

PROJECT: DOWNTOWN LEE'S SUMMIT BANK RENO

JOB # 625

DATE: 8/29/2022

☒ REVIEWED

DIV/SPEC: 02698-01

☐ REVIEWED AS NOTED

DEPT: _____

☐ REVISE AND RESUBMIT

CKD BY: Nik Torres

SUBMITTAL HAS BEEN REVIEWED BY JWM CONTRACTING, LLC IN RESPECT TO FIELD CONSTRUCTION CRITERIA AND COMPLIANCE WITH CONTRACT DOCUMENTS IN REVIEWING THIS SUBMITTAL. JWM CONTRACTING, LLC ASSUMES NO RESPONSIBILITY FOR DESIGN CRITERIA AND IN NO WAY RELIEVES SUBCONTRACTOR AND/OR CONTRACT VENDOR OF THEIR RESPONSIBILITY TO FULLY COMPLY WITH CONTRACT DOCUMENTS.

JWM CONTRACTING, LLC

Site Utilities- Domestic Water, Grease Interceptor, Sanitary and Storm - PD & SD

Engineering Shop Drawing
Solutions Review

Project: 228 Main

Date: 9-23-2022

Submittal # Site 1

By: MJS

☒ Approved ☐ Approved

☐ Approved as noted



Lee's Summit Downtown Bank

Lee's Summit, MO

Submittal Package





Domestic Water



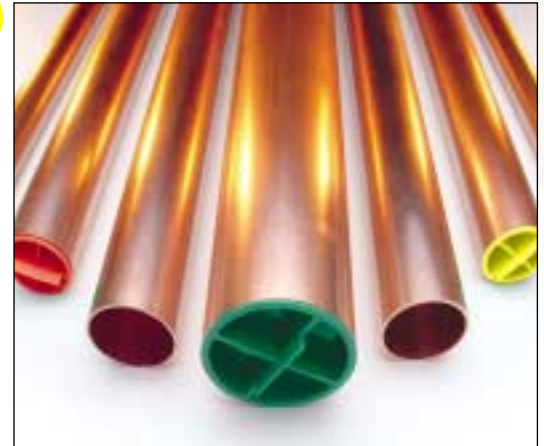
COPPER TUBE FOR CONSTRUCTION APPLICATIONS

Cerro tube is the original copper tube for plumbing, air conditioning and refrigeration applications in residential, commercial and institutional installations. We provide a complete range of sizes and types, engineered to exact specifications to meet the highest standards of performance.

Product	Temper	Lengths	Code	Uses	Specifications
Copper Water Tube, Type K (heavy wall)	Hard Soft	10 ft. straight 20 ft. straight 20 ft. straight 40 ft. coils 60 ft. coils 100 ft. coils	Green	Domestic water service and distribution, fire protection, solar, fuel/fuel oil, HVAC, snow melting, compressed air, natural gas, liquefied petroleum (LP) gas, vacuum	ASTM B88
Copper Water Tube, Type L (medium wall)	Hard Soft	10 ft. straight 20 ft. straight 20 ft. straight 30 ft. coils 40 ft. coils 60 ft. coils 100 ft. coils	Blue	Domestic water service and distribution, fire protection, solar, fuel/fuel oil, HVAC, snow melting, compressed air, natural gas, liquefied petroleum (LP) gas, vacuum	ASTM B88
Copper Water Tube, Type M (light wall)	Hard	10 ft. straight 20 ft. straight	Red	General plumbing and heating purposes; drainage waste, vent and other light pressure uses.	ASTM B88
Copper Drainage Tube, Type DWV	Hard	10 ft. straight 20 ft. straight	Yellow	Drainage waste, vents, soil and other non-pressure applications	ASTM B306

**Copper UNS No. C12200
Types K, L, and M
ASTM B88**

Color marking is not applicable to tube furnished in annealed straight lengths or coils.



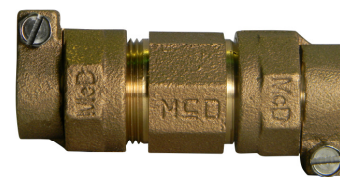
Typical uses include:

- Type M - above ground residential and light commercial uses. (Sizes range from 3/8" - 8" diameter)
- Type L - residential and commercial uses. (Sizes range from 1/4" - 8" diameter)
- Type K - underground residential, commercial and industrial uses. (Sizes range from 1/4" - 8" diameter)
- Type DWV - ASTM B306: used for drainage, waste and vents

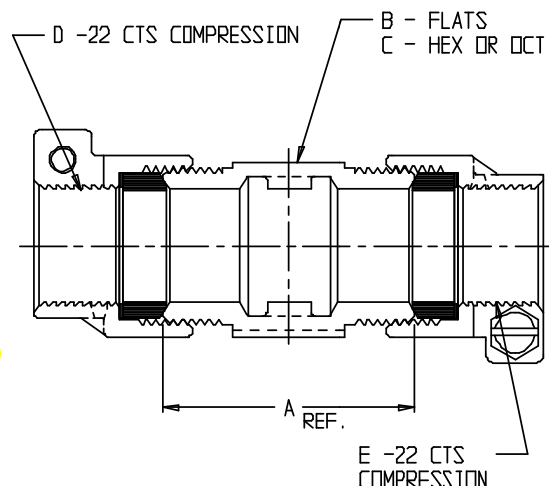
SUBMITTAL DATA SHEET

NL Service Fitting – 74758-22

-22 CTS Compression x -22 CTS Compression



MODEL	SIZE	A	B	C	D	E
74758-22	1/2	1.60	1.06	HEX	1/2	1/2
74758-22	1/2 X 3/4	1.80	1.38	HEX	1/2	3/4
74758-22	13/16	2.00	1.20	OCT	13/16	13/16
74758-22	13/16 X 3/4	2.00	1.20	OCT	13/16	3/4
74758-22	3/4	2.00	1.34	OCT	3/4	3/4
74758-22	3/4 X 1	2.11	1.38	OCT	3/4	1
74758-22	3/4 X 1 1/4	2.10	1.69	HEX	3/4	1 1/4
74758-22	1	2.40	1.38	OCT	1	1
74758-22	1 X 1 1/4	2.61	1.85	OCT	1	1 1/4
74758-22	1 X 1 1/2	2.60	1.85	OCT	1	1 1/2
74758-22	1 1/4	2.56	1.69	OCT	1 1/4	1 1/4
74758-22	1 1/4 X 1 1/2	2.61	1.69	OCT	1 1/4	1 1/2
74758-22	1 1/4 X 2	2.62	2.44	OCT	1 1/4	2
74758-22	1 1/2	3.31	2.00	OCT	1 1/2	1 1/2
74758-22	1 1/2 X 2	2.62	2.44	OCT	1 1/2	2
74758-22	2	3.53	2.45	OCT	2	2
74758-22	2 1/2	3.25	3.12	OCT	2 1/2	2 1/2



SUBMITTAL INFORMATION

- Manufactured in compliance with ANSI/AWWA C800 (latest revision)
- Brass components in contact with potable water conform to ASTM B584, UNS C89833 (latest revision) and identified with "NL"
- Certified to NSF/ANSI 61 and NSF/ANSI 372
- Brass components not in contact with potable water conform to ASTM B62 and ASTM B584, UNS C83600 -85-5-5-5 (latest revision)
- Large wrench flats provided for proper installation
- Insert stiffeners required for all flexible plastic connections



A.Y. McDonald Mfg. Co.
P.O. Box 508
Dubuque, IA 52004-508

Toll Free: 1-800-292-2737
Fax: 1-800-832-9296
Hours: 7:00 a.m. – 5:00 p.m., CST

sales@aymcdonald.com
www.aymcdonald.com

A.Y. McDonald considers the information on this assembly drawing correct when published. Item and option availability, including specifications, are subject to change without notice.

Submitted by:

08-14



CERTIFICATE OF COMPLIANCE

DATE: 08/17/2022

REFERENCE: Downtown Lee's Summit Bank
Lee's Summit, MO

CONTRACTOR: Larry Bair Excavating

ATTENTION: Chris Birk

This is to certify that the reinforced concrete manhole components manufactured by American Concrete Products, Co. conforms to ASTM Specification C-478 and American Concrete Products is a NPCA certified plant.

American Concrete Products, Co.

By *Chad Stull*
Chad Stull- Sales Representative

This is to certify that the quality control procedures of

American Concrete Products

6945 Inland Dr.
Kansas City, KS 66106-5000

were audited during an on-site plant inspection on April 20, 2021 and have met the

Precast Concrete Requirements

stated in the NPCA Quality Control Manual for Precast Concrete Plants

Renewal Granted on November 2, 2021

Participation in the NPCA Plant Certification program affirms an ongoing commitment to producing quality precast concrete products to recognized standards of the *American Association of State Highway and Transportation Officials* (AASHTO), the American Concrete Institute (ACI), the ASTM International (ASTM), the American Welding Society (AWS), the Precast Prestressed Concrete Institute (PCI), and the Concrete Reinforcing Steel Institute (CRSI).

This renewal certificate is valid through December 31, 2022.



A handwritten signature in black ink, appearing to read "Mark Wieser".

Mark Wieser, Chairman of the Board

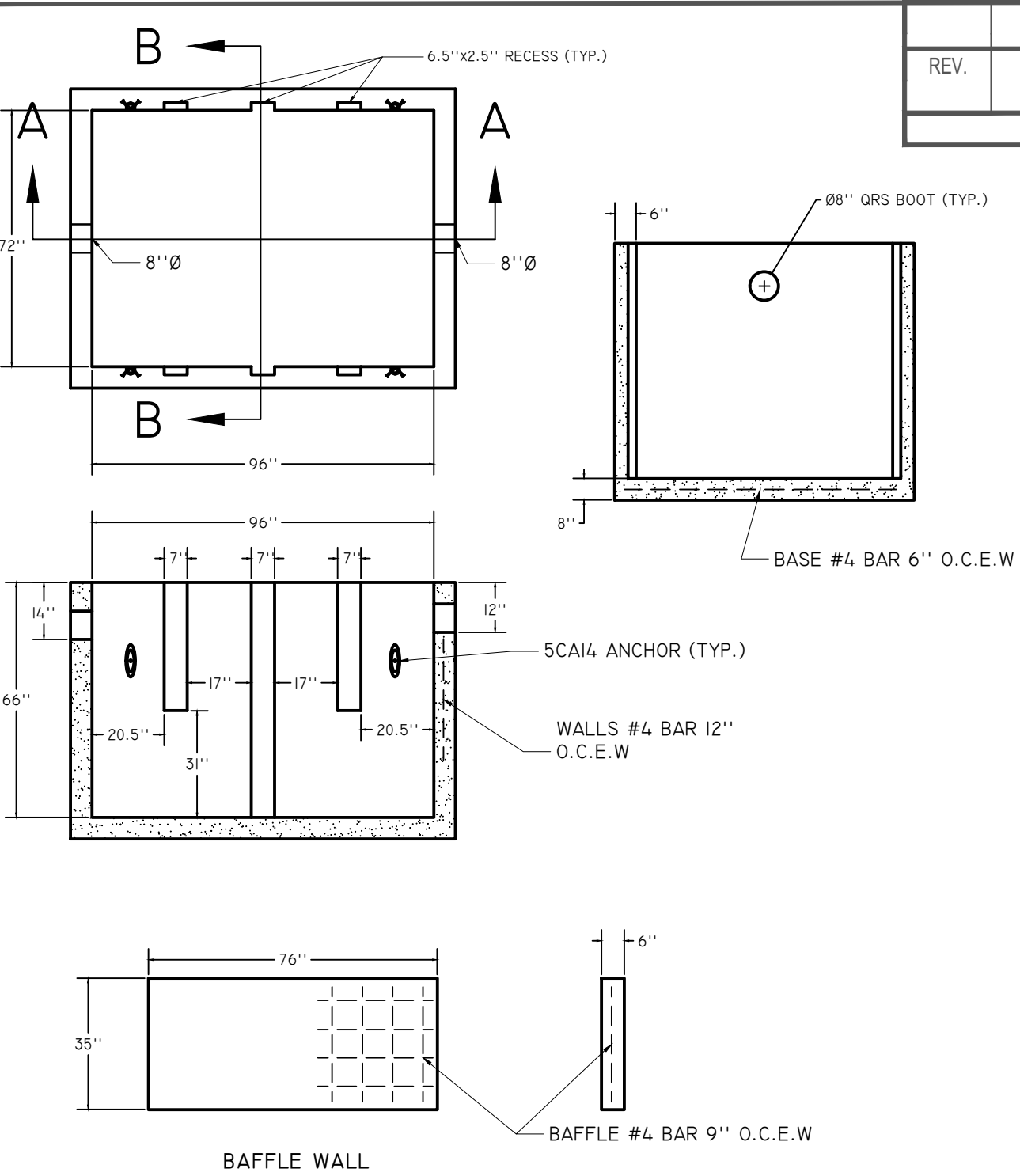
A handwritten signature in black ink, appearing to read "Frederick H. Grubbe".

Frederick H. Grubbe, NPCA President

A handwritten signature in black ink, appearing to read "Phillip B. Cutler".

