

ARC MECHANICAL CONTRACTORS INC.

FACILITY SANITARY SEWERS

SECTION 22 13 13

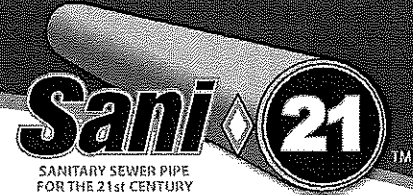
THIS SUBMITTAL HAS BEEN REVIEWED FOR GENERAL
COMPLIANCE WITH THE PLANS AND SPECIFICATIONS
ARC MECHANICAL CONTRACTORS, INC.

JOB NO. ARC 17-005
BY [Signature]
DATE 5/11/17



Sani-21™: PVC Sewer Pipe

SPECIFICATION DATA



D3034 & F679 SEWER SPECIFICATION DATA

Diamond gravity sewer pipe 4 inches through 48 inches shall be made of compounds conforming to material requirements of ASTM D3034 and ASTM F679 in accordance with ASTM D1784. Diamond PVC Sewer Pipe meets all the dimensional, chemical, and physical requirements as outlined in ASTM D3034 and ASTM F679.

The pipe sizes 4 inches through 48 inches are made with an integral bell "water-tight" joint that meets the requirements of ASTM D3212 and that utilizes a Rieber gasket system for sealing that meets the requirements of ASTM F477.



Each male end shall be beveled to facilitate joining and referencing marked for proper insertion depth. Diamond furnished lubricant is to be used in the joining process.

Physical Properties of ASTM D3034 & F679

Pipe Materials:

Pipe shall be made of PVC plastic having a minimum cell classification of 12454 or 12364 as defined in Specification D1784.

Property	ASTM Test	Minimum
Specific Gravity	D792	1.40
Tensile Strength, psi	D638	7,000
Tensile Modulus, psi	D638	400,000
IZOD Impact Strength,	D256	.65ft., lb./in.

Pipe Stiffness

Pipe	Modulus	
	E = 400,000	E = 500,000
41	28	35
35	46	57
26	115	144

Standard laying lengths are 14 and 22 feet

SHORT FORM Specification for Diamond PVC Solid-Wall Sewer Pipe SDR 26 or SDR 35 or PS 46 or PS 115

All PVC Solid-Wall Sewer Pipe shall be made of compounds conforming to ASTM D1784 manufactured in accordance with the material requirements of ASTM D3034 or ASTM F679. All PVC Sewer Pipe must meet dimensional, chemical, and physical requirements as outlined in ASTM D3034 or ASTM F679. Joints shall meet the requirements of ASTM D3212 and shall be formed using Rieber Technology.

PVC Sewer Pipe shall be installed according to the requirements of ASTM D2321, Uni-Bell's Uni-Pub 6 and the manufacturer's recommendations.



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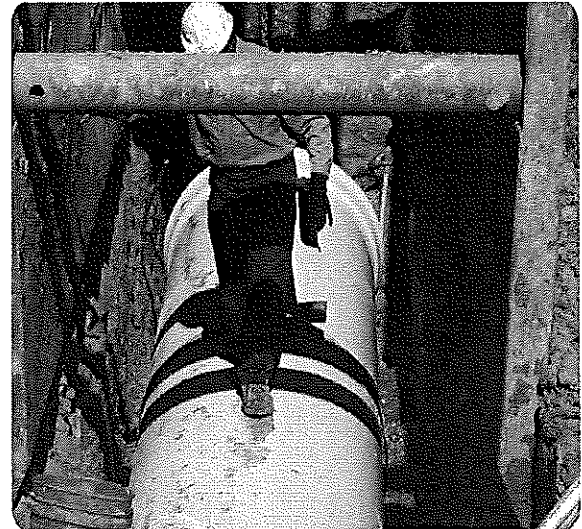
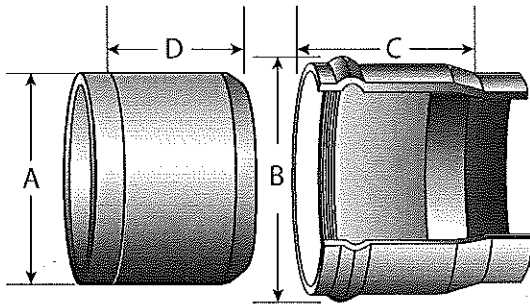


Sani-21™ PVC Sewer Pipe

SPECIFICATION DATA



Reiber Joint Illustration



Sani-21 is supplied in 14 foot and 22 foot laying lengths.

