EMERY SAPP & SONS, INC

TRANSMITTAL LETTER

SUBMITTAL NO. : 1
DATE : 3/21/2022
PROJECT : Streets of West Pryor Lot 9 - Lee's Summit Missouri
JOB NO. : ESS No. 1422110
SUBJECT : Geogrid

SHOP DRAWING / SUBMITTAL REVIEW

__ APPROVED X APPROVED WITH CHANGES NOTED

__ REVISE AND RESUBMIT __NOT APPROVED

This review is for general conformance with the plans and specifications only. Approvals are subject to sub-contractor's performance within the confines of the contract documents, Review of dimensions will not serve to relieve the subcontractor of contractual responsibility for any deviation from the contract requirements.

By; Sam Malinowsky Date: 3-23-22

SM Engineering
5507 High Meadow Circle, Manhattan, KS 66503

TO : Sam Malinowsky
SM Engineering
5507 High Meadow Circle
Manhattan City, KS 66503

FROM : Dustin Levell - Project Manager
Emery Sapp & Sons, Inc.
140 Walnut Street
Kansas City, MO 64106

FROM : Chad S.
American Concrete Products

We are sending you this via:

- [ ] US Postal Mail
- [ ] Fed Ex / UPS
- [ ] Fax
- [ ] Hand Delivery
- [ ] Your Pickup
- [x] Electronic

The following Items:

- [x] Shop Drawings
- [ ] Certifications & PD
- [ ] Prints
- [ ] Plans
- [ ] Copy of Letter
- [ ] Specifications
- [ ] Change Proposal
- [ ] Catalog Data
- [ ] Change Order
- [ ] Mix Designs
- [ ] Other

COPIES	Date	NO.	DESCRIPTION
1	3.21.2022	1	Storm Sewer and Sanitary Sewer Shop Drawings

These are Transmitted as checked below:

- [x] For Approval
- [ ] For Your Use
- [ ] As Requested
- [ ] Approved as Submitted
- [ ] Approved as Noted
- [ ] For Bids Due
- [ ] For Review & Comment
- [ ] Returned for Corrections
- [ ] For Field Use
- [ ] Resubmit Copies for Approval
- [ ] Submit Copies for Distribution
- [ ] Return Corrected Prints

Remarks: These shop drawings have been reviewed by ESS for general content only. The material supplier is responsible for the engineering, design, and fabrication of the included items. ESS accepts responsibility for coordinating with any subcontractors responsible for the installation and the supplier responsible for the fabrication of these materials to insure conformance with plans and specifications.

ESS APPROVED

By : _____

Date : _____

AMERICAN
CONCRETE PRODUCTS CO.

CERTIFICATE OF COMPLIANCE

DATE:	03/18/2022
REFERENCE:	Streets of West Pryor- Lot 9 Lee's Summit, MO
CONTRACTOR:	Emery Sapp & Sons
ATTENTION:	Dustin Levell

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

6945 Inland Dr • Kansas City, KS 64105 • 913-353-9850 • Fax 913-353-9585

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.

NPCA CERTIFIED PLANT

ANAB ACCREDITED ISO/IEC 17065 PRODUCT CERTIFICATION BODY

Mark Wieser, Chairman of the Board

Frederick H. Grubbe, NPCA President

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

NPCA | 1320 City Center Drive, Suite 200 | Carmel, IN 46032

FOR APPROVAL ONLY

AMERICAN CONCRETE PRODUCTS
6945 Inland Drive
Kansas City, KS 66106
(913) 353-9850
www.amconco.com

Structure: G.I B-2
Based On:
Job Name: Streets Of West Pryor (Lot 9)
Job Location: Lee's Summit, MO
Specification: G.I 3X3
Contractor: EMERY SAPP

Take Off By: 3/18/2022 ghileman

Design Build Height		
Top of Casting	+	989.87'
Outlet Invert	-	986.32'
Design Height	=	**3.55'**

Stack Build Height		
Concentric Slab	+	0.67'
Base Gain	+	2.88'
Design Height	=	**3.55'**
To Floor	+	0.29'
Floor Thickness	+	0.67'
Outside Height	=	**4.51'**

Pour Date:	
QC Date:	
Frame/Ring:	DEETER 2512
Invert:	No Invert

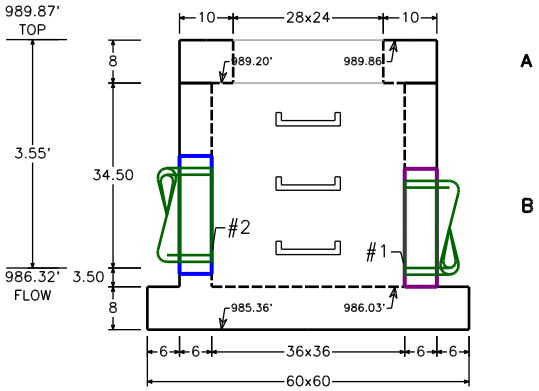
Notes: REINFORCING

LID - #5 BAR @ 6" O.C.E.W
WALLS - #4 BAR 12" O.C.E.W
BASE - #4 BAR @ 6" O.C.E.W

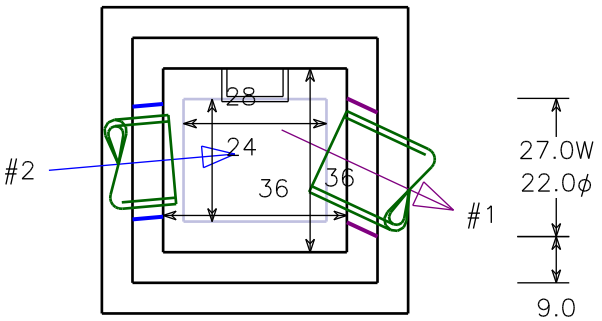
Opening Schedule

ID	Invert	Grade	To / From	Pipe	Pipe OD	Connector	Hole	Bottom	Angle
#1	986.32'		OUT 18"	15" Lane HDPE	17.5"	Mortar	See Drawing(22.0"	0.0"	245°
#2	986.52'		IN 12"	15" Lane HDPE	17.5"	Mortar	22.0" Ø	2.0"	95°

Elevation (View A-A)



Plan View



A A

BOM For Structure

ID	Description	Qty.	Weight
A	3'x3'x6"w X 8" Flat Lid w/24"x28" opening w/DEETER 2512	1	1,286
B	3'x3'x6"w X 38" Storm Bottom, 8" Base w/6" Ext Flat top	1	5,429
Gr	DEETER 2512 GRATE	1	
	Rope Tar Sealant	32	
	Totals (pieces, lbs)	2	6,714

FOR APPROVAL ONLY

AMERICAN CONCRETE PRODUCTS

6945 Inland Drive
Kansas City, KS 66106
(913) 353-9850
www.amconco.com

Structure: G.I B-3
Based On:
Job Name: Streets Of West Pryor (Lot 9)
Job Location: Lee's Summit, MO
Specification: G.I 3X3
Contractor: EMERY SAPP

Take Off By: 3/18/2022 ghileman

Design Build Height		
Top of Casting	+	~~989.78'~~
Outlet Invert	-	~~987.56'~~
Design Height	=	**2.22'**

989.19
987.20

Stack Build Height		
Adjustment	+	0.01'
Concentric Slab	+	0.67'
Base Gain	+	1.54'
Design Height	=	**2.22'**
To Floor	+	0.29'
Floor Thickness	+	0.67'
Outside Height	=	**3.18'**

Pour Date:	
QC Date:	
Frame/Ring:	DEETER 2512
Invert:	No Invert

Notes: REINFORCING

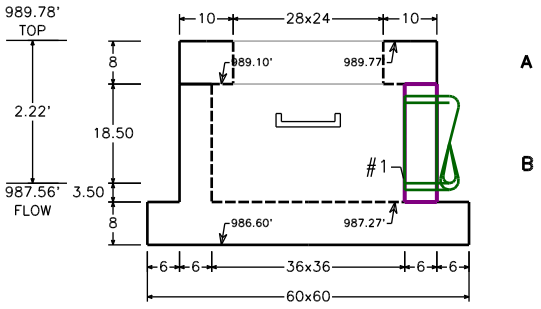
LID - #5 BAR @ 6" O.C.E.W
WALLS - #4 BAR 12" O.C.E.W
BASE - #4 BAR @ 6" O.C.E.W

Opening Schedule

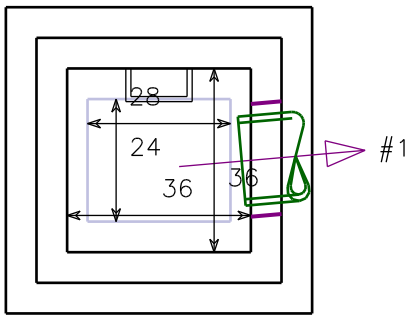
ID	Invert	Grade	To / From	Pipe	Pipe OD	Connector	Hole	Bottom	Angle
#1	~~987.56'~~		OUT 12"	~~15"~~ Lane HDPE	17.5"	Mortar	22.0" Ø	0.0"	275°

