CAST-A-SEAL®

CAST-IN BOOT-TYPE CONNECTOR

What It Is

CAST-A-SEAL is cast-in, flexible watertight pipe-to-structure connector. Its design allows it to be placed into the structure formwork, and it is cast into the concrete when it is poured, eliminating the the time and expense of forming or coring holes. The large keylock of CAST-A-SEAL is embedded in the concrete, creating a watertight seal. After stripping, the CAST-A-SEAL is unfolded to the outside of the structure and is attached to the pipe with stainless steel take-up clamps.

How It Works

- Specially developed synthetic rubber is continuously tested and lab-certified
- The connector is cast into the concrete product when it is made
- The large keylock assures a watertight seal between the connector and the concrete
- Casting tooling is available for many sizes, or can be fabricated easily from host pipe or rolled steel rings.

How It Performs

CAST-A-SEAL *meets or exceeds all requirements of the following Specifications and/or Test Methods:*

ASTM C 923
ASTM C 1244
ASTM C 1478
ASTM C 1644 (CAS 402)
ASTM F 2510

Why It's Better

- Simple cast-in design eliminates extra time and expense of casting or coring holes
- Can be used as outfall hole in most coring operations
- Reliable boot-type design accommodates pipe deflection and movement without losing seal
- Available for pipe sizes from 1-1/4" to 72"
- Use in manholes, wet wells, pump and lift stations, stormwater structures, on-site treatment structures, grease interceptors, or any application requiring a flexible watertight connector

Protected under one or more of the following U. S. Patents: 5529312, 6676136, 7028972

PRESS-SEAL GASKET CORPORATION
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PRODUCT SPECIFICATION

Submittal Specification

A flexible Pipe-to-Manhole connector shall be employed in the connection of the sanitary and storm drain sewer pipe to precast manholes or poured-in-place structures. The connector shall be CAST-A-SEAL® 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 manhole. The connector shall consist of a rubber gasket and one or two external take-up clamp(s).

The rubber gasket element shall be constructed solely of synthetic or natural rubber, and shall meet or exceed the requirements of ASTM C-923.

For precast applications, the CAST-A-SEAL® is secured to the structure as part of a monolithic pour. For cast-in-place applications, a secondary plant or field operation is required to grout the annular space. Non-shrink grout shall be placed around the entire keylock and shall maintain a minimum thickness of 1-inches between the rubber gasket and any existing or hardened concrete to permit proper consolidation around the gasket.

The external take-up clamp shall be constructed of Series 300 non-magnetic stainless steel and shall utilize no welds in its construction. The clamp shall be installed by torquing the adjusting screw using a torque-setting wrench available from the connector manufacturer.

Selection of the proper size connector 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

CAST-A-SEAL 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

CAST-A-SEAL 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 F 2510 *Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures and Corrugated High Density Polyethylene Drainage Pipes*
- ASTM C 1244 *Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test*
- ASTM C 1644 *Standard Specification for Resilient Connectors Between Reinforced Concrete On-SIte Wastewater Tanks and Pipes (CAS 402)*

TYPICAL TEST RESULTS for CAST-A-SEAL (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 22ºC 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.	525%
HARDNESS	D 2240 (SHORE A DUROMETER)	±5 FROM THE MANUFACTURER'S SPECIFIED HARDNESS	<2
ACCELERATED OVEN-AGING	D 573, 70± 1ºC 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 70ºC 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 70ºC 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 -40ºC	PASS
TEAR RESISTANCE	D 624, METHOD B	200 LBF/IN. (MIN.)	450 LBF/IN.

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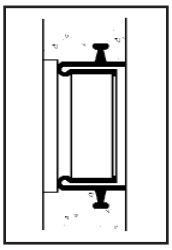
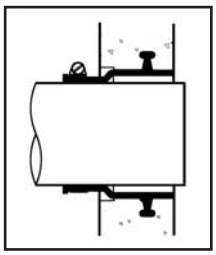
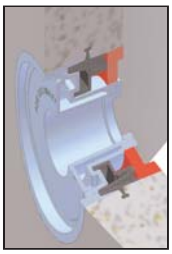
CAST-IN BOOT-TYPE CONNECTOR
Product Overview



CAST-A-SEAL® 402

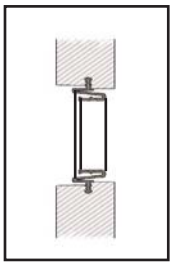
- Applications include septic tanks and other on-site treatment tanks, grease interceptors, cisterns, vaults, dosing tanks, and manholes.
- Pipe Diameters from 1-1/4” - 6” PVC
- Straight-wall mandrels available for 2-1/2” - 6” walls, with bolted or magnetic attachment.