Sani-21™		D3034 & F679 SEWER SPECIFICATION DATA					Strength	
Nominal Pipe Size In. (mm)	Outside Diameter A Inches	Bell Socket Diameter B Inches	Socket Depth C Inches	Insert Mark D Inches	Wall Thickness SDR26/PS115 (t) Inches	Wall Thickness SDR35/PS46 (l) Inches		
D-3034 Pipe Dimensions								
4"	(100)	4.215	5-1/4"	4-5/8"	4"	0.162	0.120	
6"	(150)	6.275	7-1/2"	4-3/4"	4"	0.241	0.180	
8"	(200)	8.400	9-7/8"	6-1/8"	5"	0.323	0.240	
10"	(250)	10.500	12-3/8"	6-3/4"	5"	0.404	0.300	
12"	(300)	12.500	14-5/8"	7-1/4"	5-1/2"	0.481	0.360	
15"	(375)	15.300	18"	7-1/4"	6"	0.588	0.437	
F-679 Pipe Dimensions								
18"	(450)	18.701	21-3/4"	9-1/2"	8-1/4"	0.671	0.499	
21"	(525)	22.047	25-1/2"	10"	8-1/2"	0.791	0.588	
24"	(600)	24.803	28-3/4"	11"	10"	0.889	0.661	
27"	(675)	27.953	32-1/2"	11"	10"	1.002	0.745	
30" ciod	(750)	32.000	37-1/4"	14"	13-1/2"	1.148	0.853	
36" ciod	(900)	38.300	43-1/4"	15"	14"	1.373	1.021	
42" ciod	(1050)	44.500	53"	18"	16-3/4"	1.596	1.187	
48" ciod	(1200)	50.800	60"	18"	17"	1.596	1.355	

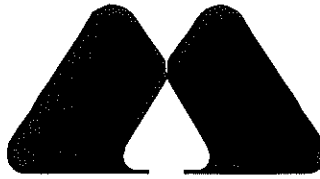
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Prices are subject to a firm policy of "Price in effect at time of shipment on regular purchases"



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MULTI FITTINGS
Engineered Tough

**Trench
Tough**

SDR 35 GASKETED SEWER FITTINGS

LETTER OF COMPLIANCE

Scope:

This letter of compliance covers Multi Fittings requirements for 4" through 42" (100 mm – 1050 mm) **PVC Trench Tough SDR35 Gasketed Sewer Fittings**. These products meet or exceed performance standards set by the American Society of Testing and Materials (ASTM), CSA International (CSA) and the International Association of Plumbing and Mechanical Officials (IAPMO).

Trench Tough SDR35 Gasketed Sewer Fittings are compatible with pipe manufactured to ASTM D 3034, CSA B182.1 and CSA B182.2 and is suitable for the non-pressure drainage of sewage and surface water. They can also be used in applications involving subsurface drainage.

Material:

Rigid PVC Poly(Vinyl Chloride) used in the manufacturing of **Trench Tough SDR35 Gasketed Sewer Fittings** complies with ASTM D 1784, *Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds*, having a cell classification 12454 or 13343.