Elevation (View A-A)

987.20 D.L. ESS



Plan View



A A

BOM For Structure

ID	Description	Qty.	Weight
A	3'x3'x6"w X 8" Flat Lid w/24"x28" opening w/DEETER 2512	1	1,286
B	3'x3'x6"w X 22" Storm Bottom, 8" Base w/6" Ext Flat top	1	4,227
Gr	DEETER 2512 GRATE	1	
	Rope Tar Sealant	32	
	Totals (pieces, lbs)	2	5,513

FOR APPROVAL ONLY

AMERICAN CONCRETE PRODUCTS

6945 Inland Drive
Kansas City, KS 66106
(913) 353-9850
www.amconco.com

Structure: MH A-2
Based On:
Job Name: Streets Of West Pryor (Lot 9)
Job Location: Lee's Summit, MO
Specification: 48" San. Ecc.
Contractor: EMERY SAPP

Take Off By: 3/18/2022 ghileman

Design Build Height		
Top of Casting	+	990.70'
Outlet Invert	-	985.46'
Design Height	=	**5.24'**

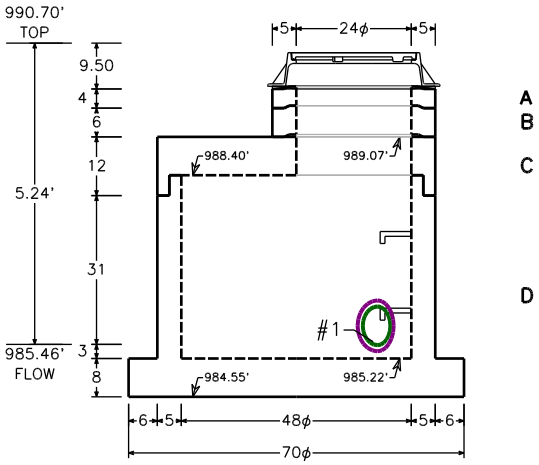
Stack Build Height		
Ring	+	0.75'
Adjustment	+	0.05'
Risers	+	0.83'
Eccentric Slab	+	1.02'
Base Gain	+	2.59'
Design Height	=	**5.24'**
To Floor	+	0.24'
Floor Thickness	+	0.67'
Outside Height	=	**6.15'**

Pour Date:	
QC Date:	
Ring:	DEETER 1320
Invert:	No Invert
Coating:	**Bituminous Outside, None Inside**
Notes:	

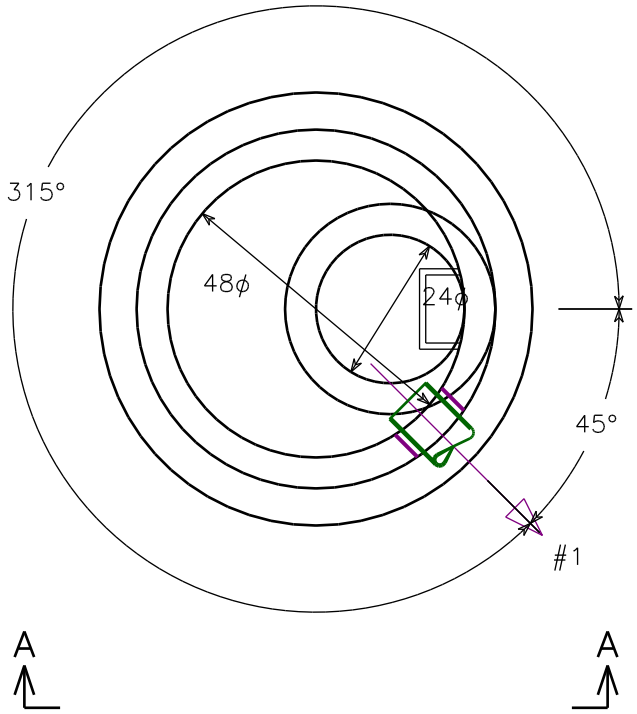
Opening Schedule

ID	Invert	Grade	To / From	Pipe	Pipe OD	Connector	Hole	Bottom	Angle
#1	985.46'		OUT	8" PVC Sdr 26	8.400"	A-Lok285	N/A	1.5"	0°

Elevation (View A-A)



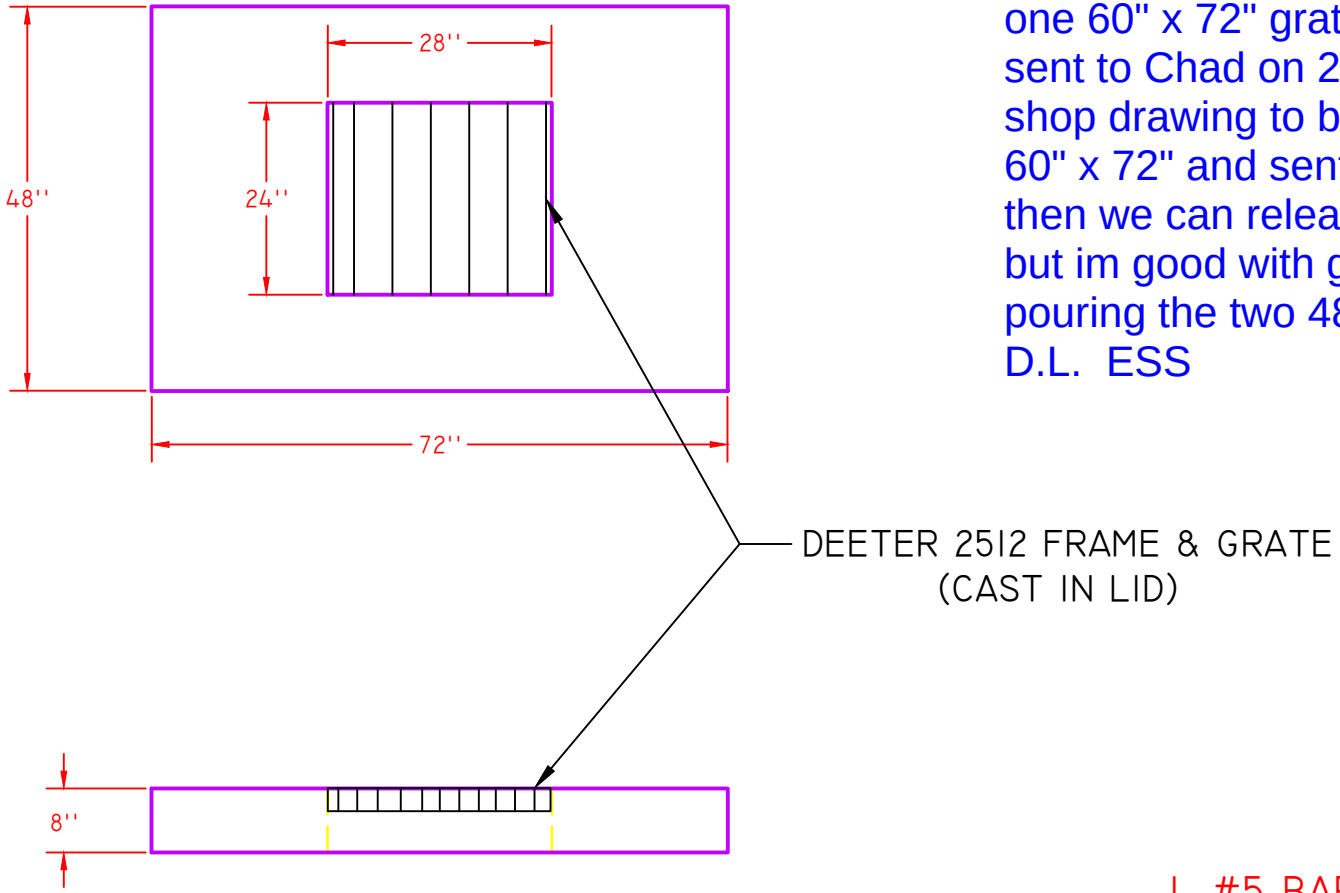
Plan View



BOM For Structure

ID	Description	Qty.	Weight
A	24" X 4" Riser	1	158
B	24" X 6" Riser	1	237
C	48" X 12.25" Flat Top 8"T w/24" opening	1	1,681
D	48" X 34" San. Bottom, 8" Base w/6" Ext	1	5,237
Gr	1320 Cover - Lee's Summit SAN	1	
	Joint Wrap 50 ft roll	0.69	
	Rope Tar Sealant	66.5	
	Totals (pieces, lbs)	4	7,314