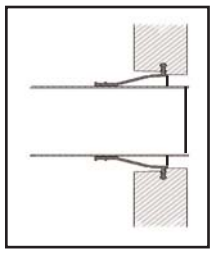
CAST-A-SEAL® 964

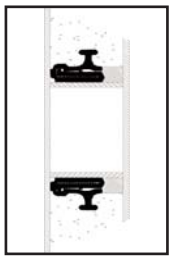
- Designed specifically for connecting 4” and 6” pipe to manholes or other precast concrete structures
- Available with or without a closed face
- Patented design allows easy replacement of connector if it is damaged or if pipe changes
- Mandrel and casting ring are available for 48” x 5” standard manhole with bolt attachment



CAST-A-SEAL® 12-08

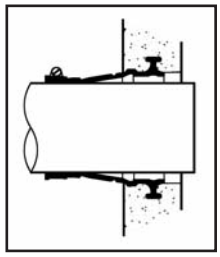
- Designed specifically for connecting 8” PVC to manholes or other precast concrete structures
- Patented design allows easy replacement of connector if it is damaged or if pipe changes
- Mandrel and casting ring are available for 48” x 5” or 60” x 6” standard manhole, with either bolt or magnetic attachment.

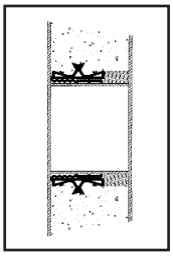




CAST-A-SEAL® 603

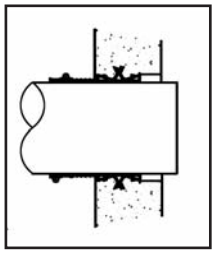
- Mid-range CAS connector for 8” - 18” PVC pipe
- Mandrels and casting rings available for 8” - 18” PVC pipe connecting into 48” x 5” manhole
- Can also be used in straight-wall applications with walls as thin as 2-1/2”
- Casting tooling for straight-wall applications is easily fabricated from styrofoam, host pipe or steel ring





CAST-A-SEAL® 802

- Available for pipe diameters from 18” up
- Designed for sealing large diameter pipes entering straight-wall structures
- Casting tooling is easily fabricated from styrofoam, host pipe or steel ring
- Can be mortared in place in an existing structure or formed into poured-in-place projects



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SELECTION GUIDE

PVC PIPE OD 1.66” - 6.50”....CAS 402
PVC PIPE OD 3.5” - 6.5”.....CAS 964
PVC PIPE OD 8.40” .....CAS 12-08
PVC PIPE OD 8.40” - 18.70” ...CAS 603
PIPE OD 18.70 + ...CAS 802

PIPE O.D./IN.	PIPE DESCRIPTION	CAST-A-SEAL PART	Straight-Wall Mandrels	48 X 5 Manhole Mandrels and Casting Rings
1.66	1-1/4” PVC Sched 40	CAS 402 - 2 Inch	2.5” - 6” Wall	---
1.90	1-1/2” PVC Sched 40	CAS 402 - 2 Inch	2.5” - 6” Wall	---
2.38	2” PVC Sched 40	CAS 402 - 2 Inch	2.5” - 6” Wall	---
3.50	3” PVC Sched 40	CAS 402, 402F, 964 - 4 Inch with 3” Adapter	2.5” - 6” Wall	48” ID x 5” CAS 964 only
4.21	4” PVC SDR 35 ASTM C 3034	CAS 402, 402F, 964 - 4 Inch	2.5” - 6” Wall	48” ID x 5” CAS 964 only
4.50	4” PVC Sched 40	CAS 402, 402F, 964 - 4 Inch	2.5” - 6” Wall	48” ID x 5” CAS 964 only
6.28	6” PVC SDR35 ASTM D 3034	CAS 402 or 964 - 6 Inch	2.5” - 6” Wall	48” ID x 5” CAS 964 only
6.50	6” PVC Sched 40	CAS 402 or 964 - 6 Inch	2.5” - 6” Wall	48” ID x 5” CAS 964 only
8.40	8” PVC SDR35 ASTM D 3034	CAS 12-08	None	48” ID x 5” 60” ID x 6”
8.40	8” PVC SDR35 ASTM D 3034	CAS 603	Customer-Supplied	Yes
10.50	10” PVC SDR35 ASTM D 3034	CAS 603	Customer-Supplied	Yes
12.50	12” PVC SDR35 ASTM D 3034	CAS 603	Customer-Supplied	Yes
15.30	15” PVC SDR35 ASTM D 3034	CAS 603	Customer-Supplied	Yes
18.70	18” PVC SDR 35 ASTM D 3034	CAS 603	Customer-Supplied	Yes
18.70 +	Concrete, PVC, Ductile Iron, Truss, etc.	CAS 802	Customer-Supplied	---

PVC D 3034 PVC pipes produced to ASTM D 3034 specification standards up through 18" ID size

PVC Schedule 40 PVC pipes produced to ASTM D 1785 or ASTM D 2665 specification standards

OTHER PIPE SIZES and TYPES

The listing contains the sizes and types of pipe that can be used with CAST-A-SEAL 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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