Gasket materials used in the manufacturing of **Trench Tough SDR35 Gasketed Sewer Fittings** complies with either of the following requirements:

ASTM F 477 "*Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe*" for low-head applications for rubber gaskets

ASTM F 913 "*Standard Specification for Thermoplastic Elastomeric Seals (Gaskets) for Joining Plastic Pipe*" for TPE gaskets

Molded Fittings:

Molded **Trench Tough SDR35 Gasketed Sewer Fittings** conform to the following standards:

ASTM D 3034 "*Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings*"

ASTM D 3212 "*Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals*"

ASTM F 1336 "*Standard Specification for Poly(Vinyl Chloride) (PVC) Gasketed Sewer Fittings*"

CSA B182.1 "*Plastic Drain and Sewer Pipe and Pipe Fittings*"

CSA B182.2 "*PVC Sewer Pipe and Fittings (PSM Type)*"

IAPMO "*Uniform Plumbing Code*"



MULTI FITTINGS
Trench Tough SDR35 Gasketed Sewer Fittings

Page 2/...

Fabricated Fittings:

Fabricated **Trench Tough SDR35 Gasketed Sewer Fittings** are made from segments of pipe conforming to the following standards:

ASTM D3 034 “*Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings*”

ASTM D 3212 “*Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals*”

ASTM F 679 “*Standard Specification for Poly(Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings*”

ASTM F 1336 “*Standard Specification for Poly(Vinyl Chloride) (PVC) Gasketed Sewer Fittings*”

CSA B182.2 “*PVC Sewer Pipe and Fittings (PSM Type)*”

Note: Molded components meeting the requirements listed above may also be used as part of the fabricated fitting.

Markings:

Trench Tough SDR35 Gasketed Sewer Fittings are marked as prescribed in the above applicable standards to indicate size of the fittings, material designation, compliance to standard, and manufacturer’s name or trademark.

Color Coding:

Gaskets for **Trench Tough SDR35 Gasketed Sewer Fittings** are black.

Yours truly,

Frank Yorio
Senior Vice President, Operations

Issue Date: 2017-04-27



PIPE JOINT LUBRICANT

Product Features

- All purpose pipe lube can be used on most types of pipe including cast iron, ductile iron, carbon steel, stainless steel, concrete, clay, PVC, CPVC and more.
- Improved temperature range:
 - ♦ Spreads easily down to -10°F.
 - ♦ Stays stable up to 150°F
- Less odor
- Contains no petroleum, phosphate or silicone
- Will not support bacteria growth
- Biodegradable
- Non-toxic
- Smoother consistency - easier to spread
- Water dispersible - can be washed or rinsed from surfaces easily
- Minimal to no separation
- Clings well to most any surface

**PSLUBXL1Q
PSLUBXL1G
PSLUBXL5G**



Pipe Diameter (inches)	Estimated Pounds of Lube per 100 Joints
4	3
6	4
8	4
10	5
12	6
15	10
18	12
21	14
24	16
27	18
30	21
36	26
42	31
48	37
54	42
60	50
66	57
72	64
78	70
84	78

Directions for Use

- Clean all joint surfaces. Make certain that the gasket is properly positioned.
- Apply an even coating of lubricant to the inside of the bell and outside of spigot and gasket.
- Assemble the joint according to the pipe manufacturer's directions.

Product Specifications

Model Number	Description	Carton Weight
PSLUBXL1Q	Pipe Joint Lubricant	1 quart or 2 lbs
PSLUBXL1G	Pipe Joint Lubricant	1 gallon or 8 lbs
PSLUBXL5G	Pipe Joint Lubricant	5 gallons or 40 lbs

Certification and Approvals

- NSF/ANSI Standard 61 G compliant
- Complies with Calif. AB-1953 and Vermont Act 193
- FGG/BM/CZ™ System Compatible*

*FBC™ System Compatible indicates that this product has been tested, and is monitored on an ongoing basis, to assure its chemical compatibility with FlowGuard Gold®, BlazeMaster®, and Corzan® pipe and fittings. FBC™, FlowGuard Gold®, BlazeMaster®, and Corzan® are licensed trademarks of The Lubrizol Corporation.

CALIFORNIA PROP 65 WARNING: This product may contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Wash Hands After Handling.



Distributed Exclusively by Ferguson and Wolsley Canada

Detectable Underground Warning Tape Material Specification Sheet

Description: Detectable Underground Warning Tape is a specially laminated pet / foil / poly blend. This amazing blend (with polyester) provides exceptional strength characteristics when compared to other all polyethylene type detectable warning tapes. The bold black message on its APW. A color coded background is treated so as not to degrade or fade when exposed to alkalis, acids and or any other destructive elements under ground.