REVISIONS			
REV.	DESCRIPTION	BY:	DATE



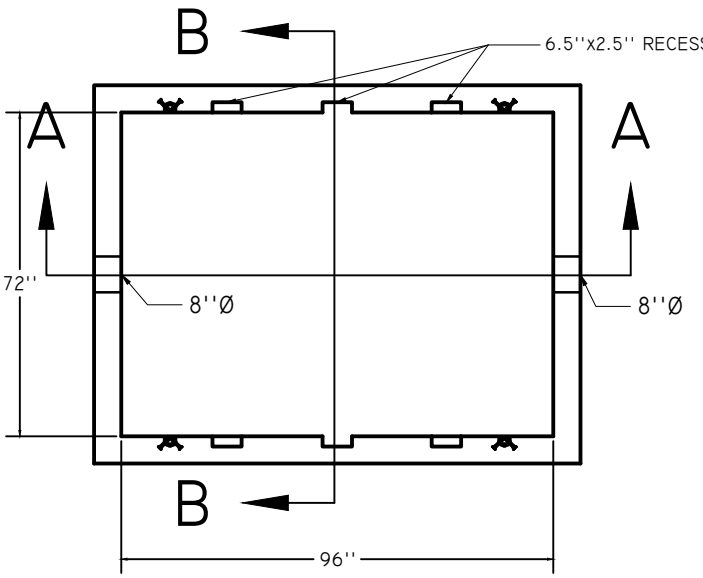
There is two 48" x 72" grated tops and one 60" x 72" grated top. These were sent to Chad on 2.22.2022, pending shop drawing to be drafted up for the 60" x 72" and sent over for approval then we can release the 60" x 72" one, but im good with going ahead and pouring the two 48" x 72" lids.
D.L. ESS

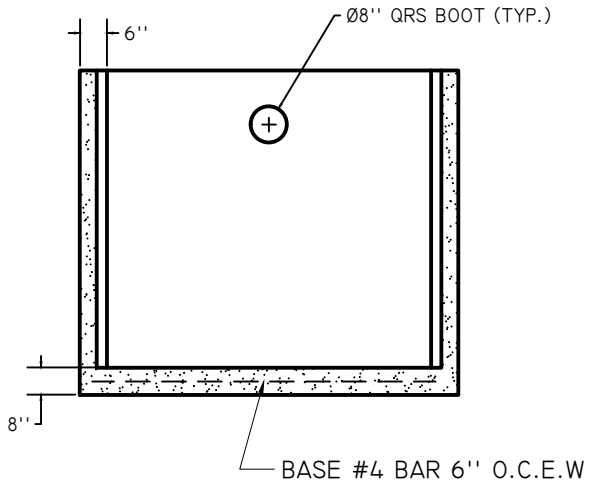
I. #5 BAR @ 6'' O.C.E.W

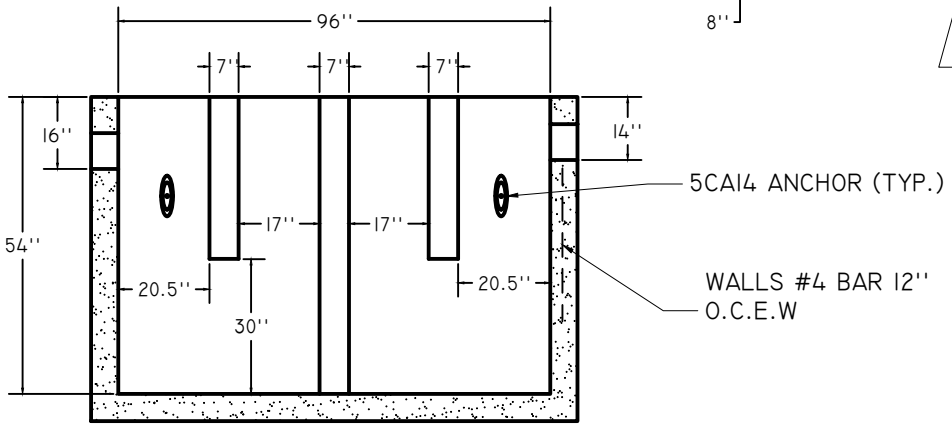
AMERICAN CONCRETE PRODUCTS		
SCALE: N.T.S	DR. BY: X	
DATE: 3/18/2022	CK. BY: X	
6X4 LID FOR 5X3 STRUCTURE		
PROJECT: STREETS OF WEST PRYOR LOCATION: LEE'S SUMMIT, MO CONTRACTOR: EMERY SAPP & SONS		DRAWING NUMBER

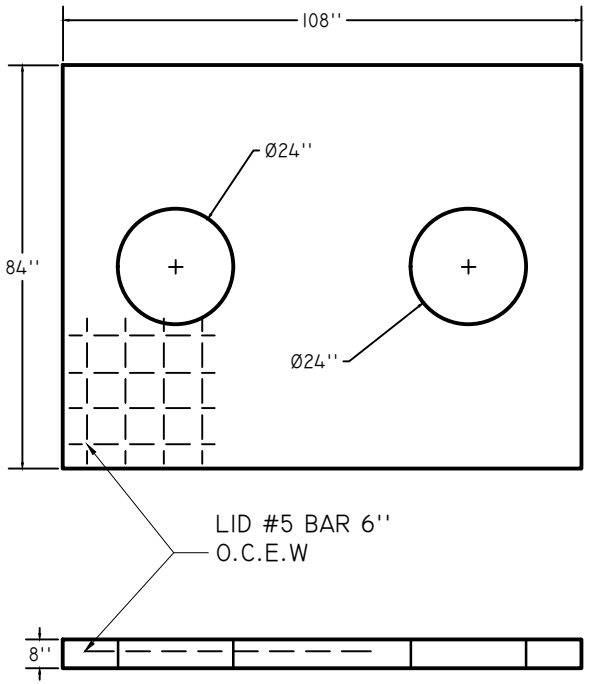
REVISIONS			
REV.	DESCRIPTION	BY:	DATE

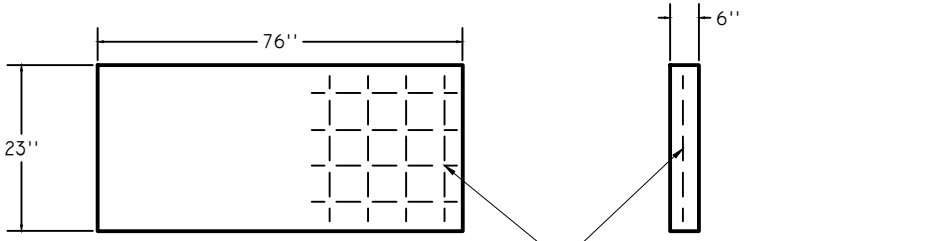
DISCRIPTION	QUANTITY	WEIGHT	PART #
LID	1	6400LBS	#243450
BOTTOM WITH BASE	1	22000LBS	#243449
BAFFLE WALLS	3	1300LBS	#243451











BAFFLE WALL

AMERICAN CONCRETE PRODUCTS CO.