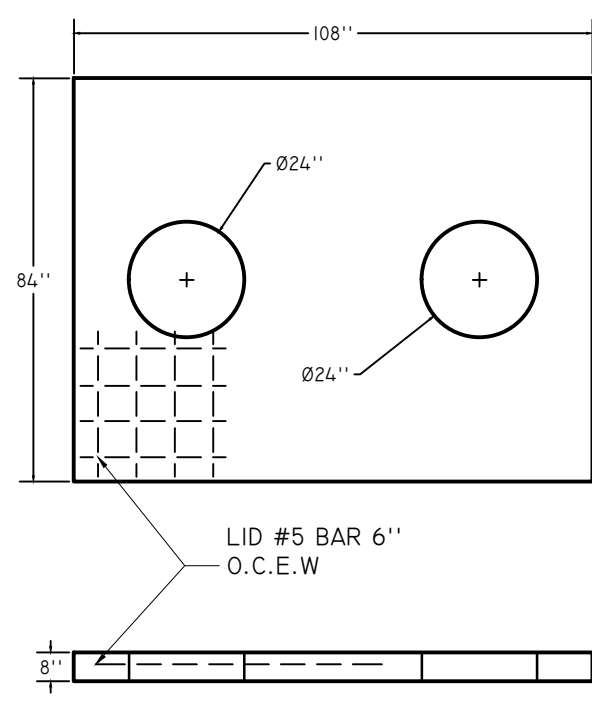
Phillip B. Cutler, P.E., Director of Quality Assurance Programs


NPCA | 1320 City Center Drive, Suite 200 | Camel, IN 46032
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REVISIONS			
REV.	DESCRIPTION	BY:	DATE

DISCRIPTION	QUANTITY	WEIGHT	PART #
LID	1	6400LBS	#243450
BOTTOM WITH BASE	1	22000LBS	#243449
BAFFLE WALLS	3	1300LBS	#243451





AMERICAN CONCRETE PRODUCTS

SCALE: N.T.S

DATE: 11/18/2021

DR. BY:

CK. BY:

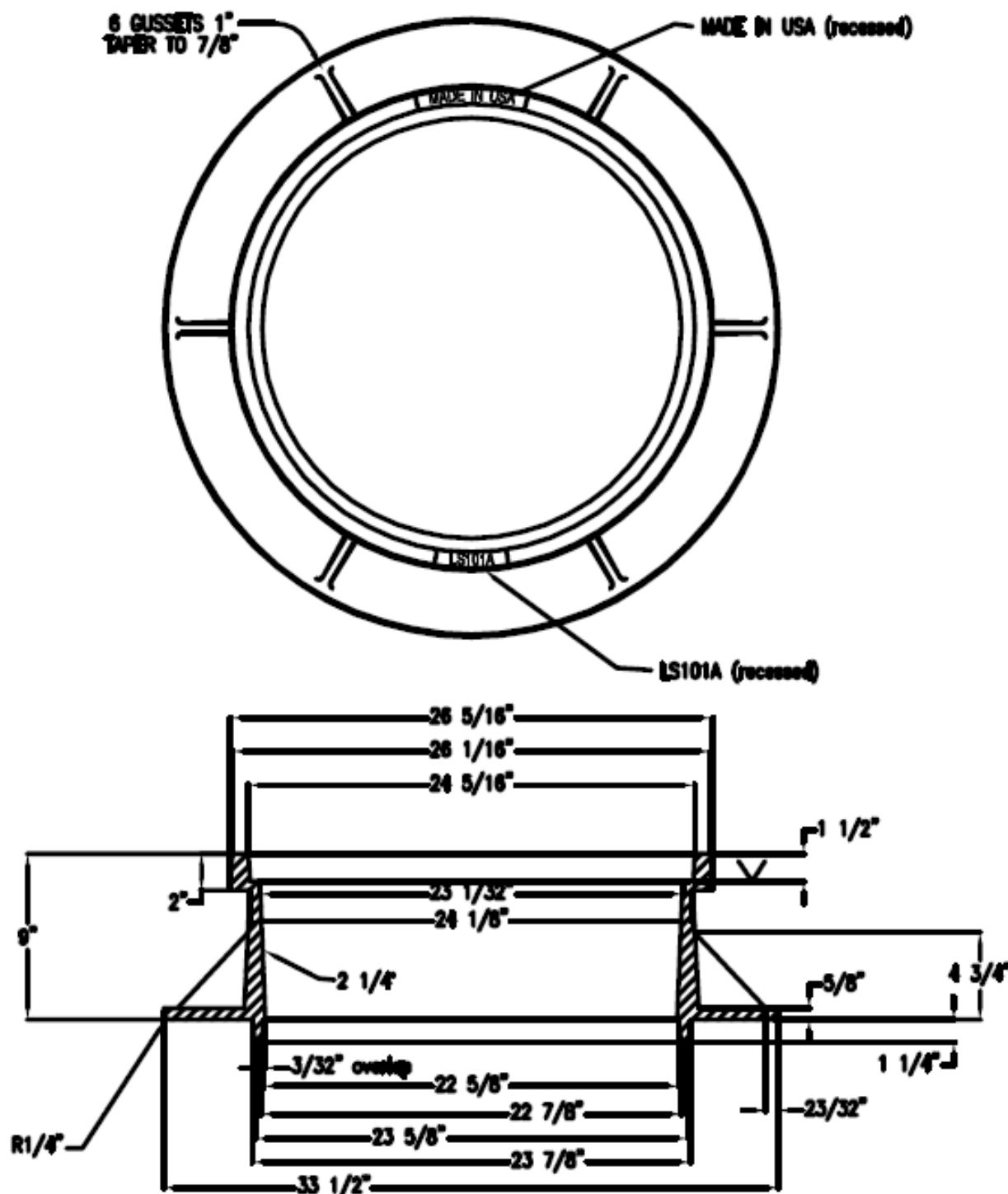
1500 GALLON GREASE INTERCEPTOR (THREE BAFFLES)

PROJECT: X

LOCATION: X

CONTRACTOR:

DRAWING NUMBER



NOTE:

1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACES.

MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B

FINISH: NO PAINT

WEIGHT: FRAME 250 LBS.



Deeter Foundry, Inc.

2045 NORTH 7th STREET
LINCOLN, NEBRASKA 68529

1320

MANDREL RING

Date 20 APR 93

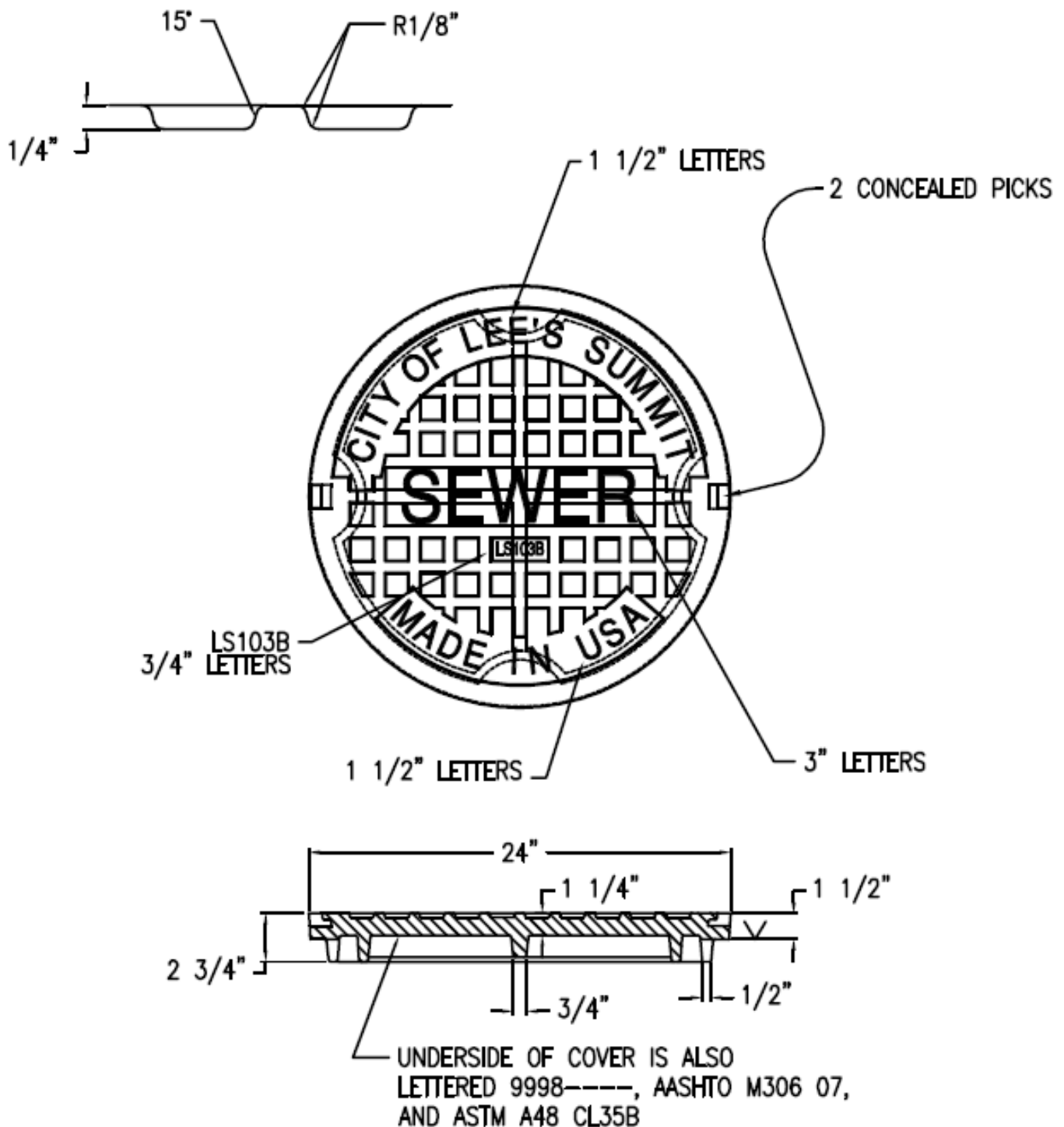
Drawn by RICK

Size 1/8

DRAWING NO. 1320-0101

Approved by KRM

Date 14 APR 06



NOTE:

1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.

Q&B DWG. REF: 1320-2122 (A&B) (A&B) SCALE: 1/8"



Deeter Foundry, Inc.

5945 NORTH 70th STREET
LINCOLN, NEBRASKA 68529

1320

STANDARD MANHOLE COVER

Date: 12 MAY 95

Drawn by: RON

Scale: 1/8"

DRAWING NO. 1320-2122

Revised by: RON

Date: 05 MAY 08

MATERIAL: CAST GRAY IRON ASTM A-48,
CLASS 35B

FINISH: NO PAINT

WEIGHT: 157 LBS.

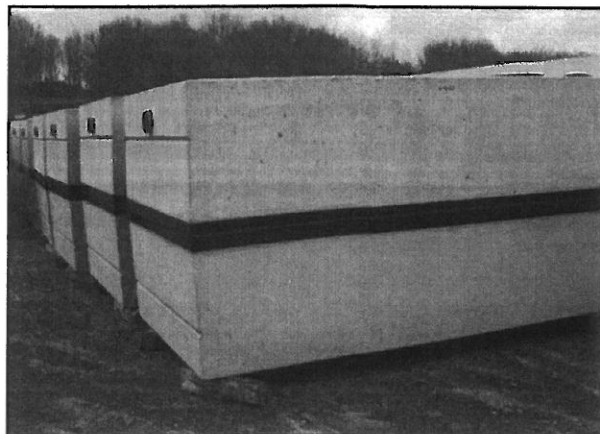


EZ-WRAP

EXTERIOR BUTYL RUBBER JOINT WRAP

What It Is

EZ-WRAP is an extruded butyl adhesive tape designed to provide high strength, watertight seals on properly primed concrete surfaces and concrete structure joints of any kind. The butyl compound is soft, tacky and bonded to either a plastic backing or an EPDM rubber backing. Both kinds of tape are wound in rolls on a release liner for easy application.



Why It's Better

- High quality butyl rubber base
- Available with EPDM Rubber or HDPE Plastic backing
- All-weather performance
- Good adhesion to dry concrete, commonly specified concrete coatings, steel, glass, or painted surfaces
- Coated release paper for easy installation
- Long service life
- Primers recommended for use on damp, contaminated, or difficult surfaces

How It Performs

EZ-WRAP BUTYL JOINT WRAP meets or exceeds all requirements of the following Standards, Specifications and/or Test Methods:

ASTM C 877 (Type III) - Standard Specification for External Sealing Bands for Concrete Pipe, Manholes, and Precast Box Sections

Typical Applications

- | | |
|-----------------------------------|-----------------------------------|
| • Sanitary Manhole Joints | • Underground Utility Vaults |
| • Grade Ring Joints | • Stormwater Treatment Structures |
| • Stormwater Manhole Joints | • Stormwater Inlet Structures |
| • Irrigation and Drainage Systems | • On-Site Treatment Tanks |
| • Box Culverts | • Grease Interceptors |
| • Elliptical/Arch Pipe | • Wet Wells |
| • Architectural Foundations | • Concrete Bridge Spans |

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EZ-WRAP

SPECIFICATION and SELECTION GUIDE

BUTYL JOINT WRAP WITH PLASTIC BACKING

The joints and/or joining surfaces of the structures shall be sealed with a butyl-rubber-based tape. The material shall be EZ-WRAP Plastic as supplied by PRESS-SEAL GASKET CORPORATION, Fort Wayne, Indiana, or approved equal. The butyl component of the tape shall consist of 50% (min.) butyl rubber, shall contain 2% or less volatile matter, and shall be .050" (1.3 mm) thick. The backing component shall be high-density polyethylene film. A release paper may be utilized.

For manholes, the tape width shall be 6" (150 mm) wide. The tape shall be overlapped at least twice its width. The tape shall not be stretched during application. Primer and/or adhesive as recommended by the tape supplier shall be employed for adverse, critical, or other applications.

Testing of joints and compliance with construction requirements shall be conducted in strict conformance with the requirements of the sealant supplier.

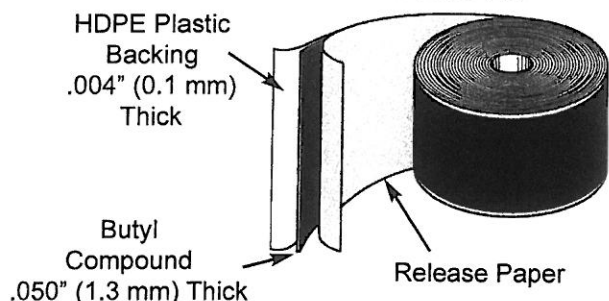
BUTYL JOINT WRAP WITH RUBBER BACKING

The joints and/or joining surfaces of the structures shall be sealed with a butyl-rubber-based tape. The material shall be EZ-WRAP Rubber as supplied by PRESS-SEAL GASKET CORPORATION, Fort Wayne, Indiana, or approved equal. The butyl component of the tape shall consist of 50% (min.) butyl rubber, shall contain 2% or less volatile matter, and shall be .030" (0.75 mm) thick. The backing component shall be EPDM rubber, and shall be .045" (1.1 mm) thick. A release paper may be utilized.

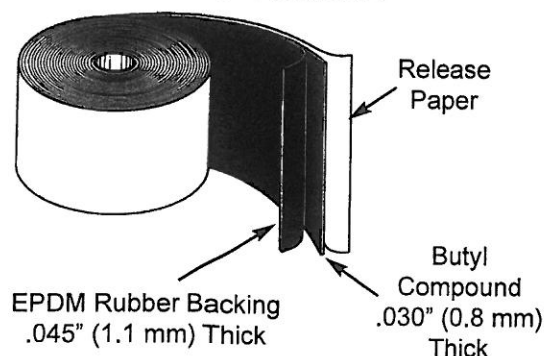
For manholes, the tape width shall be 6" (150 mm) wide. The tape shall be overlapped at least twice its width. The tape shall not be stretched during application. Primer and/or adhesive as recommended by the tape supplier shall be employed for adverse, critical, or other applications.

Testing of joints and compliance with construction requirements shall be conducted in strict conformance with the requirements of the sealant supplier.

