



# WS WATERSTOP

# GROUTING RING

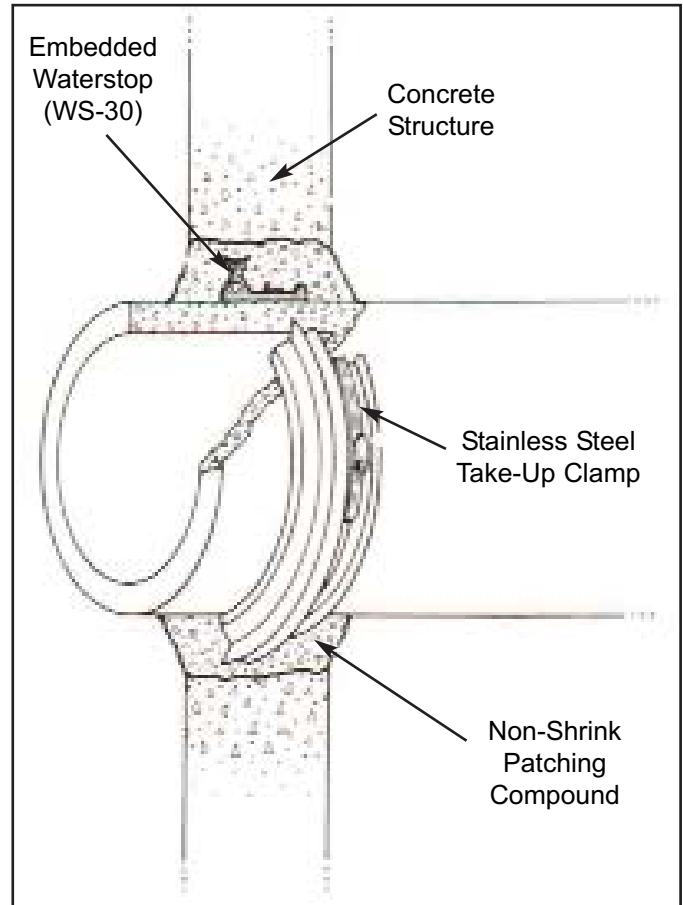
Seal For Pipes  
and Concrete Structures  
For Pipe Diameters from 1.5" - 144"

## What It Is

**WS Series WATERSTOP** is a rubber ring which is compressed around the pipe circumference using Stainless Steel Clamps, preventing infiltration and exfiltration between the **WS Series WATERSTOP** and the pipe. It is then either grouted into an existing structure, or has a new structure poured around it.

## How It Works

- Specially developed synthetic rubber is continuously tested and lab-certified
- Stainless Steel clamps secure the rubber ring to the pipe circumference
- The rubber component is placed to follow the arc of the manhole wall and with the clamp placed straight across the confinement area
- Stainless Steel clamps secure the rubber ring to the pipe circumference
- The pipe is placed in position and grouted in place using non-shrink patching compound or
- The pipe is placed in position in the formwork and the structure is poured around it
- After the mortar or concrete has set, the structure can be backfilled



## Why It's Better

- Provides better seal than mortar joint alone
- Can be used with existing structures, new precast structures, or new poured-in-place structures
- Easily adapts to field conditions
- Provides flexibility in installation
- Prevents infiltration/exfiltration between pipe and WATERSTOP
- Available for almost any pipe size, style, or type

## How It Performs

WS Series WATERSTOP *meets or exceeds the Physical Property requirements of the following Specifications:*

**ASTM C 923**  
**ASTM C 1478**  
**ASTM F 2510**

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# WS WATERSTOP

# PRODUCT SPECIFICATION

## Submittal Specification

A Pipe-to-Manhole connector shall be employed in the connection of sanitary sewer or stormwater pipes to precast concrete or poured-in-place structures. The connector shall be WS Series WATERSTOP as manufactured by Press-Seal Gasket Corporation, Fort Wayne, Indiana, or approved equal. The connector shall be the sole element relied on to assure the seal of the pipe to the structure. The connector shall consist of a rubber gasket and one external take-up clamp.

The rubber gasket element shall be constructed solely of synthetic or natural rubber, and shall meet or exceed the requirements of ASTM C-923, Section 4 "Materials and Manufacture." Minimum thickness of the cross-section shall be 0.30-inches. Key lock and water stop shall extend into the concrete a minimum of 1.5-inches to provide an adequate anchorage and watertight seal through the cast-in-place grouted annular space. Non-shrink grout shall be

placed around the entire water stop and maintain a minimum thickness of 2-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 requirements shall be in strict conformance with the recommendations of the connector manufacturer. Testing of completed field joints, if required, shall be conducted in strict conformance with the requirements of the connector manufacturer.

### PRODUCT PERFORMANCE

**WS Series WATERSTOPS meet and/or exceed the Physical Property 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*

ORDERING INFORMATION	
PIPE SIZE	WS SERIES WATERSTOP PROFILE
1.5" - 3"	WS-20
4"-6"	WS-25
8" - 144"	WS-30
All WS Series WATERSTOPS are made to order. Simply call our Customer Service Department with pipe OD and quantity	

TYPICAL TEST RESULTS for WS WATERSTOP (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.	1450 PSI
ELONGATION AT BREAK	D 412	350%, MIN.	540%
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.)	215 LBF/IN.

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