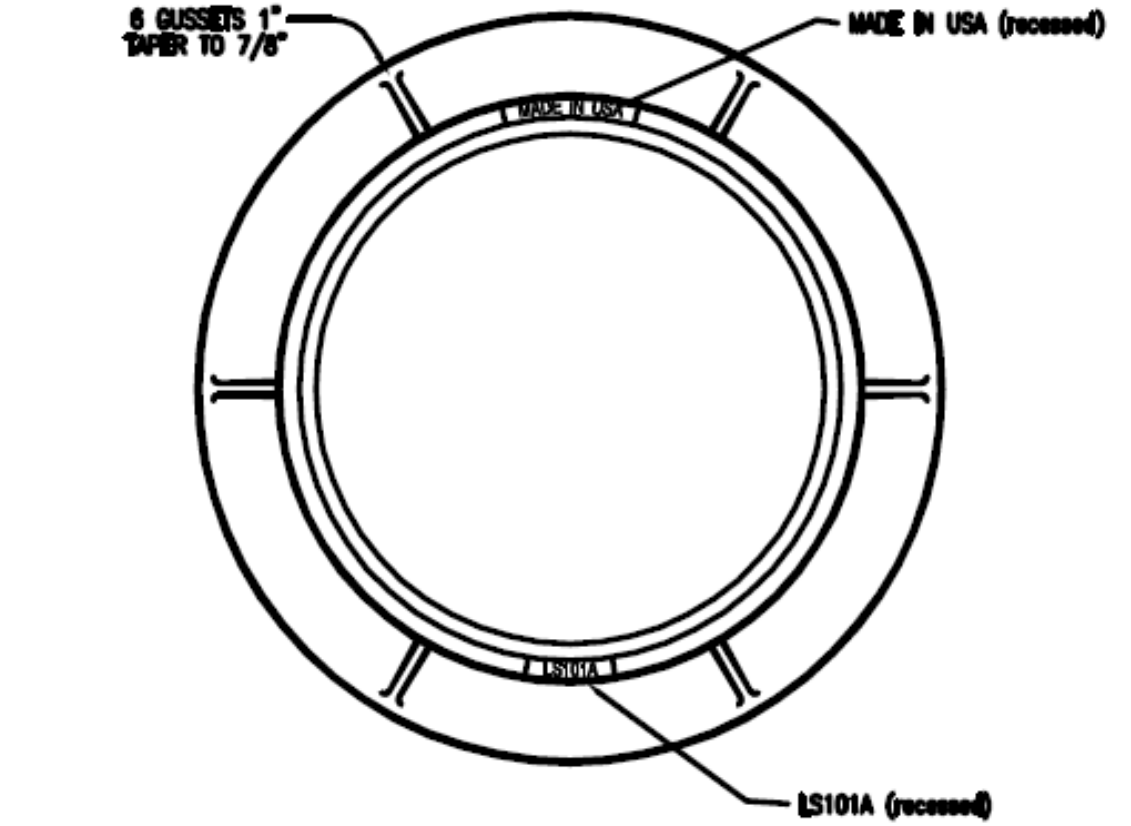
AMERICAN CONCRETE PRODUCTS

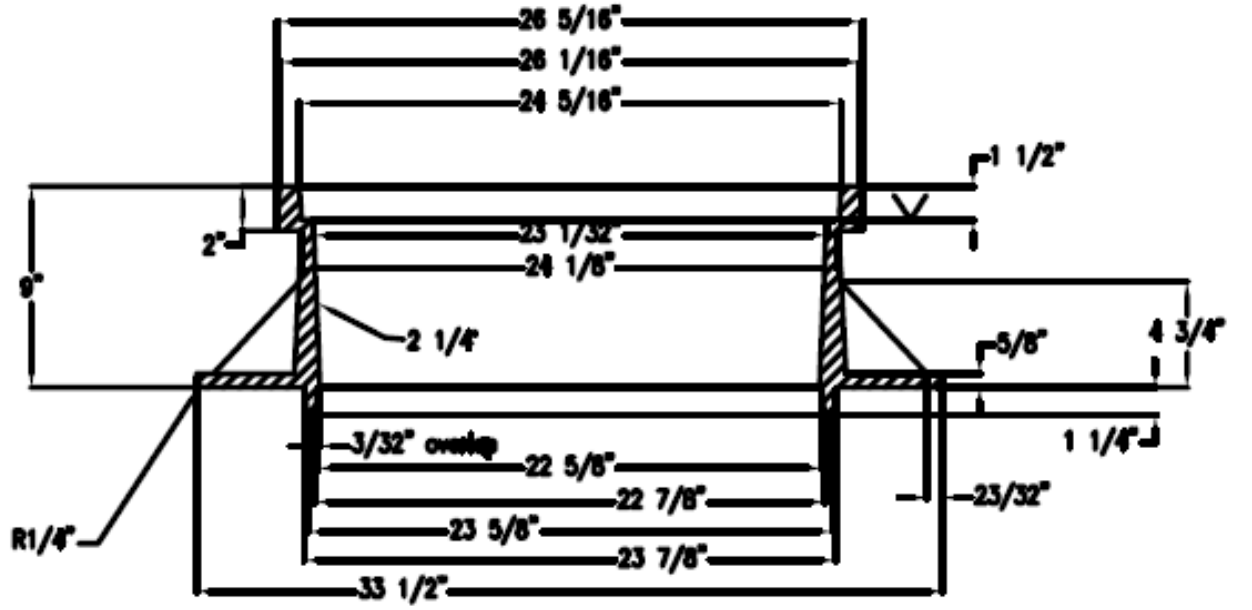
SCALE: N.T.S	DR. BY:
DATE: 11/18/2021	CK. BY:

1500 GALLON GREASE INTERCEPTOR (THREE BAFFLES)

PROJECT: X
LOCATION: X
CONTRACTOR:

DRAWING NUMBER





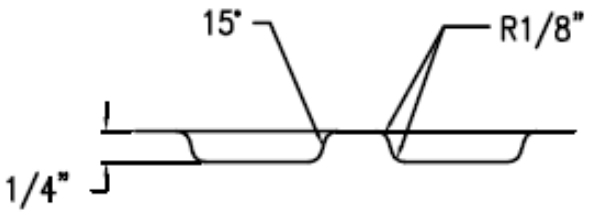
NOTE:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACES.

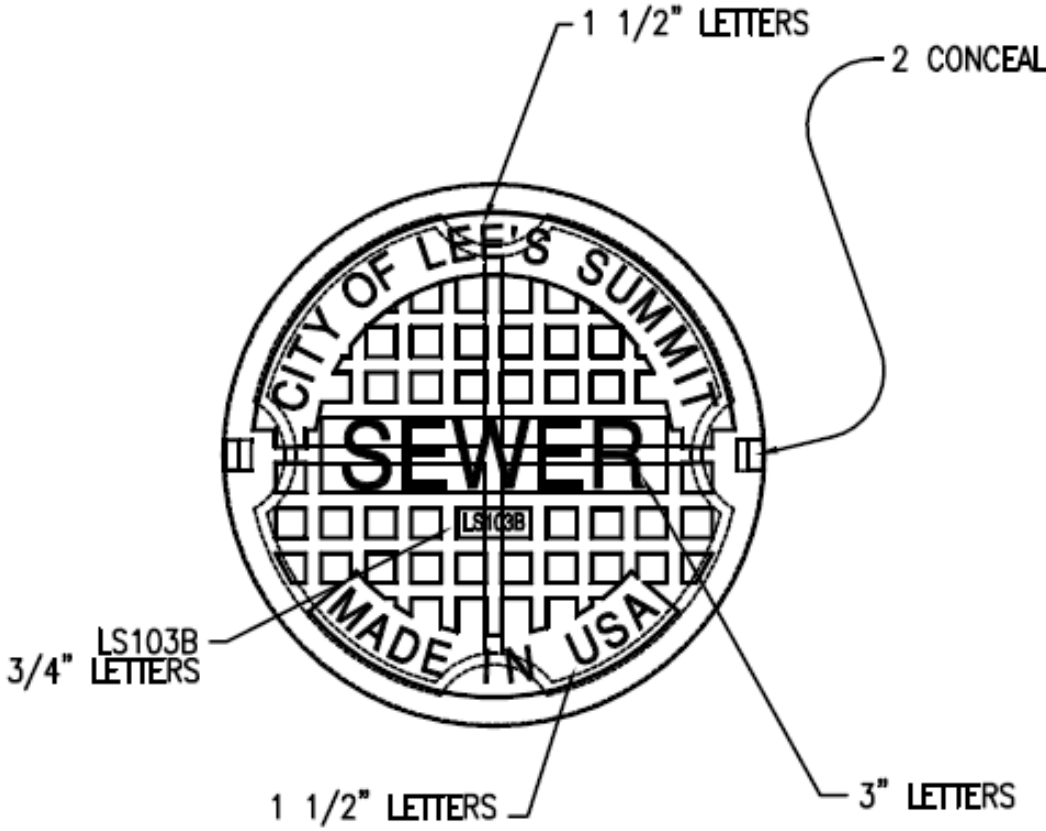
MATERIAL:	CAST GRAY IRON ASTM A-48, CLASS 35B
FINISH:	NO PAINT
WEIGHT:	FRAME 250 LBS.

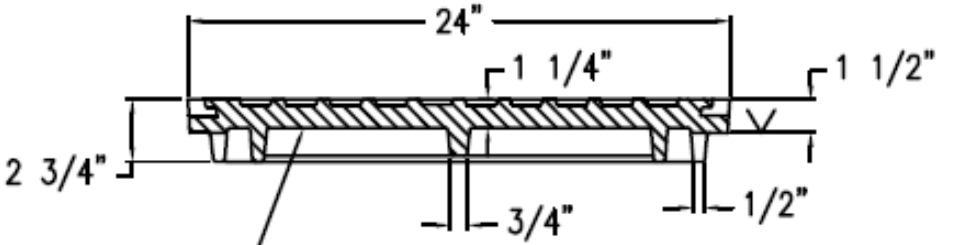
Deeter Foundry, Inc.
LINCOLN, NEBRASKA 68529

1320 MANHOLE RING

Date 20 APR 93	Drawn by RICK	Scale 1/8
DRAWING NO. 1320-0101	Approved KRH	Date 14 APR 06







UNDERSIDE OF COVER IS ALSO LETTERED 9998----, AASHTO M306 07, AND ASTM A48 CL35B

NOTE:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.

