sealing to 13 psi (minimum), and shall accommodate deflection of pipe to 7 degrees (minimum) without loss of seal.

Vacuum testing shall be conducted in strict conformance with ASTM C 1244 prior to backfill. Other testing shall be conducted in strict conformance with the requirements of the connector manufacturer..

### PRODUCT PERFORMANCE

ECONOSEAL meets and/or exceeds all requirements of ASTM C 923, including physical properties of materials and performance testing. Performance testing includes:

- 13 psi minimum in straight alignment
- 10 psi at minimum 7° angle
- 10 psi minimum under shear load of 150 lbs/in. pipe diameter

**ECONOSEAL meets and/or exceeds the requirements of the following specifications:**

- ASTM C 923 *Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals*
- ASTM C 1478 *Standard Specification for Storm Drain Resilient Connectors Between Reinforced Concrete Storm Sewer Structures, Pipes and Laterals*
- ASTM C 1244 *Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test*

TYPICAL TEST RESULTS for ECONOSEAL (as in ASTM C 923 and C 1478)			
Test	ASTM Test Method	Test Requirements	Typical Result
CHEMICAL RESISTANCE; 1N SULFURIC ACID and 1N HYDROCHLORIC ACID	D 534, AT 22°C FOR 48 HRS	NO WEIGHT LOSS NO WEIGHT LOSS	NO WEIGHT LOSS NO WEIGHT LOSS
TENSILE STRENGTH	D 412	1200 PSI, MIN.	2100 PSI
ELONGATION AT BREAK	D 412	350%, MIN.	600%
HARDNESS	D 2240 (SHORE A DUROMETER)	±5 FROM THE MANUFACTURER'S SPECIFIED HARDNESS	<2
ACCELERATED OVEN-AGING	D 573, 70± 1°C FOR 7 DAYS	DECREASE OF 15%, MAX. OF ORIGINAL TENSILE STRENGTH, DECREASE OF 20%, MAX. OF ELONGATION	-13% TENSILE CHANGE, -14% ELONGATION CHANGE
COMPRESSION TEST	D 395, METHOD B, AT 70°C FOR 22 HRS	DECREASE OF 25%, MAX. OF ORIGINAL DEFLECTION	13%
WATER ABSORPTION	D 471 IMMERSE 0.75 BY 2-IN. SPECIMEN IN DISTILLED WATER AT 70°C FOR 48 hrs	INCREASE OF 10%, MAX. OR ORIGINAL BY WEIGHT	3.50%
OZONE RESISTANCE	D 1171	RATING 0	PASS
LOW-TEMP, BRITTLE POINT	D 746	NO FRACTURE AT -40°C	PASS
TEAR RESISTANCE	D 624, METHOD B	200 LBF/IN. (MIN.)	450 LBF/IN.

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## SELECTION GUIDE

PIPE OD 4.21" - 15.30"  
(107 - 389 mm)

PIPE O.D. INCH	PIPE O.D. mm	PIPE DESCRIPTION	227 MANDREL NUMBER	258 CASTING RING
4.210	107 mm	4" (100 mm) PVC ASTM C 3034	471	471
4.300	109 mm	4" (100mm) TRUSS ASTM D 2680	471	471
4.800	122 mm	4" (100 mm) DI AWWA C 151	530	530
6.275	159 mm	6" (150 mm) PVC SDR35 ASTM D 3034	677	677
6.300	160 mm	6" (150 mm) TRUSS ASTM B 2680	677	677
6.900	175 mm	6" (150 mm) DI AWWA C 151	765	765
8.400	213 mm	8" (200 mm) PVC SDR35 ASTM D 3034	915	915
9.050	230 mm	8" (200 mm) DI AWWA C 151	980	980
10.500	267 mm	10" (250 mm) PVC SDR35 ASTM D 3034	1125	1125
11.100	282 mm	10" (250 mm) DI AWWA C 151	1185	1185
12.500	318 mm	12" (300 mm) PVC SDR35 ASTM D 3034	1325	1325
13.200	335 mm	12" (300 mm) DI AWWA C 151	1395	1395
15.300	389 mm	15" (375 mm ) PVC SDR35 ASTM D 3034	1605	1605
15.300	389 mm	14" (350 mm) DI AWWA C 151	1605	1605

NOTE: • A reusable Casting Mandrel and Casting Ring are required for each connector to be cast.  
 • Above Casting Mandrels and Casting Rings are for 48" ID X 5" wall (1200 x 125 mm) Manholes only.  
 For other casting form requirements, contact our Customer Service Department.

**CI/DI** Cast Iron and Ductile pipes produced to AWWA C 151 specification standards

**PVC D 3034** PVC pipes produced to ASTM D 3034 specification standards up through 15" ID (375 mm) size

**TRUSS** Pipes produced to ASTM D 2680 specification standards

### OTHER PIPE SIZES and TYPES

The listing contains the sizes and types of pipe that can be used with ECONOSEAL Connectors. Other pipe sizes and types can be connected with PSX:Direct Drive and/or PSX:Positive Seal. For information on pipes not listed, please contact our Customer Service Department.

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