EZ-WRAP PLASTIC



EZ-WRAP RUBBER



Width	Width	Length	Length	Backing	Part Number	Width	Width	Length	Length	Backing	Part Number
6"	150 mm	100'	30.5 M	HDPE	276.773.6	6"	150 mm	100'	30.5 M	EPDM	276.911.6
9"	225 mm	100'	30.5 M	HDPE	276.773.9	9"	225 mm	100'	30.5 M	EPDM	276.511.9
12"	300 mm	50'	15.25 M	HDPE	276.773.12	12"	300 mm	50'	15.25 M	EPDM	276.911.12

ALSO AVAILABLE: EZ-WRAP PAKS are pre-cut packages of EZ-WRAP designed specifically to seal manhole joints.

Each **EZ-WRAP PAK** includes an easy-to-use spray adhesive and pre-cut wraps for standard 48" (1200 mm), 60" (1500 mm), or 72" (1800 mm) manhole joints.

- NOTE:**
- EZ-WRAP is designed to be used with EZ-STIK No. 4 primer, or our spray adhesive
 - EZ-WRAP should not be stretched during installation

If you have any questions, please contact our Customer Service Department or your Press-Seal representative.

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EZ-WRAP PAK

PRECUT BUTYL RUBBER JOINT WRAP with SPRAY ADHESIVE

What It Is

EZ-WRAP PAK is a package of precut sections of 6" wide EZ-WRAP Plastic Joint Wrap. Each package contains sections of wrap cut perfectly for 48" (1200 mm), 60" (1500 mm), or 72" (1800 mm) manhole joints, and enough spray adhesive primer for all joints.



EZ-WRAP is an extruded Butyl adhesive tape designed to provide high strength, watertight seals on properly primed concrete surfaces and concrete structure joints of any kind. The Butyl compound is soft, tacky and is bonded to a plastic backing. The tape is wound in rolls on a release liner for easy application.

Why It's Better

- Precut sections of EZ-WRAP save time and money
- Easy-to-use spray adhesive gives great bond
- No cutting means less loss and waste
- High quality butyl rubber base
- Supplied in 6" (150 mm) width with HDPE backing
- All-weather performance
- Good adhesion to dry concrete, commonly specified concrete coatings, steel, glass, or painted surfaces
- Coated release paper for easy installation
- Long service life

How It Performs

EZ-WRAP PAK BUTYL JOINT WRAP meets or exceeds all requirements of the following Standards, Specifications and/or Test Methods:

ASTM C 877 (Type III) - Standard Specification for External Sealing Bands for Concrete Pipe, Manholes, and Precast Box Sections

EZ WRAP-PAKS (6" (150 mm) wide Plastic)			
Manhole Size	Roll Length	No. Rolls	Part No.
48" ID X 5"	16 feet	6	276.616
1200 x 125 mm	4.9 M		
60" ID X 6"	20 feet	5	276.620
1500 x 150 mm	6.1 M		
72" ID X 7"	24 feet	4	276.624
1800 x 175 mm	7.3 M		

SUBMITTAL SPECIFICATION for BUTYL JOINT WRAP WITH PLASTIC BACKING

The joints and/or joining surfaces of the structures shall be sealed with a butyl-rubber-based tape. The material shall be EZ-WRAP Plastic as supplied by PRESS-SEAL GASKET CORPORATION, Fort Wayne, Indiana, or approved equal. The butyl component of the tape shall consist of 50% (min.) butyl rubber, shall contain 2% or less volatile matter, and shall be .050" (1.3 mm) thick. The backing component shall be high-density polyethylene film. A release paper may be utilized.

The tape width shall be 6" (150 mm) wide. The tape shall be overlapped at least twice its width. The tape shall not be stretched during application. Primer and/or adhesive as recommended by the tape supplier shall be employed for adverse, critical, or other applications.

Testing of joints and compliance with construction requirements shall be conducted in strict conformance with

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What It Is

EZ-STIK is a premium preformed butyl joint sealant that is supplied in rope form. Containing a higher proportion of butyl rubber, EZ-STIK It is carefully blended from uncured butyl rubber and other solids and will not shrink, crack, or dry out. Although clean to handle, it provides excellent adhesion and cohesion to a wide variety of surfaces - concrete, metal, most concrete coatings, glass, wood, and painted surfaces.

Why It's Better

- Increased proportion of butyl rubber content.
- Premium packaging.
- Wide variety of sizes and styles.
- All-weather performance.
- Good adhesion to dry concrete, commonly specified concrete coatings, steel, glass, or painted surfaces.
- Coated release paper for easy installation.
- Long service life.
- Cohesive properties allow for joint movement.
- Compatible for use with rubber O-Ring designs.
- Low moisture vapor transmission rate (MVTR).
- Special primers available for use on damp, contaminated, or difficult surfaces.



How It Performs

EZ-STIK BUTYL JOINT SEALANT meets or exceeds all requirements of the following Standards, Specifications and/or Test Methods:

ASTM C 990 - Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants; Section 6.2 Butyl Rubber Sealants

AASHTO M 198 - Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets

Typical Applications

- | | |
|-----------------------------------|-----------------------------------|
| • Sanitary Manhole Joints | • Underground Utility Vaults |
| • Stormwater Manhole Joints | • Stormwater Treatment Structures |
| • Irrigation and Drainage Systems | • Stormwater Inlet Structures |
| • Box Culverts | • On-Site Treatment Tanks |
| • Elliptical/Arch Pipe | • Grease Interceptors |
| • Architectural Foundations | • Wet Wells |

Scan (or click) Here To View More Info
On This Product On The Web!



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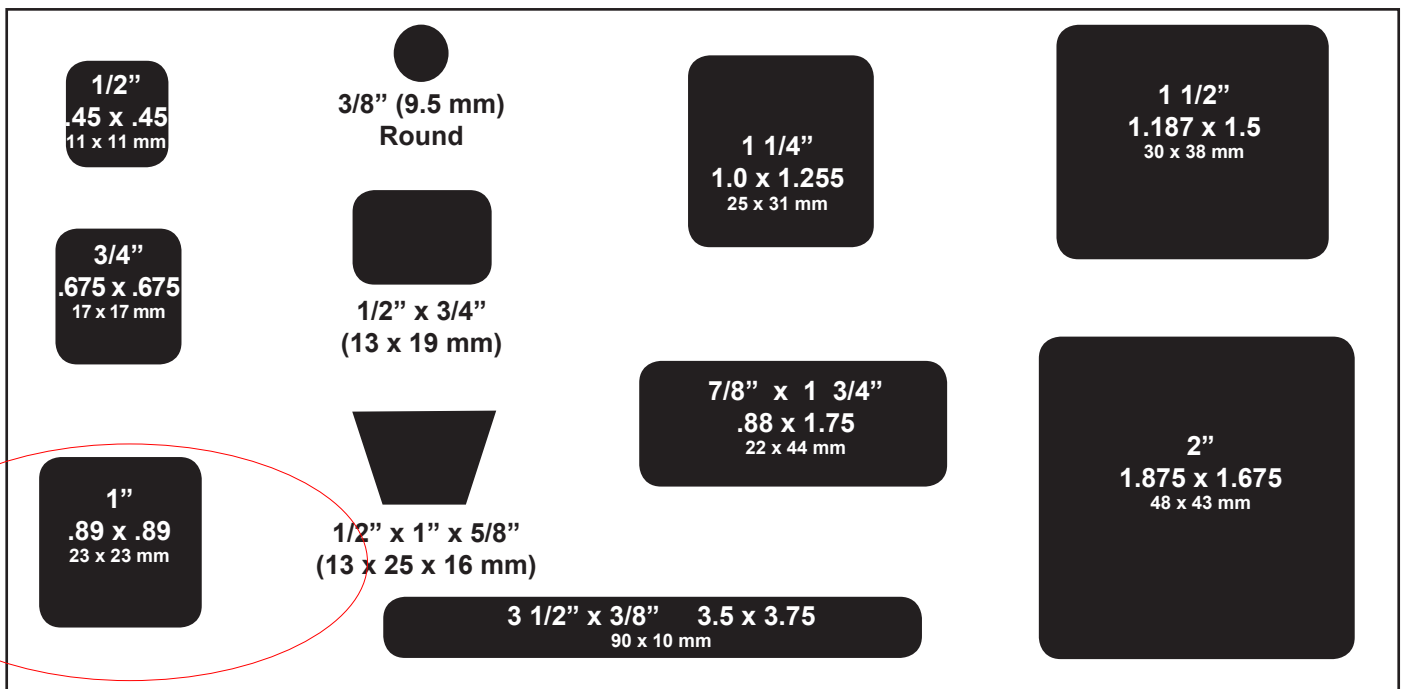


Submittal Specification

The joints and/or joint surfaces of the structures shall be sealed with a butyl-rubber-based preformed flexible sealant conforming to ASTM C-990, paragraph 6.2. The material shall be PRO-STIK or EZ-STIK as supplied by PRESS-SEAL CORPORATION, Fort Wayne, Indiana, or approved equal. The butyl material shall consist of 50% (min.) butyl rubber and shall contain 2% or less volatile matter.

For preformed joint sealants, the sealant shall be sized such that the joint is filled to 50% (min.) of its annular volume when fully assembled, and the sealant shall have the ends kneaded together at the overlap. Primer and/or adhesive as recommended by the sealant supplier shall be employed for adverse, critical, or other applications.

Testing of joints and compliance with construction requirements shall be conducted in strict conformance with the requirements of the sealant supplier.



Custom Sizes Available Upon Request

Also Available in Trowelable Bulk and Easy to Pump Bulk

All sizes sold 40 cartons per pallet. All pallets are shrink wrapped for outside storage. Quantity discounts available - contact our Customer Service Department.

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Description

EZ-STIK is a butyl-rubber-based sealant designed to be permanently flexible, tacky and resistant to moisture and deterioration by exposure to dilute chemical solutions. EZ-STIK meets ASTM C-990, Section 6.2 requirements for Butyl Rubber Sealant, and ASTM D 190.

Typical Properties

The following values represent typical test results and are manufacturing specifications.

	SPEC.	REQUIRED	EZ-STIK
Butyl Rubber (Hydrocarbon Content %)	ASTM D4	50% min.	62%
Ash Inert Mineral Filler %	ASTM D111	0% min.	45-48%
Volatile Matter (ASTM D47)	ASTM D6	2% max	0.5-1.0%
Specific Gravity @ 77°F (25 C) (ASTM D229)	ASTM D71	1.15 - 1.50	1.25 - 1.35
Ductility @ 77°F (25 C), cm (ASTM D51)	ASTM D110	5.0 min.	meets requirement
Flash Point C.O.C.	ASTM D92	150°F (177 C) min.	175°F (191 C)
Fire Point C.O.C.	ASTM D92	175°F min. (191 C)	195°F (196 C)
Compression Test			
@ 77°F (25 C), lbf/in ²	ASTM C972	100 max	40 - 55 lbf/in ²
@ 0°F (0 C), lbf/in ²		200 max	100 - 160 lbf/in ²
Low Temperature Flexibility			
@ -10°F (-23 C)	ASTM C765	100% bend, no cracking, nor loss of adhesion.	Pass - no cracking or adhesion loss.
Elevated Temperature Flexibility			
14 days @ 157°F (69 C)	ASTM C776	No sag, nor change in extruded shape.	Pass - no sag or shape change.
Adhesion After Impact	ASTM C776-04	No greater loss than 50% of adhesion.	Pass - no loss of adhesion.
Cone Penetration			
@ 77°F (25 C), dmm	ASTM D217	50 - 100 dmm	55 - 65 dmm
@ 0°F (0 C), dmm		40 min.	45 - 55 dmm
Chemical Resistance		No deterioration, no cracking, no swelling.	Pass - no visible change after 30 days immersion in 5% solutions of HCl, H ₂ SO ₄ , NaOH, KOH, H ₂ S

Application Properties

Service Temperature Range	-40F to 250F (-40 to 121 C)
Application Temperature	20F to 120F (-7 to 49 C)
Storage Temperature	Under 120F (49 C)
Shelf Life	2 years minimum

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What It Is

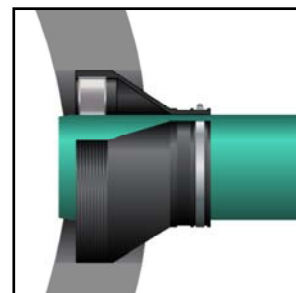
PSX: Direct Drive is a high-performance flexible pipe-to-manhole connector that offers easy installation and long-term performance in one convenient product. Whether you core or cast your holes, **PSX: Direct Drive** fits right into your production methods, ready to seal your toughest applications every time.

Why It's Better

- Installs quickly and easily from outside the manhole.
- Requires no retightening or adjustment.
- All stainless-steel components. Containing no welds or rivets.
- Accurately compensates for hole size variation.
- Available for pipes from 1.7" - 44" OD (43 - 1118 mm).
- Additional torque and multiple adjusters on larger diameters.
- 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.

How It Works

- Specially developed synthetic rubber is continuously tested and lab-certified to ASTM C-923.
- Power Sleeve made from tempered Series 304 stainless steel.
- Installation Mechanism made from Series 300 stainless steel.
- Installation Mechanism is infinitely adjustable.
- Installation tools are calibrated and certified.
- Take-up clamps made from Series 304 stainless steel with quick-adjusting screws.

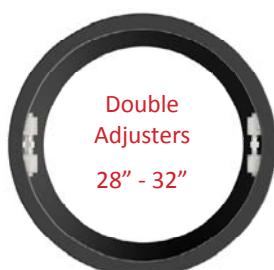


How It Performs

PSX: Direct Drive meets or exceeds all requirements of the following Specifications and/or Test Methods:

ASTM C 923
ASTM C 1244
ASTM C 1478
ASTM F 2510

Press-Seal Corporation is the only boot style connector manufacturer that uses multiple mechanisms under 56" as a standard.



Protected by one or more of the following patents: 6805359, 7146689, 7263746

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Submittal Specification

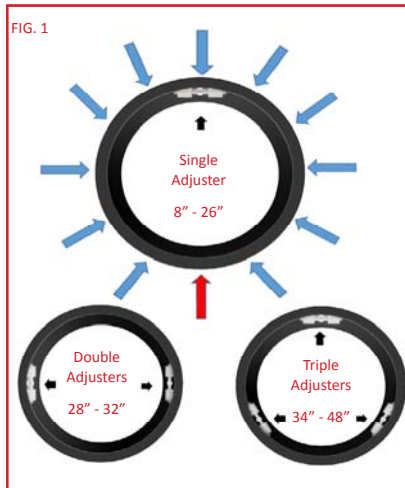
Pipe-to-Manhole and Structure Connector Specification for Sanitary and Storm Sewer Applications:

1. All pipe-to-manhole and structure connections shall meet and or exceed ASTM C-923, Standard Specification for Resilient Connectors Between Reinforced Concrete Manholes, Structures, Pipes and laterals.
2. All mechanical devices, including castings, bolt assemblies, adjusters shall use non-magnetic 300 series stainless steel with no welds or rivets in its assemblies.
3. Connector sizes less than 28" shall employ one adjuster, 28" - 34" two adjusters and 36" and larger three adjusters.
4. If thermal plastic internal expansion rings are used, they must be heavy duty automotive grade material molded in one piece with an expansion installation mechanism made of a stainless steel threaded insert (not steel to plastic threads) and embedded as part of the expansion mechanism. Multiple plastic parts as part of the expansion mechanism are not allowed.
5. The installation of the connector shall be accomplished at one time and shall require no additional adjustments or installation at a later time to insure a watertight seal.
6. Take up clamps shall use non-magnetic 304 series stainless steel and be installed in the field using a T-Handle Torque wrench set to 60 inch-pounds and installation shall follow manufacturer's instructions.
7. The connector shall be PSX: Direct Drive and PSX: Nylo Drive as manufactured by Press-Seal Corporation of Fort Wayne, IN or approved equal.