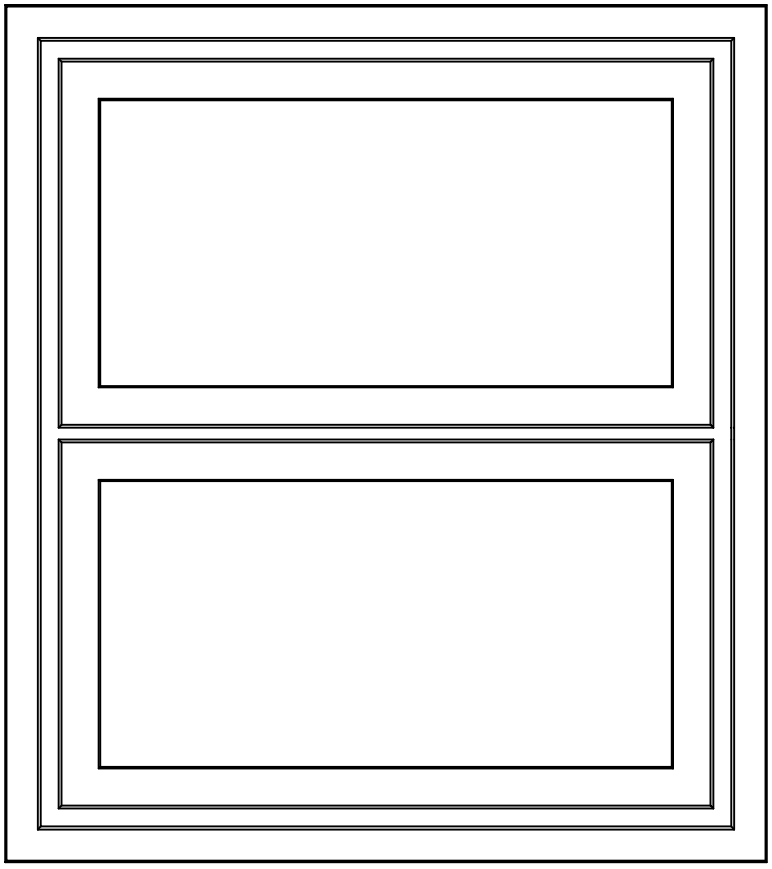
MATERIAL:	CAST GRAY IRON ASTM A-48, CLASS 35B
FINISH:	NO PAINT
WEIGHT:	157 LBS.

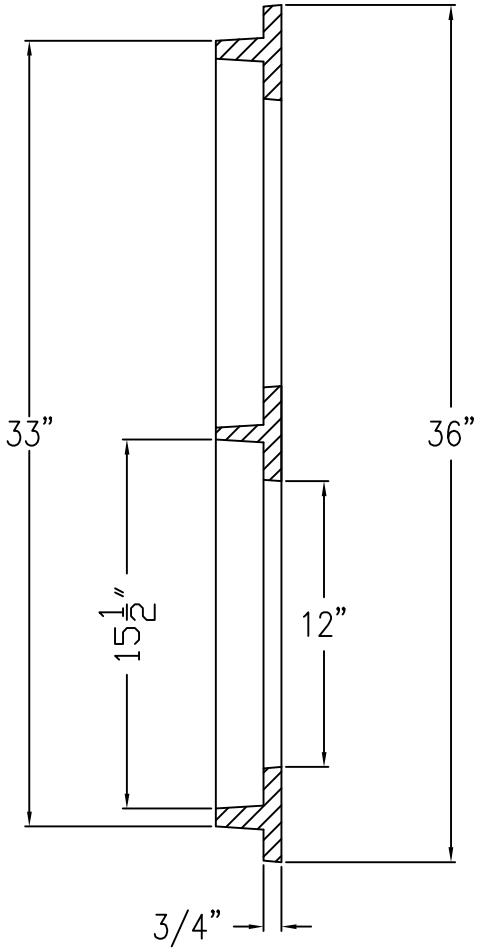
CAD DWG. REF: 1320-2122\LAYER: ALL\SCALE .125

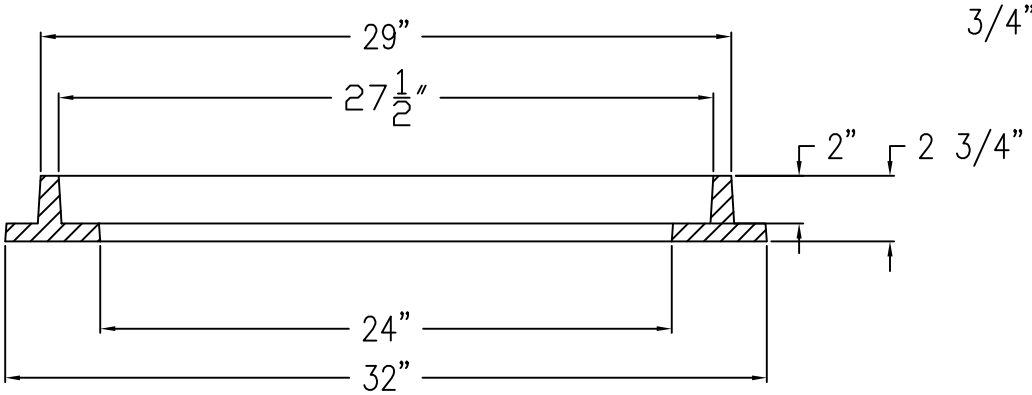
Deeter Foundry, Inc.
5945 NORTH 70th STREET
LINCOLN, NEBRASKA 68529

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







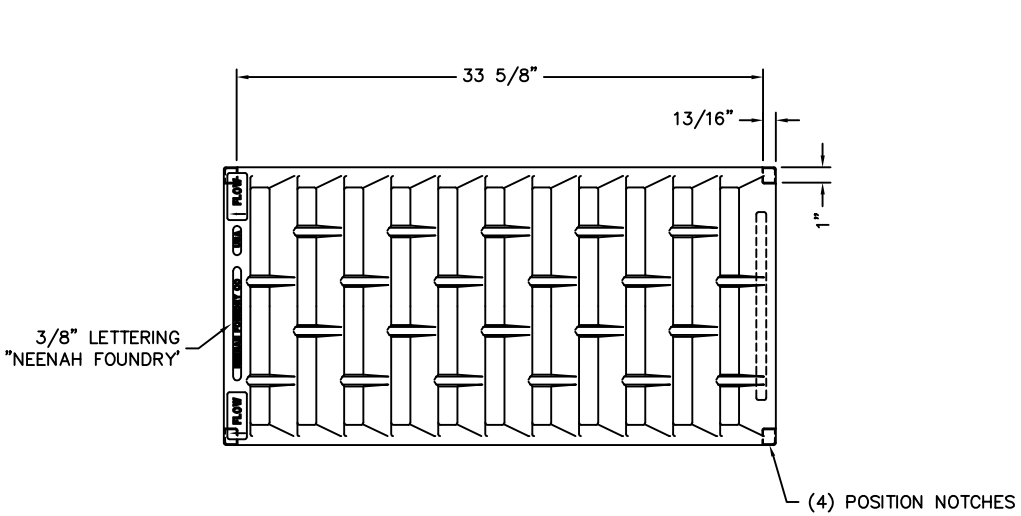
CAD DWG. REF: 2512-0010\LAYER: ALL\SCALE: .125

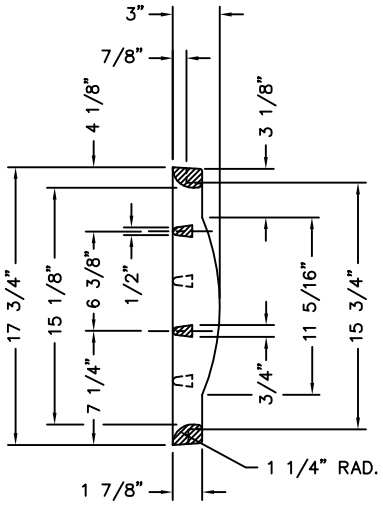
MATERIAL:	CAST GRAY IRON ASTM A-48, CLASS 35B
FINISH:	NO PAINT
WEIGHT:	170 LBS.

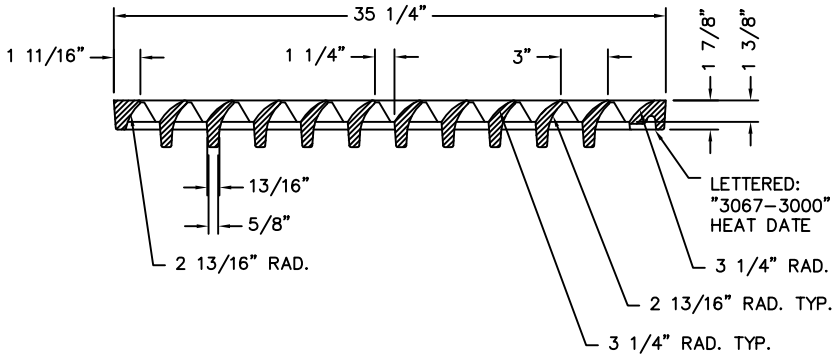
Deeter Foundry, Inc.
5945 NORTH 70th STREET
LINCOLN, NEBRASKA 68529

2512 CATCH BASIN INLET FRAME

Date: 16 JUNE 94	Drawn by: RON	Scale: 1/8
DRAWING NO. 2512-0010	Approved by: KRH	Date: 29 JAN 97







FREE OPEN AREA: 308 SQ. IN. OR 2.1 SQ. FT.
MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
FINISH: NO PAINT
WEIGHT: 146#

#	DATE	REVISION	DR	CH	APP
3	05-26-2015	CHANGED THE 'NEENAH...' 'MADE IN USA' LTRG. PER PATTERN CHECK.	CSM	RKB	SPT
2	09-12-2013	CORRECTED POSITION NOTCH DIMS.	CAG	XXX	XXX
1	07-24-2000	REMOVED MATERIAL FROM HEAVY SIDE	KMH	XXX	XXX

DR. E. REMME
CH.
APP.
DATE 1-04-95

SCALE 1/8"=1"
DIM CHK. O.K.

TITLE: R-3067
TYPE "L" GRATE

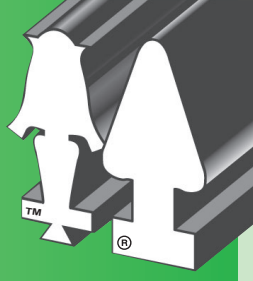
NEENAH FOUNDRY COMPANY
NEENAH WISCONSIN 54956

NF-30673000 B

CAD DWG. REF: 30673000.DWG-4

A•LOK PRODUCTS, INC.

The Company With Connections®

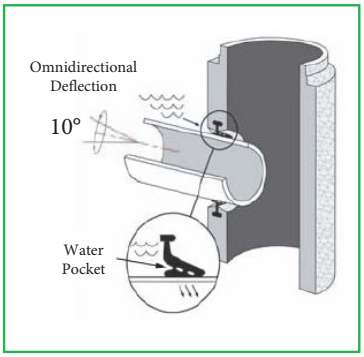


INCOMPARABLE PIPE-TO-MANHOLE CONNECTORS FOR SANITARY SYSTEMS

X-CEL

A•LOK X-CEL

Designed to produce a guaranteed watertight seal between pipe and concrete, the **A•LOK X-CEL** flexible pipe-to-manhole connector provides maximum performance on the job site. Its unique design not only saves valuable project time, but also ensures longevity and offers unsurpassed environmental benefits.



A•LOK X-CEL connectors prevent infiltration and ex-filtration into wastewater or stormwater systems, and are installed in the precast structure in a way that does not require coring or placement after the base component is cast. This eliminates residual waste from coring, disposal of the slugs or wasted raw material utilization or energy. Once cast-in, the connector becomes an integral component of the structure wall.

Based on the traditional **A•LOK** connector, the **X-CEL's** enhanced features improve performance. Take the patented "water pocket" for example, which utilizes the untapped pressure of ground water to exert a clamping force around the connector and pipe, allowing the connector to perform in deeper installations.

Demonstrated in tests higher than 15 psi of hydrostatic water pressure, the **X-CEL's** unique design provides 45 percent more rubber contact with the pipe, allowing for greater pipe deflection.

MATERIAL

Molded or extruded from compounds formulated for wastewater applications and engineered to conform to the requirements of section 4.1.1 of ASTM C-923, the standard rubber connector is available in alternative compounds upon request. Contact an **A•LOK** representative regarding special applications, such as the presence of hydrocarbons.

KEY ADVANTAGES

The **A•LOK X-CEL** offers distinct advantages for engineers, specifiers, precasters and municipalities. An enhanced profile gives the connector 45% greater rubber contact with the pipe, thus allowing the pipe to be deflected in excess of 10 degrees of omnidirectional deflection, all the while maintaining a watertight seal. These enhancements allow more flexibility to compensate for pipe shear due to settlement or ground movement.

KEY ADVANTAGES (continued)

On larger-diameter pipe, where size prohibits a gasket from being installed in a flat plane, the **X-CEL** can be configured for casting in a curve with the connector staying perpendicular to the center line of the pipe. Discovered through years of extensive research and development, the configurations cause no loss of compression or deflection.

Functioning on pure compression, the **X-CEL** allows for fast and easy field installation. After the connector and pipe are cleaned and lubricated, the pipe is simply centered in the connector and inserted. Backfilling can be done immediately, thus enhancing project safety and overcoming the typical problems of water, running sand and other unstable trench conditions.

For Specifiers, the **X-CEL** connector offers a guaranteed solution to the age-old containment system problem of the best way to connect pipes and concrete structures. Precasters using **X-CEL** connectors experience increased satisfaction due to their ability to offer a complete watertight, guaranteed product, while municipalities that install **X-CEL** will ultimately spend less on road repair by avoiding the possibility of pot/sink holes that are often the result of leaking, non-connected, systems.

PRODUCT REFERENCES

A.) **ASTM C-923**
Resilient Connector Between Reinforced Concrete Manholes Structures, Pipe and Laterals.

B.) **ASTM C-1244**
Standard Test Method For Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test

C.) **ASTM C-478**
Standard Specification for Precast Reinforced Concrete Manhole Sections

D.) **ASTM C-1644**
Standard Specification for Resilient Connectors Between Reinforced Concrete On-Site Wastewater Tanks and Pipes

PERFORMANCE STANDARD

The **A•LOK X-CEL** guaranteed Connector meets or exceeds all material and test requirements outlined in ASTM C-923: "Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals" and ASTM C-1644: "Resilient Connectors Between Reinforced Concrete On-Site Wastewater Tanks and Pipes".

Molded or extruded from compounds formulated for wastewater applications, the standard rubber connector is engineered to confirm with the requirements of section 4.1.1 of ASTM C-923. Alternative compounds are available upon special request.

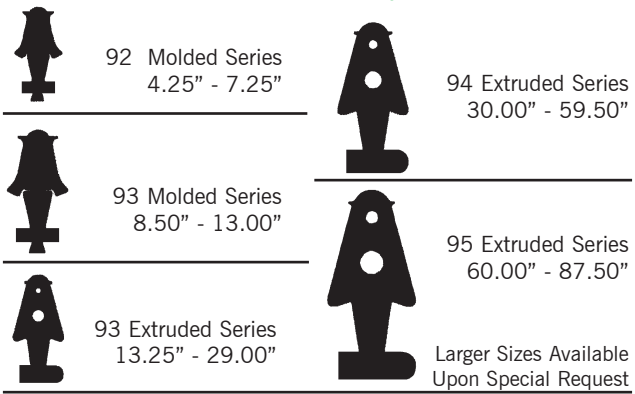
PERFORMANCE STANDARD (continued)

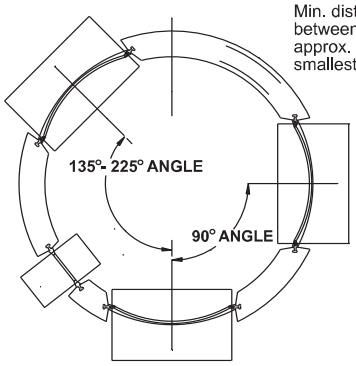
RESILIENT TEST REQUIREMENTS OF A.S.T.M. C-923

TEST	RESULTS	ASTM METHOD
Chemical resistance 1 N Sulfuric acid 1 N Hydrochloric Acid	 no weight loss no weight loss	 at 22°C for 48h
Tensile strength	1200 psi or 8.5 MPa, min	D 412
Elongation at break	350% min.	
Hardness	±5 from mfg's. specified hardness	D 2240 (Shore A durometer)
Accelerated oven-aging	decr. of 15%, max. of original tensile strength, decr. of 20% max. of elongation	D 573, 70±1°C for 7 days
Compression set	decr. of 25%, max. of original deflection	D 395, Method B, at 70°C for 22h
Water absorption	increase of 10%, max. of original by weight	D 471, immerse 0.75 by 2-in. or 19 by 25-mm Specimen in distilled water at 70°C for 48h
Ozone resistance	rating 0	D 1171
Low-temp brittle point	no fracture at -40°C	D 746
Tear resistance	200 lbf/in. or 34 kn/m	D 624, Method B

DIMENSIONAL DATA

A•LOK X-CEL Cross Sections / Pipe Size OD's





MAX. PIPE SIZE OD's

MAX. PIPE SIZE OD's

Manhole Diameter	135° - 225° Pipe Angle	90° Pipe Angle
42"	26.5"	22.0"
48"	31.5"	25.0"
60"	42.0"	32.0"
72"	52.5"	38.0"
84"	59.5"	44.0"
96"	73.5"	50.0"
108"	76.0"	56.0"
120"	87.5"	62.0"

PRODUCT SPECIFICATIONS

A flexible pipe to manhole connector shall be used whenever a pipe penetrates into a precast concrete manhole or structure. The connector shall be the **A•LOK X-CEL CONNECTOR** as manufactured by **A•LOK PRODUCTS, INC.**, Tullytown, PA, or approved equal.

The design of the connector shall provide a flexible, watertight seal between the pipe and concrete structure. The connector shall assure that a seal is made between:

(1) The connector and the structure wall by casting the connector integrally with the structure wall during the manufacturing process in a manner that it will not pull out during pipe coupling. The connector shall also be capable of being cast into a round structure by curving the connector in a manner that allows it to remain centrally located within the structure wall and perpendicular to the pipe. This configuration will result in no loss of seal or deflection of pipe entering a concrete structure.