Dial Indicator Development: Why You Should Specify Boot Connector Systems With Multiple Adjusters

During the development of the PSX: Direct Drive, Press-Seal designed a specialized testing instrument that allowed us to gauge the rubber deformation points around the entire boot during installation. The point furthest from the adjuster mechanism, as shown in Figure 1, created the least amount of rubber deformation against the concrete hole. The reduced deformation of rubber at that point indicates that the sealing force of the boot is weakest at the area furthest from the adjuster. This was supported by an external hydrostatic test. When pressurized beyond standard specification levels, the boot would begin to move out of the hole starting at the low deformation point. These tests led to the adoption of additional adjusters in larger hole sizes to improve the sealing functionality of the Direct Drive boot and equalize sealing force around the entire circumference of the boot.

We are now able to far improve the sealing performance on larger sizes of a connector system by adding multiple mechanisms to dramatically reduce the sealing distance from each adjuster. Our adjuster bolt design with both right and left handed nuts allow for less installation friction; therefore, greater torque is applied against the rubber than competitive systems that use a long bolt with multiple wedge style components. In addition, we employ no welds or rivets in our bands or adjuster assemblies. Multiple mechanisms provide for a longer product life.



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PIPE O.D. INCH	PIPE O.D. mm	PIPE DESCRIPTION	HOLE SIZE RANGE INCH	HOLE SIZE RANGE mm	PSX: DD SIZE DESIGNATION
1.90	48 mm	1.5" PVC	8.00 - 8.20	203- 208 mm	8 QRS "STEP S" PSX
2.38	60 mm	2" PVC			8 QRS "STEP S" PSX
2.50	64 mm	2" CI/DI			8 QRS "STEP S" PSX
2.75	70 mm	2.25" CI/DI			8 QRS "STEP R" PSX
3.50	89 mm	3" PVC			8 QRS "STEP R" PSX
3.96	101 mm	3" CI/DI			8 QRS "STEP Q" PSX
4.21	107 mm	4" (100 mm) PVC D3033 OR D3034			8 QRS "STEP Q" PSX
4.30	109 mm	4" (100 mm) TRUSS			8 QRS "STEP Q" PSX
4.80	122 mm	4" (100 CI/DI) 4" (100 mm) C900 PVC			8 QRS "STEP Q" PSX
6.275	159 mm	6" (150 mm) PVC D3033 OR D3034	9.00- 9.20	229 - 234 mm	9-06 PSX: DD
			10.00 - 10.20	254 - 259 mm	10-06 PSX: DD
			10.50 - 10.70	267 - 272 mm	10.5-06 PSX: DD
			11.00 - 11.20	279 - 284 mm	11-06 PSX: DD
			12.00 - 12.20	305 - 310 mm	12-06 PSX: DD
6.30	160 mm	6" (150 mm) TRUSS	9.00- 9.20	229 - 234 mm	9-06 PSX: DD
			10.00 - 10.20	254 - 259 mm	10-06 PSX: DD
			10.50 - 10.70	267 - 272 mm	10.5-06 PSX: DD
			11.00 - 11.20	279 - 284 mm	11-06 PSX: DD
			12.00 - 12.20	305 - 310 mm	12-06 PSX: DD
6.625	168 mm	6" (150 mm) PVC D3033 OR D3034	9.00- 9.20	229 - 234 mm	9-06 PSX: DD
			10.00 - 10.20	254 - 259 mm	10-06 PSX: DD
			10.50 - 10.70	267 - 272 mm	10.5-06 PSX: DD
			11.00 - 11.20	279 - 284 mm	11-06 PSX: DD
			12.00 - 12.20	305 - 310 mm	12-06 PSX: DD
6.90	175 mm	6" (150 mm) CI/DI 6" (150 mm) C900 PVC	10.50 - 10.70	267 - 272 mm	10.5-06 PSX: DD
			11.00 - 11.20	279 - 284 mm	11-06 PSX: DD
			12.00 - 12.20	305 - 310 mm	12-06 PSX: DD
			12.00 - 12.20	305 - 310 mm	12Y PSX: DD
8.16	207 mm	8" (200 mm) PVC D3033	11.00 - 11.20	279 - 284 mm	11-08 PSX: DD
			12.00 - 12.20	305 - 310 mm	12-08 PSX: DD
			12.00 - 12.20	305 - 310 mm	12M PSX: DD

See Notes on page 15

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PIPE O.D. INCH	PIPE O.D. INCH	PIPE DESCRIPTION	HOLE SIZE RANGE INCH	HOLE SIZE RANGE mm	PSX: DD SIZE DESIGNATION
8.40	213 mm	8" (200 mm) PVC D3034	11.00 - 11.20	279 - 284 mm	11-08 PSX: DD
			12.00 - 12.20	305 - 310 mm	12-08 PSX: DD
					12M PSX: DD
8.625	219 mm	8" (200 mm) PVC D2241	12.00 - 12.20	305 - 310 mm	12-08 PSX: DD
					12M PSX: DD
9.05	230 mm	8" (200 mm) CI/DI 8" C900 PVC	12.00 - 12.20	305 - 310 mm	12M PSX: DD
					12-11 PSX: DD
9.40	239 mm	8" (200 mm) TRUSS	12.00 - 12.20	305 - 310 mm	12-11 PSX: DD
10.20	259 mm	10" (250 mm) PVC D3033	13.00 - 13.20	330 - 335 mm	13-10 PSX: DD
			14.00 - 14.20	356 - 361 mm	14M PSX: DD
			16.00 - 16.20	406 - 411 mm	16Y PSX: DD
10.50	267 mm	10" (250 mm) PVC D3033	13.00 - 13.20	330 - 335 mm	13-10 PSX: DD
			14.00 - 14.20	356 - 361 mm	14M PSX: DD
			16.00 - 16.20	406 - 411 mm	16Y PSX: DD
10.75	273 mm	10" (250 mm) PVC D2241	14.00 - 14.20	356 - 361 mm	14M PSX: DD
			16.00 - 16.20	406 - 411 mm	16Y PSX: DD
11.10	282 mm	10" (250 mm) CI/DI 10" (250 mm) C900 PVC	14.00 - 14.20	356 - 361 mm	14M PSX: DD
			16.00 - 16.20	406 - 411 mm	16Y PSX: DD
11.80	300 mm	10" (250 mm) TRUSS	16.00 - 16.20	406 - 411 mm	16L PSX: DD
12.24	311 mm	12" (300 mm) PVC D3033			16L PSX: DD
					16M PSX: DD
					16M PSX: DD
12.50	318 mm	12" (300 mm) PVC D3034			16M PSX: DD
12.75	324 mm	12" (300 mm) PVC D2241			16M PSX: DD
13.20	335 mm	12" (300 mm) CI/DI	16M PSX: DD		

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SELECTION GUIDE

Pipe OD 14.10" - 44.0"
(358 mm - 1118 mm)

PIPE TYPE DESCRIPTION KEY

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" (375 mm) ID size

PVC F 679 PVC pipe produced to ASTM F 679 specification standards for pipe ID's from 18" through 27" (685 mm)

PVC D 3033 PVC pipes produced to ASTM D-3033 specification standards

PVC D 2241 PVC pipes produced to ASTM D 2241 specification standards

C 900 PVC Pipes produced to AWWA C 900 standard specification for Polyvinyl Chloride (PVC) pressure pipe standards

TRUSS Pipes produced to ASTM D 2680 specification standards

RCP Reinforced Concrete Pipes produced to ASTM C 76 specification standards

OTHER PIPE SIZES and TYPES

The listing contains the most common sizes and types of pipe. Most other pipes can be connected with PSX: Direct Drive. For information on pipes not listed, please contact our Customer Service Department.

PSX:DIRECT DRIVE DESIGNATION

This column shows the different PSX: Direct Drive assemblies that will accommodate each pipe type. If more than one PSX: Direct Drive connector is listed for the same receptacle hole size, consult the PSX: Direct Drive Connector Cross-Reference to determine which connector would be best suited to your application.

PIPE O.D. INCH	PIPE O.D. mm	PIPE DESCRIPTION	HOLE SIZE RANGE INCH	HOLE SIZE RANGE mm	PSX:Direct Drive DESIGNATION
14.10	358 mm	12" (250 mm) TRUSS	18.00 - 18.20	457 - 462 mm	18Y PSX-2: DD
15.30	389 mm	15" (375 mm) PVC D3033 OR D3034	18.00 - 18.20	457 - 462 mm	18M PSX-2: DD
		14" (350 mm) CI/DI	20.00 - 20.20	508 - 513 mm	20Y PSX-2: DD
16.00	406 mm	12" (300 mm) RCP WALL B	20.00 - 20.20	508 - 513 mm	20Y PSX-2: DD OR 20A PSX-2: DD
17.40	442 mm	16" (400 mm) CI/DI	20.00 - 20.20	508 - 513 mm	20A PSX-2: DD
			22.00 - 22.20	559 - 564 mm	22L PSX-2: DD
17.70	450 mm	15" (375 mm) TRUSS	22.00 - 22.20	559 - 564 mm	22L PSX-2: DD
18.701	475 mm	18" (450 mm) PVC F679	22.00 - 22.20	559 - 564 mm	22M PSX-2: DD
19.50	495 mm	18" (450 mm) CI/DI	24.00 - 24.20	610 - 615 mm	24L PSX-2: DD
		15" (375 mm) RCP WALL B			
21.60	549 mm	20" (500 mm) CI/DI	26.00 - 26.20	660 - 665 mm	26L PSX-2: DD
22.047	560 mm	21" (500 mm) PVC F679	26.00 - 26.20	660 - 665 mm	26L PSX-2: DD
23.00	584 mm	18" (450 mm) RCP WALL B	26.00 - 26.20	660 - 665 mm	26A PSX-2: DD
24.803	630 mm	24" (600 mm) PVC	28.00 - 28.20	711 - 716 mm	28A PSX-2: DD
25.80	655 mm	24" (600 mm) CI/DI	30.00 - 30.20	762 - 767 mm	30L PSX-2: DD
26.50	673 mm	21" (500 mm) RCP WALL B	30.00 - 30.20	762 - 767 mm	30A PSX-2: DD
27.95	710 mm	27" (675 mm) PVC F679	32.00 - 32.20	813 - 818 mm	32L PSX-2: DD
30.00	762 mm	24" (600 mm) RCP WALL B	34.00 - 34.20	864 - 869 mm	34L PSX-2: DD
31.50	800 mm	24" (600 mm) CONCRETE WALL C	36.00 - 36.20	914 - 919 mm	36A PSX-2: DD
32.00	813 mm	30" (750 mm) DI/CI OR 30" (740 mm) PVC	36.00 - 36.20	914 - 919 mm	36A PSX-2: DD
33.50	851 mm	27" (675 mm) CONCRETE WALL B	38.00 - 38.20	965 - 967 mm	38A PSX-2: DD
35.00	889 mm	27" (675 mm) CONCRETE WALL C	40.00 - 40.20	1016 - 1020 mm	40L PSX-2: DD
37.00	940 mm	30" (750 mm) CONCRETE WALL B	42.00 - 42.20	1067 - 1072 mm	42L PSX-2: DD
38.30"	973 mm	36" (900 mm) DI/CI	42.00 - 42.20	1067 - 1072 mm	42A PSX-2: DD
44.00	1118 mm	36" (900 mm) CONCRETE WALL B	48.00 - 48.20	1219 - 1224 mm	48L PSX-2: DD