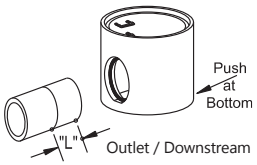
(2) The seal between the connector and the pipe shall be made by the compression of the connector between the outside circumference of the pipe and the interior hole opening of the structure. The connector shall be the only component to affect the seal between the pipe and structure.

The connector shall be made from materials that conform to the physical and chemical requirements outlined in Section 4, *"Materials and Manufacture"* of ASTM C-923 Standard Specification for Resilient Connectors between Reinforced Concrete Manhole Structures, Pipes, and Laterals, and the overall design will meet or exceed Section 7, *"Test Methods and Requirements"* of ASTM C-923.

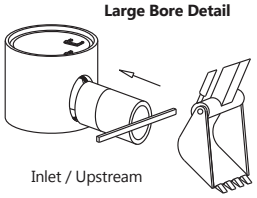
The connector shall be sized specifically for the type of pipe being used and shall be installed in accordance with the recommendations of the manufacturer.

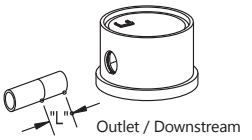
INSTALLATION INSTRUCTIONS

Experience has shown that successful performance of this product depends on proper plant installation, as well as the backfill and the care in the field installation of the manhole or wastewater structure and connecting pipes.

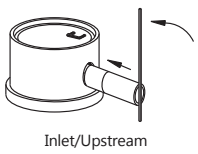


Large Bore Detail





Small Bore Detail



CAUTION
When installing pipe stubs for future pipeline installation, all stubs must be properly restrained to prevent any movement by means other than the A-LOK® Premium™ Connector.

STEP 1:
Confirm that the pipe surface is smooth, clean and free of foreign materials, chips, gouges and form seams due to manufacturing or handling. Slightly bevel any sharp or blunt edges caused by the cutting of the pipe.

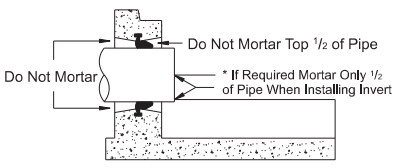
STEP 2:
Lubricate the connector and the entire section of the pipe that will be inserted into the connector. The chart below lists A-LOK's minimum lubrication length "L".

PIPE SIZE	MIN. LUBRICATION LENGTH "L"
8" - 15"	12"
16" - 18"	18"
21" & Larger	24"

STEP 3:
Center the pipe and connector square to each other and insert the pipe into the connector using a bar or back hoe depending on the size. Once the pipe is coupled with the connector, deflect the structure or pipe to achieve the proper angle.

NOTE:
To find approximate subgrade, measure from the outside base of the structure to the junction of the connector and flat spot. Then add the wall thickness of the pipe plus 1/4 inch.

WARNING
To ensure the A-LOK® Premium™ Connector remains a flexible watertight connector, it is A-LOK Products, Inc. strong recommendation that no mortar be placed between the pipe and wall of the concrete structure. The use of mortar in this area would decrease the effectiveness of the connector to compensate for shear caused by settlement or ground movement.



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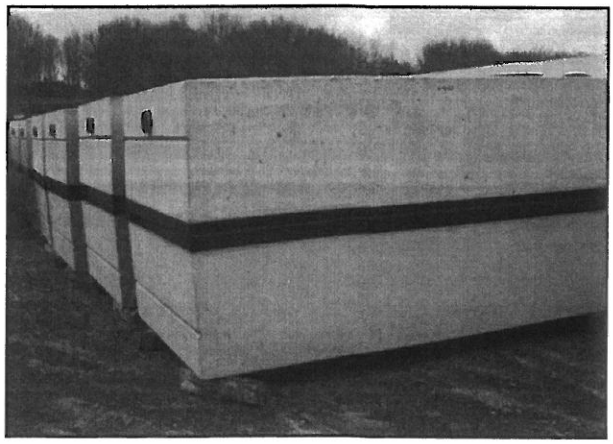
800-822-2565 • 215-547-3366 • 215-547-5260 FAX

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

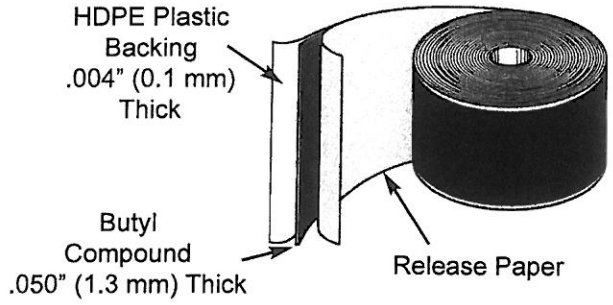
BUTYL JOINT WRAP WITH RUBBER BACKING

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.

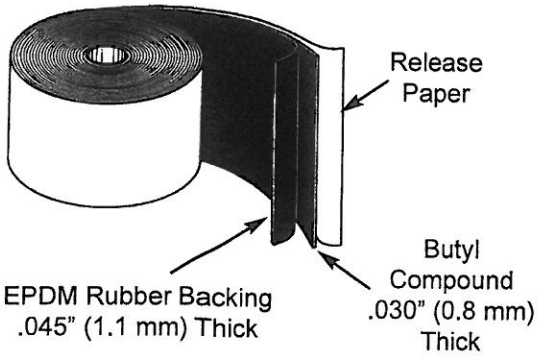
For manholes, the tape width shall be 6" (150 mm) wide. The tape shall be overlapped at least twice its width. The tape shall not be stretched during application. Primer and/or adhesive as recommended by the tape supplier shall be employed for adverse, critical, or other applications.

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
6"	150 mm	100'	30.5 M	HDPE	276.773.6
9"	225 mm	100'	30.5 M	HDPE	276.773.9
12"	300 mm	50'	15.25 M	HDPE	276.773.12

Width	Width	Length	Length	Backing	Part Number
6"	150 mm	100'	30.5 M	EPDM	276.911.6
9"	225 mm	100'	30.5 M	EPDM	276.511.9
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.

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		

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*

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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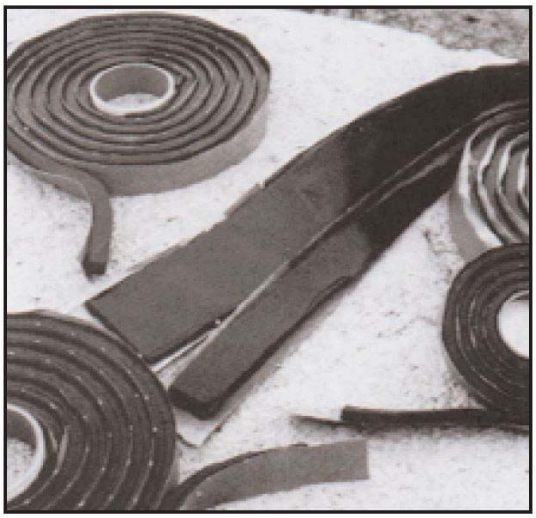
Made in USA