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HOLE SIZE RANGE		PSX: DD SIZE DESCRIPTION	GASKET I.D.		PIPE O.D. ACCOMMODATION RANGE INCHES (mm)	TAKE-UP CLAMP		NUMBER OF EXPANSION SLEEVE MECHANISMS	MINIMUM SIZE ROUND STRUCTURE (INCHES)	
INCH	mm		INCH	mm		QTY	PART #			
REQUIRES BLACK SHORT 7/16 TORQUE WRENCH PRESET TO 12 FT/LBS PART # 850.605										
8.00 - 8.20	203 - 206	8 QRS STEP "S" PSX: DD	2.20	56 mm	1.70 TO 2.50	43 - 64 mm	1	600-088	1	24
		8 QRS STEP "R" PSX: DD	3.50	89 mm	2.75 TO 3.75	70 - 95 mm	1	600-088		
		8 QRS STEP "Q" PSX: DD	4.60	117 mm	3.75 TO 4.80	95 - 122 mm	1	600-088		
		8 QRS PSX: DD	N/A	N/A	1.90 TO 4.80	48 - 122 mm	1	600-088		
		8-11 PSX: DD	5.64	143 mm	4.80 TO 5.65	122 - 144 mm	1	600-128		
9.00 - 9.20	229 - 234	09-06 PSX: DD	6.45	164 mm	6.00 TO 6.50	152 - 165 mm	1	600-128	1	24
10.00 - 10.20	254 - 259	10-06 PSX: DD	6.50	165 mm	5.50 TO 6.90	140 - 175 mm	1	600-128	1	24
10-11 PSX: DD	7.33	186 mm	6.60 TO 7.50	168 - 191 mm	1	600-152				
10.50 - 10.70	267 - 272	10.5-06 PSX: DD	6.30	160 mm	5.70 TO 6.90	145 - 175 mm	1	600-128	1	24
11.00 - 11.20	279 - 284	11-06 PSX: DD	6.30	160 mm	5.70 TO 6.90	145 - 175 mm	1	600-128	1	24
		11-08 PSX: DD	8.44	214 mm	8.00 TO 8.50		1	600-152		
12.00 - 12.20	305 - 310	12-06 PSX: DD	6.30	160 mm	5.70 TO 6.90	145 - 175 mm	1	600-128	1	24
		12Y PSX: DD	6.50	165 mm	5.70 TO 6.90	145 - 175 mm	1	600-128		
		12-08 PSX: DD	8.44	214 mm	8.00 TO 8.65	203 - 220 mm	1	600-152		
		12M PSX: DD	8.63	219 mm	8.00 TO 9.10	203 - 241 mm	1	600-152		
		12-11 PSX: DD	9.46	240 mm	8.60 TO 9.50	218 - 241 mm	1	600-188		
13.00 - 13.20	330 - 335	13-10 PSX: DD	10.65	271 mm	9.75 TO 10.50	248 - 267 mm	1	600-188	1	24
14.00 - 14.20	356 - 361	14M PSX: DD	10.35	263 mm	9.75 TO 11.10	248 - 282 mm	1	600-188	1	30
		14A PSX: DD	11.10	475 mm	10.75 TO 11.30	273 - 287 mm	1	600-232		
REQUIRES BLUE 1/2 TORQUE WRENCH PRESET TO 20 FT/LBS PART # 850.610										
16.00 - 16.20	406 - 411	16Y PSX: DD	10.75	273 mm	10.00 TO 11.10	254 - 282 mm	1	600-188	1	36
		16L PSX: DD	12.10	307 mm	11.36 TO 12.50	289 - 318 mm	1	600-232		
		16M PSX: DD	12.75	324 mm	12.05 TO 13.30	306 - 338 mm	1	600-232		
18.00 - 18.20	457 -462	18Y PSX-2: DD	14.10	356 mm	13.20 TO 14.50	335 - 368 mm	2	600-296	1	36
		18M PSX-2: DD	15.35	390 mm	14.60 TO 15.50	371 - 394 mm	2	600-296		
20.00 - 20.20	508 - 513	20Y PSX: DD	15.50	394 mm	14.80 TO 16.00	376 - 406 mm	2	600-296	1	36
		20A PSX: DD	16.92	430 mm	16.00 TO 17.40	406 - 442 mm	2	600-296		
REQUIRES RED 5/8 TORQUE WRENCH PRESET TO 60 FT/LBS PART # 850.63										
22.00 - 22.20	559 - 564	22L PSX-2: DD	17.80	452 mm	17.00 TO 18.15	432 - 461 mm	2	600-376	1	42
		22M PSX-2: DD	18.70	475 mm	18.00 TO 19.20	457 - 488 mm	2	600-376		
24.00 - 24.20	610 - 615	24L PSX-2: DD	19.55	497 mm	19.00 TO 19.75	483 - 502 mm	2	600-376	1	48
		24S1 PSX-2: DD	19.85	504 mm	19.50 TO 20.25	495 - 514 mm	2	600-376		
		24S PSX-2: DD	21.05	535 mm	20.50 TO 21.50	521 - 546 mm	2	600-376		
		24A PSX-2: DD	21.93	557 mm	21.00 TO 21.50	533 - 546 mm	2	600-376		
26.00 - 26.20	660 - 665	26L PSX-2: DD	22.18	563 mm	21.30 TO 22.40	541 - 569 mm	2	600-376	1	48
		26A PSX-2: DD	23.12	587 mm	22.25 TO 23.25	565 - 591 mm	2	600-456		
28.00 - 28.20	711 - 716	28L PSX-2: DD	24.31	617 mm	23.40 TO 24.60	594 - 625 mm	2	600-456	2	48
		28A PSX-2: DD	24.80	630 mm	24.25 TO 24.80	616 - 630 mm	2	600-456		
30.00 - 30.20	762 -767	30L PSX-2: DD	26.32	669 mm	25.40 TO 26.60	645 - 676 mm	2	600-456	2	60
		30A PSX-2: DD	27.12	689 mm	26.25 TO 27.40	667 - 696 mm	2	600-456		
32.00 - 32.20	813 - 818	32L PSX-2: DD	28.32	719 mm	27.40 TO 28.60	696 - 726 mm	4	600-296	2	60
		32A PSX-2: DD	29.13	740 mm	28.25 TO 29.40	718 - 747 mm	4	600-296		
34.00 - 34.20	864 - 869	34L PSX-2: DD	30.33	770 mm	29.50 TO 30.50	749 - 775 mm	4	600-296	3	60
36.00 - 36.20	914 - 919	36L PSX-2: DD	31.33	796 mm	31.00 TO 31.50	787 - 800 mm	4	600-296	3	72
		36A PSX-2: DD	32.08	815 mm	31.50 TO 32.15	800 - 813 mm	4	600-296		
38.00 - 38.20	965 - 970	38A PSX-2: DD	33.59	853 mm	32.70 TO 33.80	831 - 859 mm	4	600-296	3	72
		38S PSX-2: DD	34.10	866 mm	33.75 TO 34.50	857 - 876 mm	4	600-296		
40.00 - 40.20	1016 - 1021	40L PSX-2: DD	35.13	893 mm	34.25 TO 35.50	870 - 902 mm	4	600-376	3	72
		40S PSX-2: DD	36.00	914 mm	35.50 TO 36.00	902 - 914 mm	4	600-376		
42.00 - 42.20	1067 - 1072	42L PSX-2: DD	37.60	955 mm	37.00 TO 38.00	940 - 965 mm	4	600-376	3	72
		42A PSX-2: DD	38.35	974 mm	38.00 TO 38.75	965 - 984 mm	4	600-376		
46.00 - 46.20	1168 - 1173	46L PSX-2: DD	41.36	1051 mm	41.00 TO 41.75	1041 - 1060 mm	4	600-376	3	84
		46S PSX-2: DD	42.00	1067 mm	41.50 TO 42.00	1054 - 1067 mm	4	600-376		
48.00 - 48.20	1219 - 1224	48L PSX-2: DD	44.35	1126 mm	43.60 TO 44.50	1107 - 1130 mm	4	600-376	3	84

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1. Prepare the hole to receive the gasket.
 - a. Clean the hole of any debris or loose dirt.
 - b. Examine the hole for any imperfections (bug holes) and wire ends in the gasket bearing surface.
 - c. Patch any voids (bug holes) with slurry.
 - d. Remove any wire protruding up into the hole and patch with slurry if needed.



2. Select the correct PSX: Direct Drive wrench. The wrenches and the adjusters are sized so that only the correct wrench can be used with each size adjuster, and will provide the correct torque. **DO NOT USE ANY OTHER SIZE OR TYPE OF WRENCH TO INSTALL PSX: DIRECT DRIVE.**



3. Place the PSX: Direct Drive Connector in the hole with the adjuster mechanism in position so that it will be at the top of the hole (9 to 3 o'clock) in the final installed position of the manhole. Align the Connector so that it is square to the hole.

4. Place the wrench on the adjuster nut so that the arm of the wrench is on the installer's left side. This will ensure that the proper orientation is maintained.



5. Begin to tighten the PSX:Direct Drive Connector by pulling the wrench handle toward the outside of the manhole. The wrench will ratchet back easily at the end of the stroke. If the Connector has multiple adjusters (28" (711 mm) and higher), tighten each adjuster five times, alternating them in sequence so that installation pressure is evenly distributed.



6. Continue tightening until proper torque is reached. The wrench will signal this by "breaking" slightly. If in doubt torque has been reached, tighten again and wrench should "break" quickly and easily. If there are multiple adjusters, make sure that the wrench "breaks" at each one. Installation is now complete.

Scan (or click) Here To View A Video
On Proper Preparation And Installa-



To remove an installed PSX:Direct Drive Connector, simply reverse wrench position and loosen Connector. Connector may be reused without further adjustment. 8QRS and 9QRS are designed to be installed from the inside of the manhole. If being installed from the outside, the arm of the wrench needs to be on installers right hand side.

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PRODUCT DATA

MasterFormat: 07 11 13

W. R. MEADOWS®

SEALTIGHT®

NO. 721

JULY 2019
(Supersedes May 2017)

SEALMASTIC™ Emulsion

Dampproofing

DESCRIPTION

SEALMASTIC TYPE I (spray-grade) is an asphalt-based, non-fibred, clay emulsion. Under normal use, it resists flow or sag. Its greater resistance to water is ideal where spray application is desired.

SEALMASTIC TYPE II (brush-on/spray-grade) is an asphalt-based, clay emulsion with fibers specifically formulated to offer a tight film that combines both excellent strength and resistance to water.

SEALMASTIC TYPE III (trowel-on grade) is a trowel-applied mineral colloid, asphalt emulsion, fibrated with selected fibers and produced in an ideal, light trowel application consistency. SEALMASTIC TYPE III offers high weather, water, corrosion, and abrasion resistance. It can be used as an adhesive on foam board installations.

USES

SEALMASTIC emulsion-type dampproofing coatings are ideal for reducing dampness and moisture infiltration through foundation walls, parapets, firewalls, tanks, culverts, cisterns, and bridge abutments. They are also applicable for stone-backing, above-grade cavity wall applications, and below-grade masonry wall dampproofing. The SEALMASTIC product line also helps to minimize internal structural damage from mildew and mold, and is compatible with ICF foam forms.

FEATURES/BENEFITS

- Adheres to damp or “green” surfaces ... no waiting for concrete to thoroughly dry.
- Ready to use ... no heating or thinning required; dries rapidly.
- Fast and economical way to protect concrete and masonry foundation walls from moisture penetration.
- Easy to apply ... available in spray-, brush- or trowel-grades; meets a broad application range.
- Three application grades available for maximum versatility.
- VOC compliant.

PACKAGING

5 Gallon (18.9 Liter) Pails
55 Gallon (208.2 Liter) Drums

COVERAGE

SEALMASTIC TYPE I:

Approximately 70 - 100 ft.²/gal. (1.7 - 2.5 m²/L) per coat.

SEALMASTIC TYPE II/SEALMASTIC TYPE III:

Exterior below-grade dense surfaces, exterior below-grade porous surfaces, exterior above-grade surfaces
Approximately 40 - 50 ft.²/gal. (0.1 - 1.2 m²/L) (30 mils wet).

Coverage may vary due to porosity and condition of concrete.

SHELF LIFE

When stored indoors in original, unopened containers at temperatures between 40° - 90° F, optimum performance and best use is obtained within one year of date of manufacture.

SPECIFICATIONS

TYPE I	ASTM D1187, Type I ASTM D1227, Type III, Class 1
TYPE II	ASTM D1187, Type I ASTM D1227, Type II, Class 1
TYPE III	ASTM D1187, Type I ASTM D1227, Type II, Class 1

All products comply with current federal, state, and local maximum allowable VOC requirements, including U.S. EPA, SCAQMD, and OTC.

TECHNICAL DATA

VOC Content: 0 g/L

APPLICATION

Surface Preparation ... All surfaces to be coated must be thoroughly cleaned of all scale, loose mortar, dust, rust, dirt, oil, grease, and other foreign matter. Use a wire brush, sandblast, or other method in keeping with good construction practices. Before product application, fill voids, cracks, and holes in concrete with cement mortar and allow to dry. If conformance to an ASTM D41 primer is required, use SEALMASTIC SPRAY-MASTIC™ from W. R. MEADOWS. Allow prime-coat to dry tacky to touch prior to application of

CONTINUED ON REVERSE SIDE ...

W. R. MEADOWS, INC.

P.O. Box 338 • HAMPSHIRE, IL 60140-0338
Phone: 847/214-2100 • Fax: 847/683-4544
1-800-342-5976
www.wrmeadows.com

HAMPSHIRE, IL / CARTERSVILLE, GA / YORK, PA
FORT WORTH, TX / BENICIA, CA / POMONA, CA
GOODYEAR, AZ / MILTON, ON / SHERWOOD PARK, AB

SEALMASTIC emulsion product. Only apply when temperatures are expected to remain above 50° F (10° C). Do not apply in rain or when rain is threatening for the next 24 hours.

Mixing ... SEALMASTIC TYPE I and SEALMASTIC TYPE II should be thoroughly stirred in their respective containers prior to application. SEALMASTIC TYPE III can be applied directly from the container.

Exterior Below-Grade Dense Surfaces ... Apply SEALMASTIC TYPE II by soft bristle brush or suitable spray equipment or SEALMASTIC TYPE III by trowel. Consult spray equipment manufacturer for instructions.

Product should be applied to properly prepared surfaces in a continuous, unbroken film (free of pinholes), filling and spreading around all joints, slots, and grooves and penetrating into all crevices, chases, reveals, soffits, and corners. Carry coating over the exposed footing's top and outside edge, up to finished grade.

NOTE: Fillers, extenders, and additives in concrete mixes can produce a higher than normal porosity and, as a result, additional coverage coats may be required.

Exterior Below-Grade Porous Surfaces (Three Options):

Membrane System ... For severe conditions or for added protection, apply one coat of SEALMASTIC TYPE II or SEALMASTIC TYPE III. Within four hours, apply REINFORCING FABRIC HCR from W. R. MEADOWS over all coating surfaces. Overlap all edges 3" (76.2 mm) minimum. Press firmly into place without wrinkles. Application of second coat of SEALMASTIC TYPE II or SEALMASTIC TYPE III should be within 24 hours.

Two-Coat System ... If conformance to an ASTM D41 primer is not required, use MEL-PRIME™ W/B from W. R. MEADOWS or a diluted coat of SEALMASTIC emulsion product one to one. Allow prime coat to dry tacky to touch and then apply SEALMASTIC TYPE III in one coat, as described above.

Parge-Coat System ... Before application of SEALMASTIC, a parge-coat of cement mortar should be applied to the block wall. This coat should cover the bottom of the footings to grade level, forming a cove at the junction of the wall and footing. Once the parge-coat cures, apply one trowel-coat of SEALMASTIC TYPE III or two spray- or brush-coats of SEALMASTIC TYPE II as described above.

Backfilling ... Backfilling should be done within 24 - 48 hours after application. No longer than seven days maximum should elapse. Be careful not to damage or rupture the film or displace coating or membranes. To assure maximum protection, PROTECTION COURSE and MEL-DRAIN™ from W. R. MEADOWS should be used. Prolonged exposure to ultraviolet light should be minimized.

Interior Above-Grade Surfaces ...

SEALMASTIC TYPE I, SEALMASTIC TYPE II, and SEALMASTIC TYPE III can be used individually or in combination for dampproofing the exterior face of interior walls in cavity wall construction.

Cleanup ... While still wet, material may be removed with soap and water. Once dried, the material can be removed with kerosene or petroleum naphtha. Solvent manufacturer precautions should be adhered to when using a solvent for cleanup.

PRECAUTIONS

Keep from freezing in the original container. Not intended as a waterproofing membrane. (Refer to MEL-ROL® or MEL-ROL LM from W. R. MEADOWS.) Maximum UV exposure time is 14 days. Maximum in-service temperature is 165° F (74° C). Read and follow application information and precautions. Refer to Safety Data Sheet for complete health and safety information.