EZ-STIK

PREMIUM BUTYL JOINT SEALANT

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

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VERSION 11-15

EZ-STIK

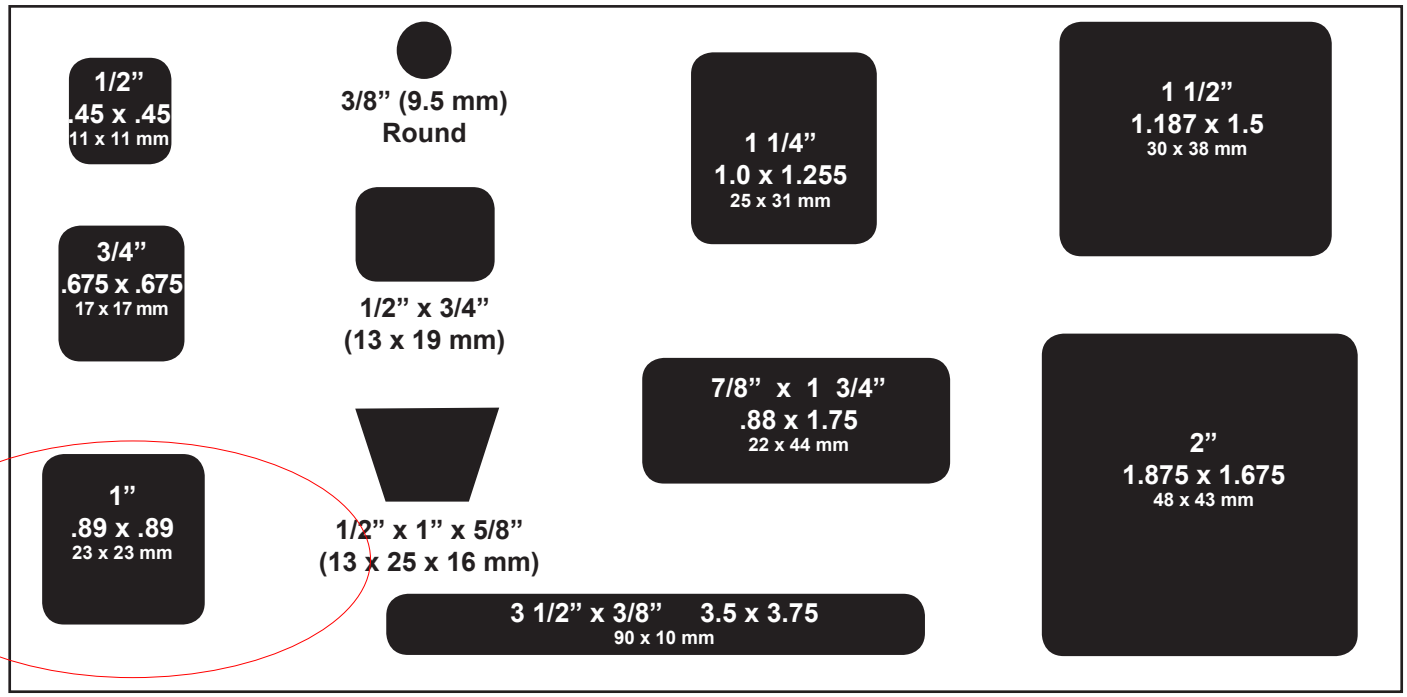
SPECIFICATION and SELECTION GUIDE

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 consists 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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EZ-STIK

P□□SICAL PROPERTIES TEST RESULTS

Des□ription

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 requirementsfor □utyl Rubber Sealant, and AAS□TO M 19□.

Typi□al Properties

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

	SPEC.	RE□UIRED	E□-STI□
□utyl Rubber (□ydrocarbon Content %)	ASTM D4	50% min.	62%
Ash Inert Mineral Filler %	AAS□TO T111	□0% min.	45-4□%
Volatile Matter (AAS□TO T47)	ASTM D6	2% ma□.	0.5-1.0%
Specific Gravity @ 77□F (25 C) (AAS□TO T229)	ASTM D71	1.15 - 1.50	1.25 - 1.□5
Ductility □ 77□F (25 C), cm (AAS□TO T51)	ASTM D11□	5.0 min.	meets requirement
Flash Point C.O.C.	ASTM D92	□50□(177 C) min.	□75□F (191 C)
Fire Point C.O.C.	ASTM D92	□75□min. (191 C)	□□5□F (196 C)
Compression Test			
□ 77□F (25 C), lbf/in□	ASTM C972	100 ma□.	40 - 55 lbf/in□
□ □2□F (0 C), lbf.in□		200 ma□.	1□0 - 160 lbf/in□
Low Temperature Fle□ibility			
□ -10□F (-2□ C)	ASTM C765 1□0□bend, no cracking, nor loss of adhesion.		Pass - no cracking or adhesion loss.
Elevated Temperature Fle□ibility			
14 days □ 157□F (69 C)	ASTM C776	No sag, nor change in e□truded shape.	Pass - no sag or shape change.
Adhesion After Impact	ASTM C776-□4	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 - □5 dmm
□ □2□F (0 C), dmm		40 min.	45 - 55 dmm
Chemical Resistance		No deterioration, no cracking, no swelling.	Pass - no visible change after □0 days immersion in 5% solutions □Cl, □$_2$SO$_4$,NaO□,KO□,□$_2$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 □ears minimum

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VERSION 11-15

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-fibered, 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 m^2/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 m^2/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 …

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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 naptha. 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

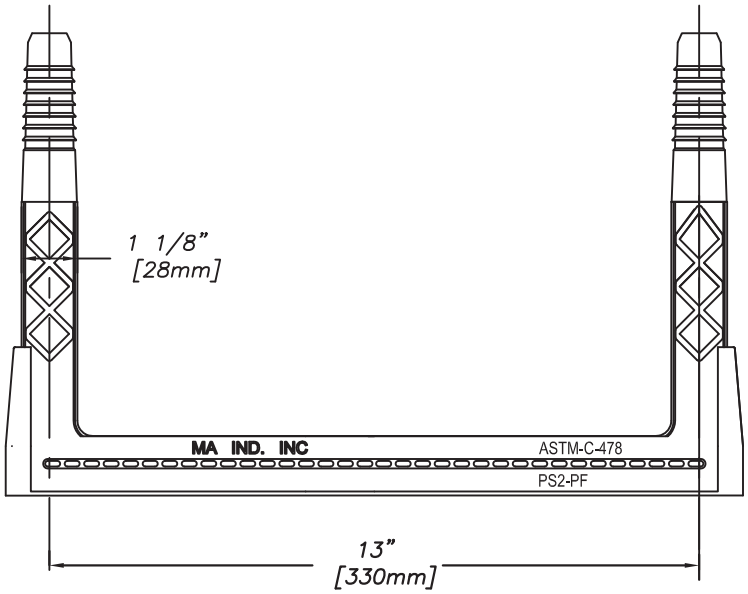
W. R. MEADOWS, INC. warrants at the time and place we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. Read complete warranty. Copy furnished upon request.

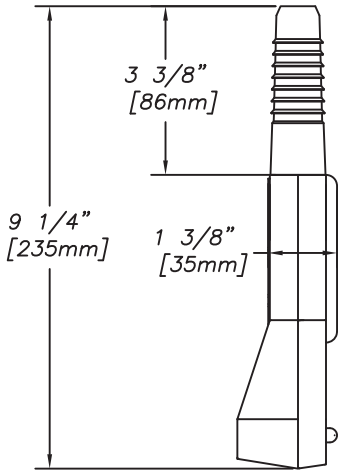
Disclaimer

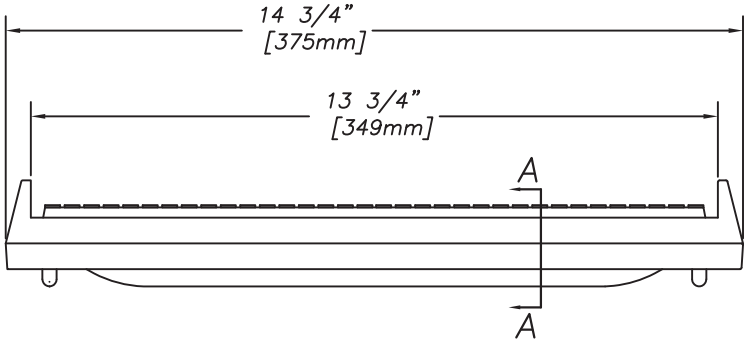
The information contained herein is included for illustrative purposes only, and to the best of our knowledge, is accurate and reliable. W. R. MEADOWS, INC. cannot however under any circumstances make any guarantee of results or assume any obligation or liability in connection with the use of this information.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

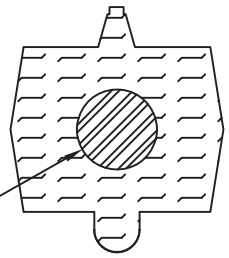
PS2-PF

Manhole Step





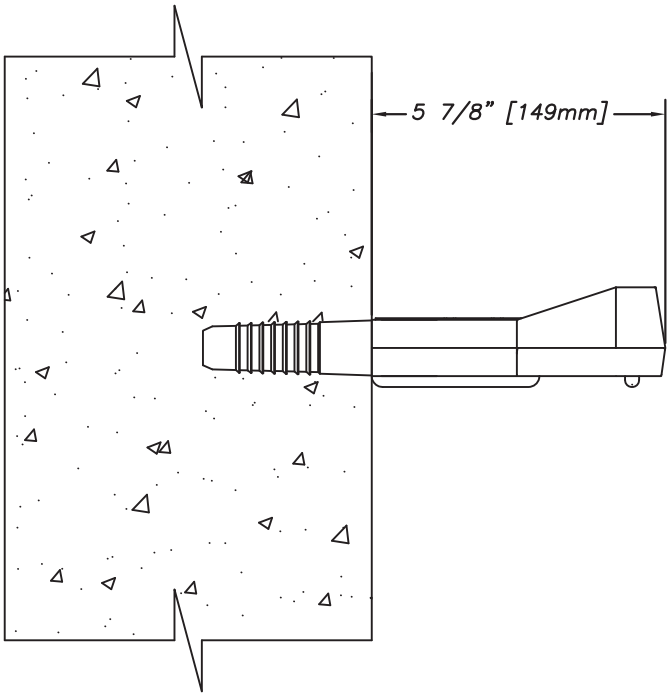




Copolymer Polypropylene Plastic

13mm 1/2" GRADE 60 STEEL REINFORCEMENT

SECTION-A



MEETS: ASTM C-478
ASTM D-4101
ASTM A-615
AASHT0 M-199

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