LEED INFORMATION

May help contribute to LEED credits:

- EAp2: Minimum Energy Performance
- EAc2: Optimize Energy Performance
- MRc9: Construction and Demolition Waste Management
- EQc2: Low-Emitting Materials [For Healthcare and Schools (exterior-applied products) ONLY]

For most current data sheet, further LEED information, and SDS, visit

www.wrmeadows.com.



LIMITED WARRANTY

W. R. MEADOWS, INC. warrants at the time and place we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. Read complete warranty. Copy furnished upon request.

Disclaimer

The information contained herein is included for illustrative purposes only, and to the best of our knowledge, is accurate and reliable. W. R. MEADOWS, INC. cannot however under any circumstances make any guarantee of results or assume any obligation or liability in connection

with the use of this information. As W. R. MEADOWS, INC. has no control over the use to which others may put its product, it is recommended that the products be tested to determine if suitable for specific application and/or our information is valid in a particular circumstance. Responsibility remains with the architect or engineer, contractor and owner for the design, application and proper installation of each product. Specifier and user shall determine the suitability of products for specific application and assume all responsibilities in connection therewith.



Lee's Summit Downtown Bank

Lee's Summit, MO

Submittal Package





Sanitary



MUNICIPAL PRODUCT SPECIFICATION

ASTM D3034/IB PVC Gravity Sewer Pipe | Gasketed Integral Bell

NAPCO's ASTM D3034 Gasketed Integral Bell PVC Pipe product line is manufactured to meet the needs of modern municipal waste water systems, storm water drainage systems, and other non-pressure applications. With top quality raw materials and modern processing technology, our ASTM D3034 pipe meets all industry standards in addition to our own rigorous quality control requirements.

Our D3034 pipe utilizes Rieber style gaskets throughout the entire product offering to create a leak-free joint.



Short Form Specification	
Pipe Standard:	ASTM D3034
Diameter Std.:	PSM
Nominal Sizes:	4", 6", 8", 10", 12", 15"
Dimension Ratios & Pipe Stiffness:	SDR 35 – 46 psi SDR 26 – 115 psi SDR 23.5 – 153 psi
Pressure Ratings:	Not rated for pressure applications
Lay Length:	14' or 20'
Color:	Green
Pipe Compound:	ASTM D1784 Cell Class 12454 or 12364
Pipe Options:	Solid Wall 2 Hole Perforated 3 Hole Perforated
Pipe Joint Std.:	ASTM D3212
Max. Angular Joint Deflection:†	1°
Gasket Standard:	ASTM F477
Gasket Material Offerings:	Standard – SBR Optional – NBR or EPDM
Certifications:	IAPMO Uniform Plumbing Code*
Installation Std.:	ASTM D2321

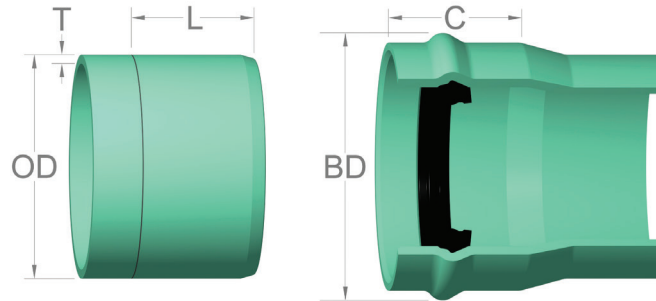
*IAPMO Uniform Plumbing Code listed products must be requested at time of order.

†See Installation Guide for more information.





ASTM D3034/IB PVC Gravity Sewer Pipe | Gasketed Integral Bell



D3034/IB PIPE DIMENSIONS & PERFORMANCE

Nom. Size	Outside Diameter (OD)	SDR	Pipe Stiffness (psi)	Min. Wall Thickness (T)	Internal Diameter (ID)	Approx. Bell Diameter (BD)	Bell Depth (C)	Insertion Mark (L)
4"	4.215	35	46	0.120	3.975	5.000	3.750	3.125
		26	115	0.162	3.891			
		23.5	153	0.178	3.859			
6"	6.275	35	46	0.180	5.915	7.375	4.625	4.000
		26	115	0.241	5.793			
		23.5	153	0.265	5.745			
8"	8.400	35	46	0.240	7.920	9.625	5.250	4.125
		26	115	0.323	7.754			
10"	10.500	35	46	0.300	9.900	12.250	5.875	5.125
		26	115	0.404	9.692			
12"	12.500	35	46	0.360	11.780	14.375	6.500	5.375
		26	115	0.481	11.538			
15"	15.300	35	46	0.437	14.426	17.500	7.750	7.375
		26	115	0.588	14.125			

Notes:

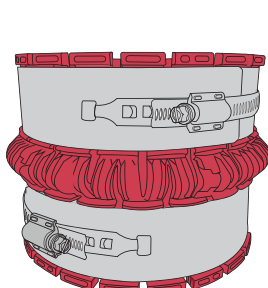
1. These dimensions are for estimating purposes only. All dimensions are in inches unless otherwise specified.
2. SDR = Standard Dimension Ratio
3. ASTM Pressure Rating @ 73°F and includes 2:1 safety factor.
4. Internal diameter calculated using nominal outside diameter and minimum wall thickness.
5. Dimension given for Approx. Bell Diameter (BD) is for highest pressure rating.



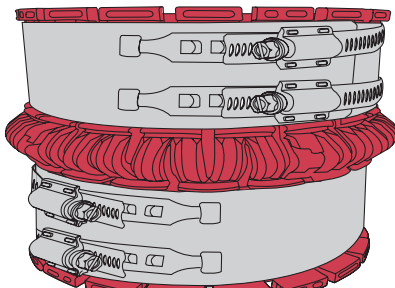
Gripper Gasket LLC
1660 Leeson Lane
Corona, CA 92879
(951) 479-4999 • Fax (951) 479-4997
maxadaptor.com

MEETS:
ASTM C 1173
UPC 4224

The Only Universal Sewer Repair Coupling —
ONE SIZE FITS ALL

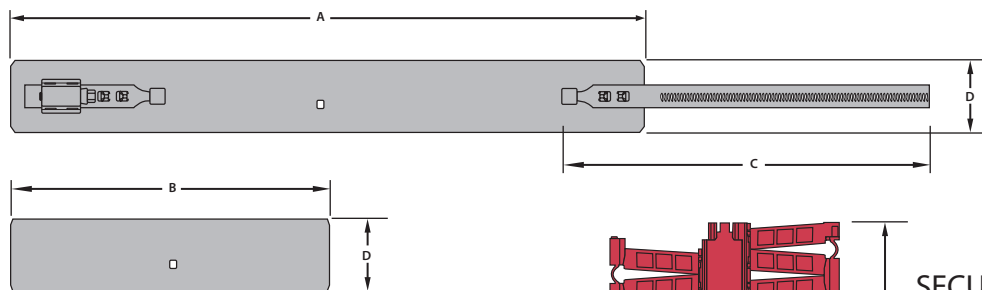


SIZES 4" THROUGH 8"
& 10" - 2 CLAMPS



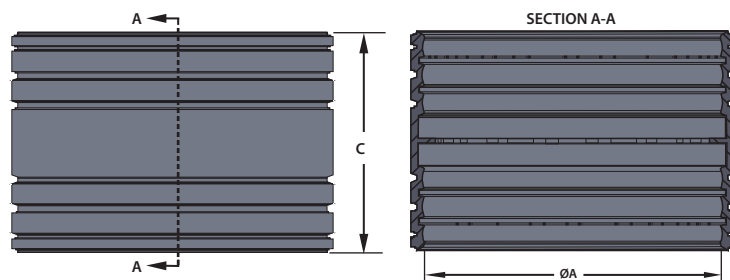
SIZES 9" &
12" THROUGH 16" - 4 CLAMPS

CLAMP ASSEMBLY DETAILS

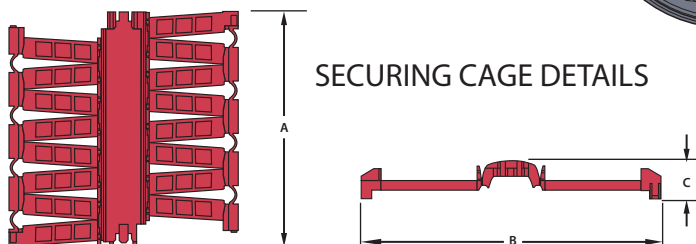


Band Thickness - .0315"

SEALING GASKET DETAILS



SECURING CAGE DETAILS



U.S. Patent Nos. US 8,651,532 B2 & US 8,635,747 B2

MAXADATOR REFERENCE	SIZE	CLAMP ASSEMBLY				SECURING CAGE			SEALING GASKET		
		A	B	C	D	A	B	C	ØA	ØB	C
MAX 4	4"	16.732"	8.465"	9.843"	1.929"	5.250"	5.900"	0.910"	5.285"	4.420"	5.345"
MAX 5	5"	20.276"	10.236"	9.843"	1.929"	5.250"	5.900"	0.910"	6.417"	5.720"	5.345"
MAX 6	6"	22.835"	11.614"	9.843"	1.929"	6.400"	6.200"	0.790"	7.575"	6.895"	5.935"
MAX 6 Oversize	6"+	25.750"	11.125"	11.496"	1.929"	5.250"	5.750"	0.910"	7.941"	7.250"	5.750"
MAX 7	7"	26.000"	13.250"	9.843"	2.323"	5.250"	5.750"	0.910"	8.628"	8.500"	6.375"
MAX 8	8"	29.528"	14.961"	11.496"	2.323"	8.000"	6.750"	0.690"	10.115"	9.358"	6.892"
MAX 9	9"	33.438"	19.719"	18.000"	2.725"	9.750"	8.250"	1.000"	11.230"	N/A	7.625"
MAX 10	10"	36.417"	18.504"	11.496"	2.323"	8.000"	6.750"	0.690"	12.625"	11.470"	6.788"
MAX 12	12"	45.520"	21.654"	18.110"	2.717"	9.500"	8.190"	0.910"	15.148"	N/A	7.660"
MAX 13	13"	41.250"	21.625"	21.500"	2.725"	9.750"	8.250"	1.000"	15.580"	N/A	7.625"
MAX 16	16"	55.500"	27.563"	18.100"	2.725"	9.750"	8.250"	1.000"	18.980"	N/A	7.625"

TEST	GASKET PHYSICAL TESTS (ASTM C1173)	ASTM C1173
Tensile Strength	1000 PSI minimum	D412
Elongation	200% minimum	D412
Durometer (Shore A)	50 minimum 75 maximum	D2240
Heat Aging	75% of original tensile strength 65% of original elongation All determined after oven aging at 70°C for 70 hours	D573
Ozone Cracking	No visible cracking at 2X magnification of the gasket after 24 hours exposure in 0.5 PPHM ozone concentrations at 40°C. Testing and inspection to be on gasket which is loop-mounted to give approximately 20% elongation of outer surface.	D1149
Water Absorption	20% maximum by weight after 7 days at 70°F	D471
Chemical Resistance	No weight loss 48 hours at 74°F	D543

MAXADAPTOR® Couplings are designed for the repair of most types and sizes of gravity flow, non-pressure sewer/drainage pipes. One coupling per nominal diameter joins clay, ductile iron, asbestos cement, cast iron and plastic. Coupling consists of corrosion resistant AISI 304 series stainless steel components, and a high impact polyamide (nylon) securing cage, over an injection molded EPDM rubber gasket. Couplings are available in sizes 4" through 16".

Leak-Proof Seal - AISI 304 series stainless steel components and high impact polyamide (nylon) securing cage provide sufficient band load to ensure a water-tight, leak-proof seal that is resistant to both infiltration and exfiltration.

Corrosion Resistant - AISI 304 series stainless steel components provide highly effective corrosion resistance in a variety of environments; such as marine applications, poorly aerated or moist soils, contaminated ground conditions (particularly industrial fill sites) and where the ground water contains chloride, sulfates or bicarbonates.

Withstands Tension and Compression - EPDM rubbers permit a substantial degree of distortion without change in basic physical resistance, unlike other manufacturers' thermoplastic gasket materials. Molded rubber gasket is strong, durable and resilient to ultraviolet rays, ozone, fungus growth, natural erosive properties of soil and normal sewer gases. More pliable and easier to install in cold weather applications than an elastomeric PVC gasket.

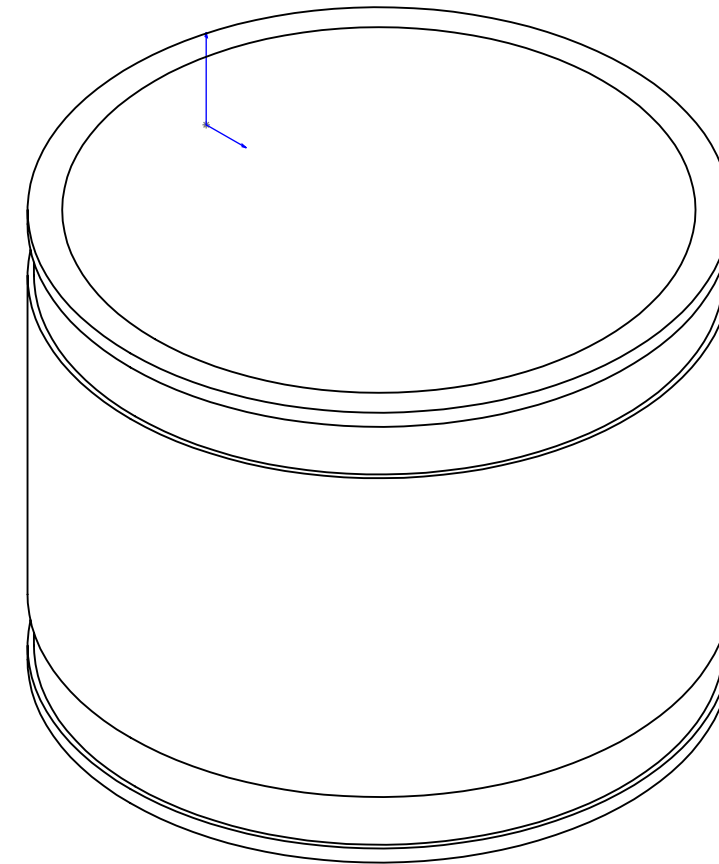
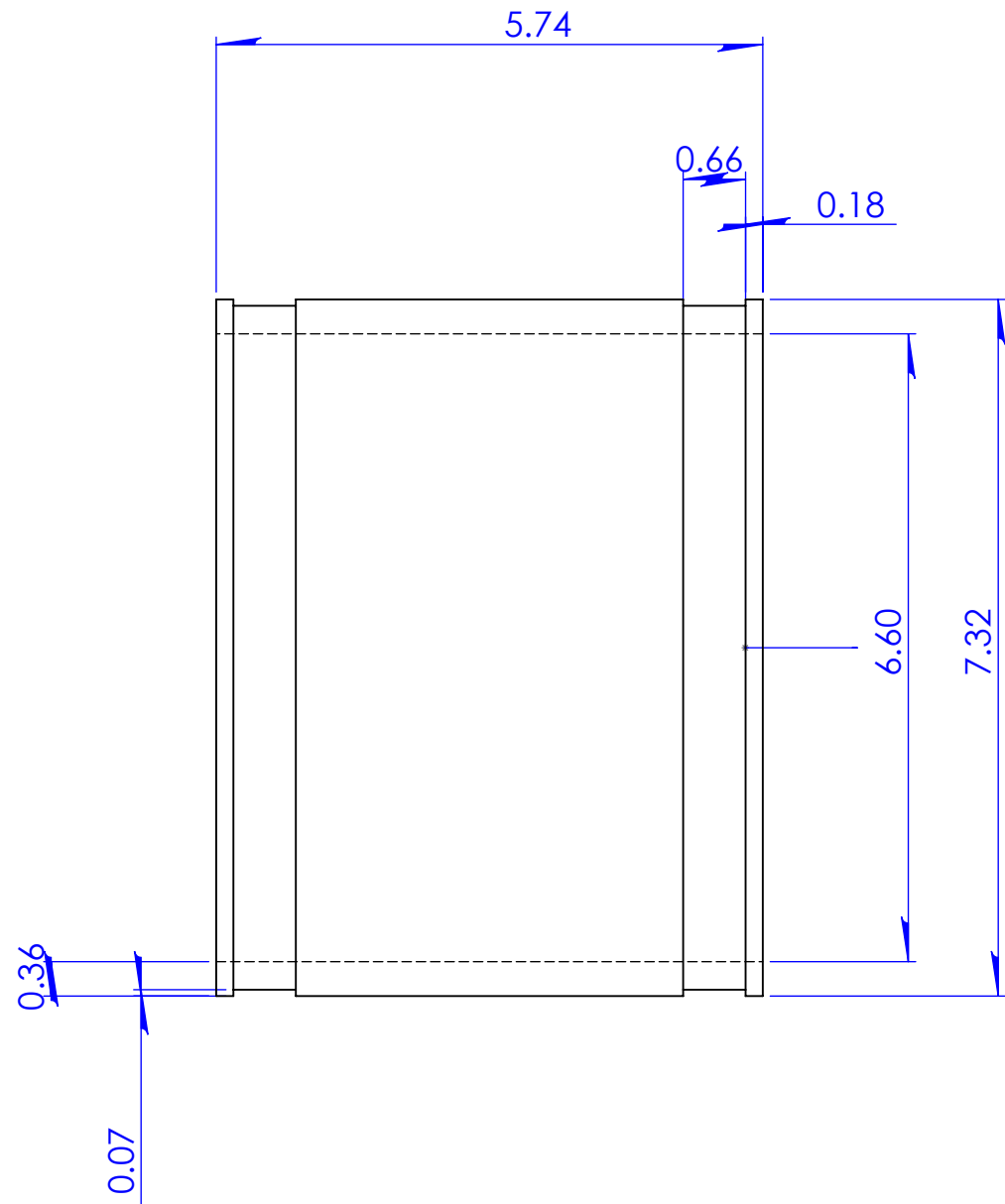
Internal "Pipe Stop" - For proper pipe positioning and noise/vibration reduction.

Joint Movement Restraint - Coupling provides for superior load bearing control between the coupling and pipe surface. The coupling's rugged construction provides excellent sealing properties, and the stainless steel band plus securing cage offers excellent resistance to shear forces and helps with alignment, while maintaining flexibility.

Pre-Set Calibration - Designed to be installed with a cordless drill to 80 in/lbs. minimum torque to accommodate the AISI 305 series stainless steel ⁵/₁₆" hex head screw.

SPECIFICATION CHART

SEWER FITTINGS	Options	Size Range	REFERENCED Standards
 Trench Tough Plus Gasketed Fittings	SDR35	INJECTION MOLDED: up to 18" FABRICATED: up to 42"	ASTM D3034, F679, F170 CSA B182.2 CSA B181.2 IAPMO File 2431
 Trench Tough Plus Gasketed Heavy Wall	SDR26	INJECTION MOLDED: up to 12" FABRICATED: up to 24"	ASTM D3034, F679, F170
 CIOD Sewer Fittings	DR51 DR25 DR41 DR18 DR32.5 DR14	INJECTION MOLDED: 4" – 8" (DR18) FABRICATED: 10" – 48"	AWWA C900 AWWA C907 AWWA C905
 Solvent Weld	SDR35	INJECTION MOLDED: 3" - 8" FABRICATED: 8" – 15"	ASTM D2665 (6" & 8") NSF 14 (6" & 8") CSA B181.2 (6" & 8")
 Ultra-Rib	Open Profile	8" – 24"	ASTM F794 AASHTO M304 CSA B182.4 ASTM D3034
 DWV Schedule 40 PVC	PVC	INJECTION MOLDED: 6" – 12" FABRICATED: 10" – 24"	CSA, IAPMO, NSF
 Backwater Valves	ABS PVC	3" – 6"	CSA, IAPMO, NSF, SBC



- *Part Includes:
- Clamp: Part Number 116-300, 2 pcs.
 - Shear Ring: Part Number SRC-25, 1 pc.
 - See additional drawings for these parts.

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS
DRAWING IS THE SOLE PROPERTY OF
FERNCO, INC. ANY REPRODUCTION IN
PART OR AS A WHOLE WITHOUT THE
WRITTEN PERMISSION OF FERNCO, INC.
IS PROHIBITED.

Part Weight	2.88 lbs.
Min/Max Temp.	-30/140 Degrees F
Pressure Tested	4.3 PSI
Material	Flexible PVC 60 Duro Shore A
Installation Torque	60" Lbs.
Conforms to ASTM	D5926, C1173
Box Quantity	
Clamps used	300 Series



300 S. DAYTON ST.
DAVISON, MI 48423
PH: 810-653-9626
FAX: 810-654-2616

TOLERANCES:
.X= Fractional ±
.XX= ±.060
.XXX= ±.032
ANG.= ±0.5°
UNLESS OTHERWISE SPECIFIED

DESCRIPTION: Coupling 6" Cast
Iron/Plastic x 6" Cast
Iron/Plastic

1056-66RC

UNITS: INCHES	SIZE A	DESIGNER: D. Brady	SCALE not to scale
3RD ANGLE PROJECTION DO NOT SCALE DRAWING	CHECKER:	DATE: 8/19/2008	SHEET 1 OF 1



Lee's Summit Downtown Bank

Lee's Summit, MO

Submittal Package





Storm

ADS N-12® WT IB PIPE (PER ASTM F2648) SPECIFICATION

Scope

This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 WT IB pipe (per ASTM F2648) for use in gravity-flow land drainage applications.

Pipe Requirements

ADS N-12 WT IB pipe (per ASTM F2648) shall have a smooth interior and annular exterior corrugations.

- 4- through 60-inch (100 to 1500 mm) pipe shall meet ASTM F2648.
- Manning's "n" value for use in design shall be 0.012.

Joint Performance

Pipe shall be joined using a bell & spigot joint meeting ASTM F2648. The joint shall be watertight according to the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly. 12- through 60-inch (300 to 1500 mm) diameters shall have an exterior bell wrap installed by the manufacturer.

Fittings

Fittings shall conform to ASTM F2306. Bell and spigot connections shall utilize a welded bell and valley or saddle gasket meeting the watertight joint performance requirements of ASTM F2306.

Field Pipe and Joint Performance

To assure watertightness, field performance verification may be accomplished by testing in accordance with ASTM F2487. Appropriate safety precautions must be used when field-testing any pipe material. Contact the manufacturer for recommended leakage rates.

Material Properties

Material for pipe production shall be an engineered compound of virgin and recycled high-density polyethylene conforming with the minimum requirements of cell classification 424420C (ESCR Test Condition B) for 4- through 10-inch (100 to 250 mm) diameters, and 435420C (ESCR Test Condition B) for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The design engineer shall verify compatibility with overall system including structural, hydraulic, material, and installation requirements for a given application.

Installation

Installation shall be in accordance with ASTM D2321 and ADS recommended installation guidelines, with the exception that minimum cover in trafficked areas for 4- through 48-inch (100 to 1200 mm) diameters shall be one foot (0.3 m) and for 60-inch (1500 mm) diameter the minimum cover shall be 2 ft. (0.6 m) in single run applications. Backfill for minimum cover situations shall consist of Class 1 (compacted) or Class 2 (minimum 90% SPD) material. Maximum fill heights depend on embedment material and compaction level; please refer to Technical Note 2.02. Contact your local ADS representative or visit our website at www.ads-pipe.com for a copy of the latest installation guidelines.

Pipe Dimensions

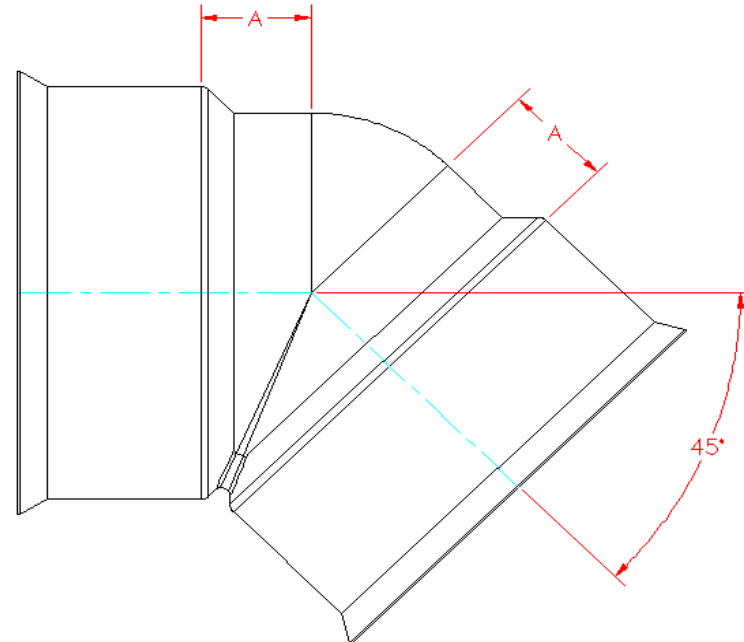
Nominal Diameter, in (mm)													
Pipe I.D. in (mm)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)	42 (1050)	48 (1200)	60 (1500)
Pipe O.D.* in (mm)	4.8 (122)	6.9 (175)	9.1 (231)	11.4 (290)	14.5 (368)	18 (457)	22 (559)	28 (711)	36 (914)	42 (1067)	48 (1219)	54 (1372)	67 (1702)

*Pipe O.D. values are provided for reference purposes only, values stated for 12 through 60-inch are ± 1 inch. Contact a sales representative for exact values

INJECTION MOLDED 45° BEND

4" - 12" DIAMETER

PART #	PIPE SIZE	A	JOINT
0494ST	4 in (100 mm)	1.3 in (33 mm)	ST
0494WT	4 in (100 mm)	1.3 in (33 mm)	WT
0694ST	6 in (150 mm)	1.8 in (46 mm)	ST
0694WT	6 in (150 mm)	1.8 in (46 mm)	WT
0894ST	8 in (200 mm)	2.4 in (60 mm)	ST
0894WT	8 in (200 mm)	2.4 in (60 mm)	WT
1094ST	10 in (250 mm)	3.4 in (87 mm)	ST
1094WT	10 in (250 mm)	3.4 in (87 mm)	WT
1294ST	12 in (300 mm)	4.4 in (112 mm)	ST
1294WT	12 in (300 mm)	4.4 in (112 mm)	WT



NOTE:

FITTINGS WHOSE PART NUMBERS END WITH "WT" HAVE WATER TIGHT BELL CONNECTIONS. WATER TIGHT BELLS ARE SHOWN HERE IN THIS DRAWING AND REQUIRE GASKETS TO BE FITTED TO DUAL WALL PIPE TO FORM A WATER TIGHT JOINT. (GASKETS INCLUDED)

FITTINGS WHOSE PART NUMBERS END WITH "ST" HAVE SOIL TIGHT BELL CONNECTIONS. SOIL TIGHT BELLS HAVE MOLDED CLEATS AND REQUIRE NO GASKET TO MAKE CONNECTION TO DUAL WALL PIPE.

NOTE: ALL FITTINGS DIMENSIONS ARE FOR REFERENCE ONLY

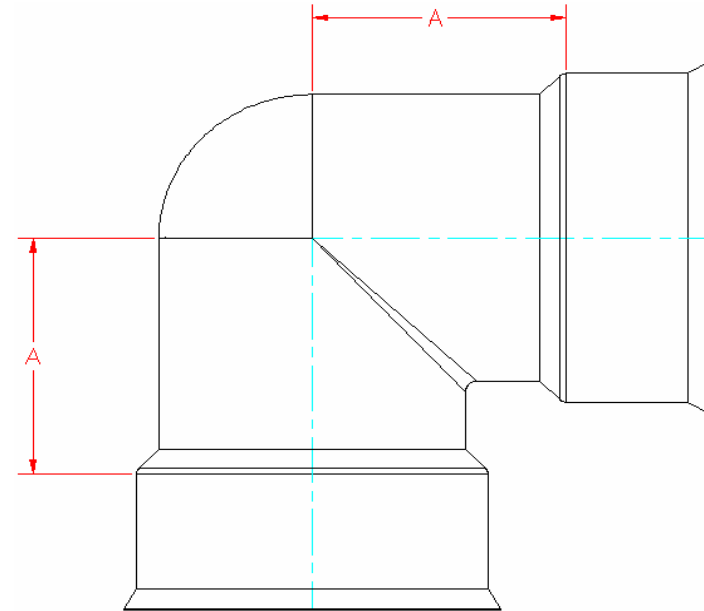


DRAWING #:	3200	
DRAWN BY:	JCB	07.31.06
APPROVED BY:		
REVISIONS:	NJP	06.15.07

INJECTION MOLDED 90° BEND

4" - 12" DIAMETER

PART #	PIPE SIZE	A	JOINT
0499ST	4 in (100 mm)	3.7 in (93 mm)	ST
0499WT	4 in (100 mm)	3.7 in (93 mm)	WT
0699ST	6 in (150 mm)	5.2 in (133 mm)	ST
0699WT	6 in (150 mm)	5.2 in (133 mm)	WT
0899ST	8 in (200 mm)	6.9 in (175 mm)	ST
0899WT	8 in (200 mm)	6.9 in (175 mm)	WT
1099ST	10 in (250 mm)	8.9 in (227 mm)	ST
1099WT	10 in (250 mm)	8.9 in (227 mm)	WT
1299ST	12 in (300 mm)	11.3 in (286 mm)	ST
1299WT	12 in (300 mm)	11.3 in (286 mm)	WT



NOTE:

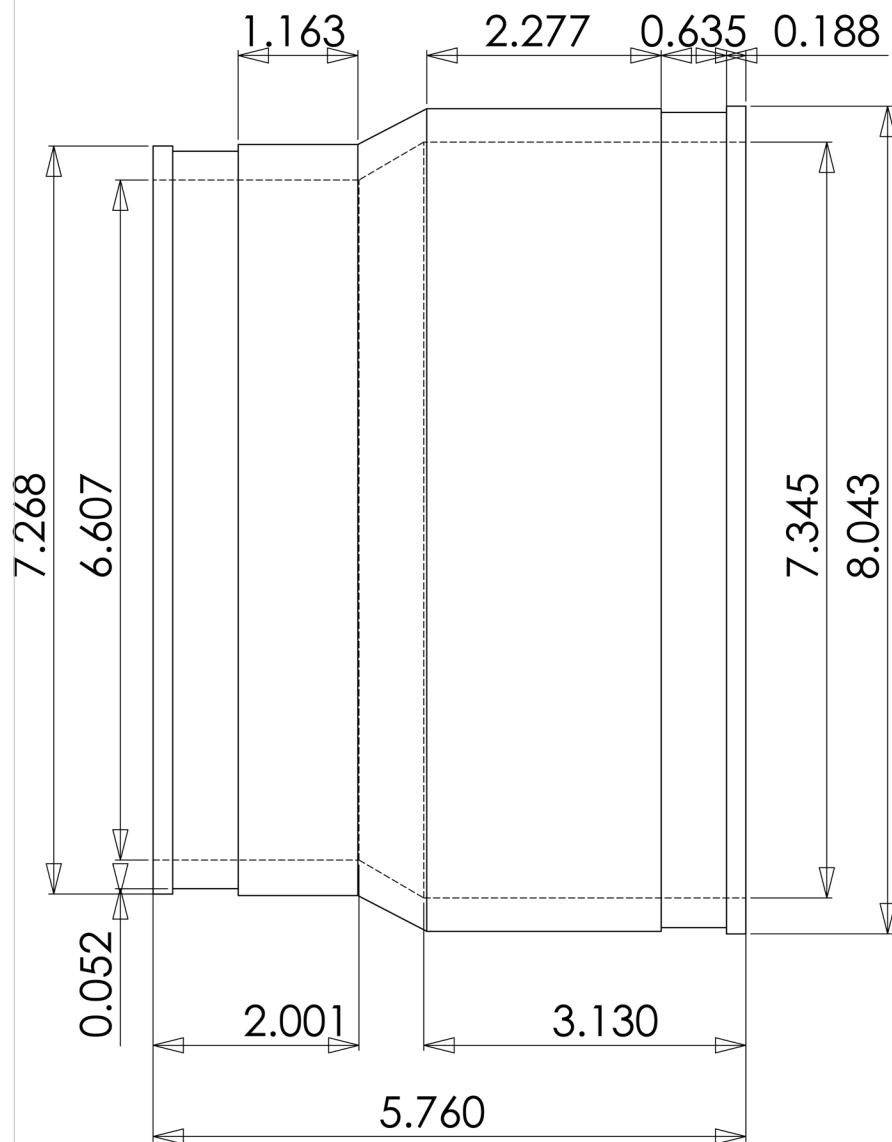
FITTINGS WHOSE PART NUMBERS END WITH "WT" HAVE WATER TIGHT BELL CONNECTIONS. WATER TIGHT BELLS ARE SHOWN HERE IN THIS DRAWING AND REQUIRE GASKETS TO BE FITTED TO DUAL WALL PIPE TO FORM A WATER TIGHT JOINT. (GASKETS INCLUDED)

FITTINGS WHOSE PART NUMBERS END WITH "ST" HAVE SOIL TIGHT BELL CONNECTIONS. SOIL TIGHT BELLS HAVE MOLDED CLEATS AND REQUIRE NO GASKET TO MAKE CONNECTION TO DUAL WALL PIPE.

NOTE: ALL FITTINGS DIMENSIONS ARE FOR REFERENCE ONLY



DRAWING #:	3300	
DRAWN BY:	JCB	07.31.06
APPROVED BY:		
REVISIONS:	NJP	06.15.07



NOTES:
 -SOME HIDDEN LINES NOT SHOWN
 -BREAK ALL SHARP CORNERS
 -REPORT ALL CHANGES TO ENGINEERING

PROPRIETARY AND CONFIDENTIAL
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FERNCO, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FERNCO, INC. IS PROHIBITED.

*The part requires two clamps, part numbers 116-300 and 128-300. See additional drawings for information on these clamps.



Part Weight	2.74 lbs.
Min/Max Temp.	-30/140 Degrees F
Pressure Tested	4.3 PSI
Material	Flexible PVC
Installation Torque	60" Lbs.
Conforms to ASTM	D5926, C1173
Box Quantity	10
Clamps used	300 Series

TOLERANCES:
 .X= Fractional ±
 .XX= ±.02
 .XXX= ±.030
 ANG.= ±0.5°
 UNLESS OTHERWISE SPECIFIED

DESCRIPTION:

Coupling 6" Clay x 6" PVC

1002-66

UNITS:

INCHES

SIZE

A

DESIGNER:

D. Brady

CHECKER:

DATE:

5/10/2007

SCALE

not to scale

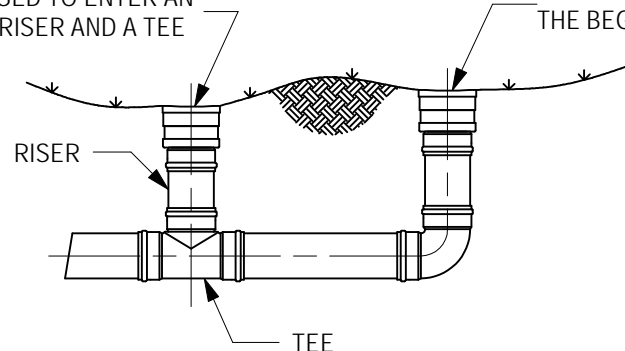
SHEET 1 OF 1

3RD ANGLE PROJECTION
 DO NOT SCALE DRAWING

WHEN ARE INLINE DRAINS USED?

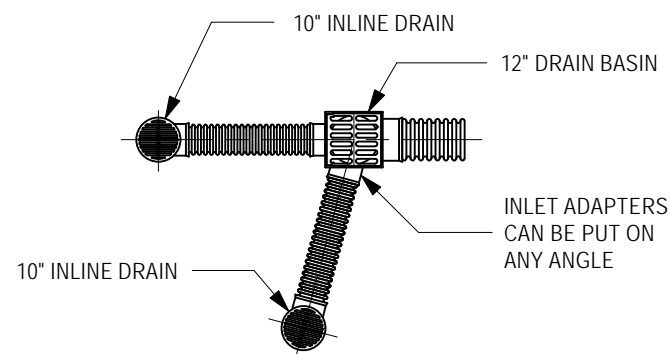
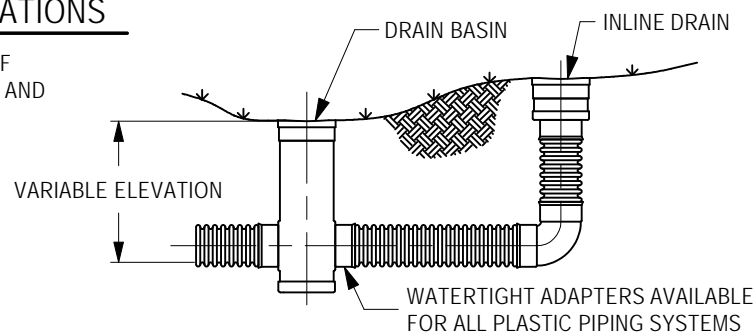
THE INLINE DRAIN CAN BE USED TO ENTER AN EXISTING LINE BY USE OF A RISER AND A TEE

THE INLINE DRAIN CAN BE USED AT THE BEGINNING OF A DRAIN LINE



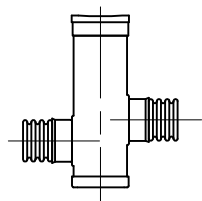
TYPICAL INSTALLATIONS

TYPICAL INSTALLATION OF NYLOPLAST DRAIN BASIN AND INLINE DRAIN

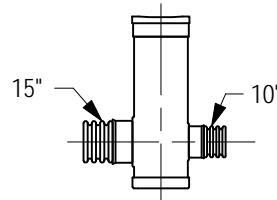


WHEN ARE DRAIN BASINS USED?

1: CHANGE ELEVATION

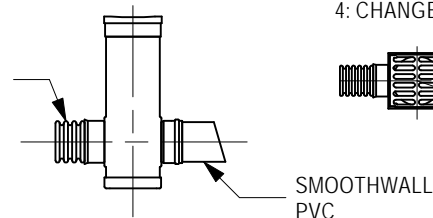


2: CHANGE DIAMETER

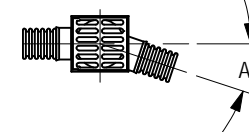


CORRUGATED POLY PIPE

3: CHANGE PIPE



4: CHANGE DIRECTION



AVAILABLE IN SIZES 8" THROUGH 30".
ADAPT TO PIPE SIZES 4" THROUGH 30".

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DRAWN BY	AWA	MATERIAL	
DATE	10AUG00		
APPD BY	CJA	PROJECT NO./NAME	
DATE	10AUG00	DRAIN BASIN / INLINE DRAIN	
DWG SIZE	A	SCALE	1:90 SHEET 1 OF 1

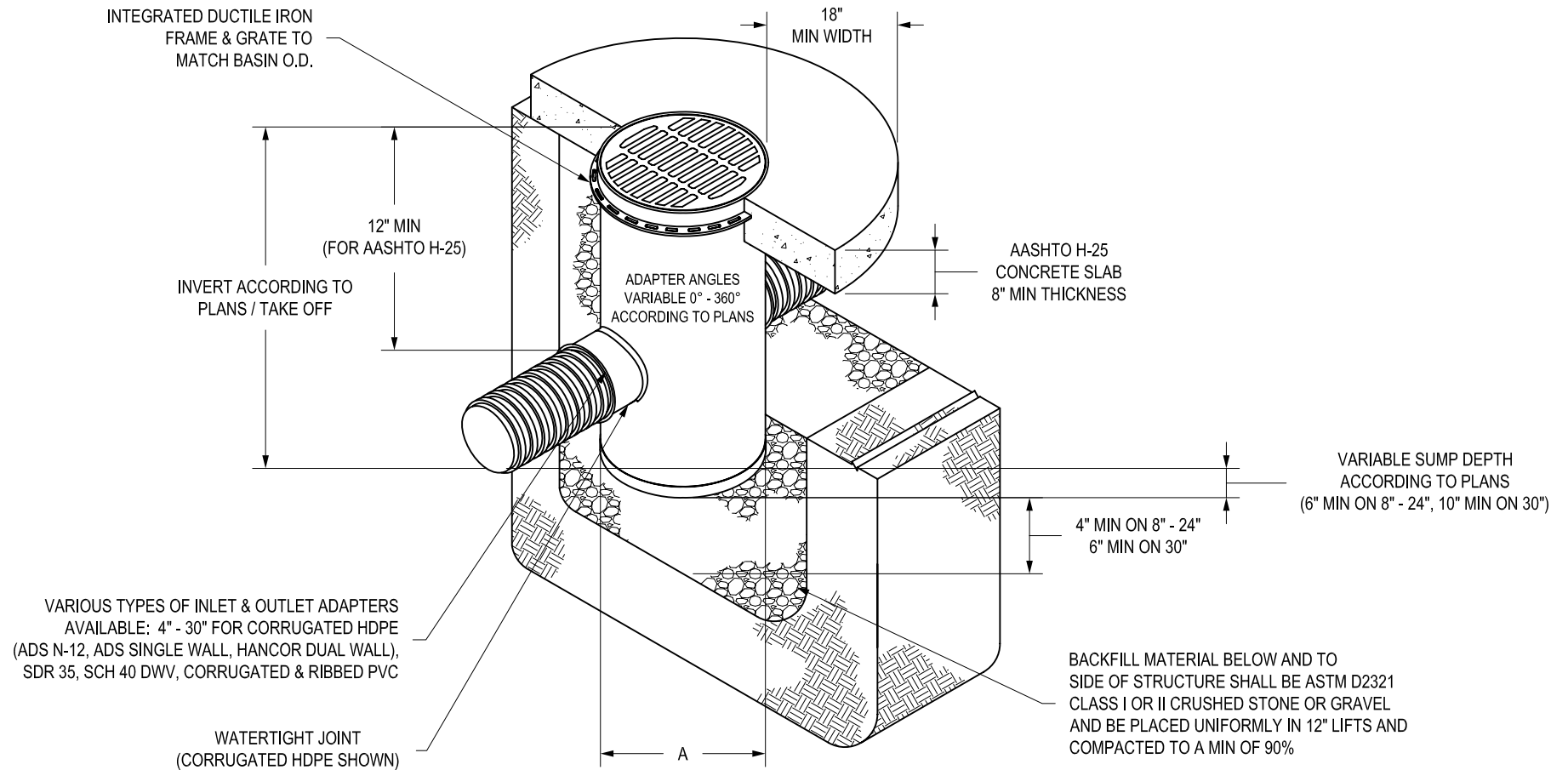
Nyloplast

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE
8" - 30" TYPICAL INSTALLATION OPTIONS

DWG NO. 7001-110-042 REV B


NYLOPLAST DRAIN BASIN



- 1- 8" - 30" GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
- 2- 8", 10", 18", 24" & 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
- 3- 12" & 15" FRAMES SHALL BE CAST IRON PER ASTM A-48-83 CLASS 30B
- 4- DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
- 5- DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
- 6- FOR COMPLETE DESIGN AND PRODUCT INFORMATION: WWW.NYLOPLAST-US.COM
- 7- TO ORDER CALL: 800-821-6710

A	PART #	GRATE OPTIONS		
8"	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10"	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12"	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-25	SOLID AASHTO H-25
15"	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-25	SOLID AASHTO H-25

A	PART #	GRATE OPTIONS		
18"	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-25	SOLID AASHTO H-25
24"	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-25	SOLID AASHTO H-25
30"	2830AG	N/A	STANDARD AASHTO H-25	SOLID AASHTO H-25

DRAWN BY	EBC	MATERIAL			 Nyloplast 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE	1-23-06				
APPD BY	CJA	PROJECT NO./NAME			
DATE	1-23-06				
TITLE					DRAIN BASIN WITH STANDARD GRATE QUICK SPEC INSTALLATION DETAIL
DWG SIZE	A	SCALE	NTS	SHEET 1 OF 1	
DWG NO.		7001-110-144		REV	A