Construction: .0003" Aluminum Foil Laminated (Full Width) Between Polyester and Polyethylene Sheeting

Colors: Standard Colors:
Black text on APWA color
Coded Background Per Specification:
Orange, Red, Yellow, Blue, Purple, or Green

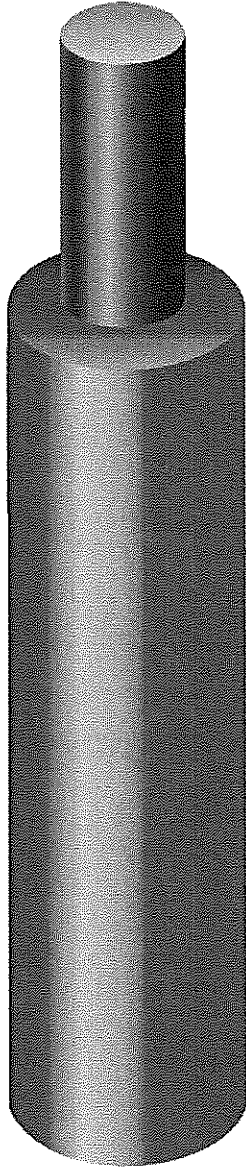
Thickness: 5 Mil

Slit Width: Standard widths: 2, 3, 4, 6, and 12 inches.

Length: Standard Roll Length: 1000 Feet



Copper Tracer Wire • 600 Volts • Oxygen Free Copper Conductor • Dead Soft Annealed Polyvinyl Chloride (PVC) Insulation • Direct Burial Rated • Moisture, Chemical, Acid, and Oil Resistant Impact, Crush, and Abrasion Resistant • RoHS Compliant • Made in the USA



Applications and Information

- Pro-Line **Type CU UF** conductors are used for tracer wire applications not exceeding 600 Volts. Tracer wire is used to conductively locate buried utility lines for the gas, water, sewer, telecommunication, and electrical markets.
- When used as **Type CU UF**, conductor is suitable for use direct burial applications not locations at temperatures not to exceed -20°C or 60°C.
- Considered as the premium grade copper tracer wire, it offers the best protection with a thick PVC insulation
- Tracer wire is RoHS Compliant and manufactured in the USA.

Standards and References

Pro-Line **Type CU UF** conductors meets or exceeds all applicable ASTM specifications, UL Standards 493, Federal Specification A-A-59544, and requirements of the National Electrical Code.

- ASTM B-3: Standard Specification for Soft or Annealed Copper Wire
- ASTM B170: Standard Specification for Oxygen-Free Electrolytic Copper

Construction

- Pro-Line **Type CU UF** copper conductors are annealed copper (soft drawn), insulated with a polyvinyl chloride (PVC) insulation. PVC provides an excellent balance of surface smoothness, processing ease and electrical consistency. PVC provides superior strength against underground elements that help prevent accidental breaks caused by rocks in shifting soil conditions.
- Available in black, blue, green, orange, purple, red, white, and yellow. Some colors standard, some subject to economic order quantity.

Specifications

TYPE: CU UF TRACER WIRE

Tracer wire shall be a (14, 12 or 10 AWG SOLID), Type UF, copper conductor with a polyvinyl chloride (PVC) insulation and rated for 600 volts. Insulation shall be RoHS compliant and utilize virgin grade material. Insulation color shall meet the APWA color code standard for identification of buried utilities. Tracer wire shall be **Pro-Line Safety Products** or approved equal and made in the USA.

CU UF Tracer Wire (Weights, Measurements, and Packaging)

WEIGHTS, MEASUREMENTS AND PACKAGING

PRODUCT PART NO.	CONDUCTOR		INSULATION THICKNESS (MIL)	NOMINAL O.D. (Inches)	APPROX. WEIGHT PER 1,000 FT (LBS)		STANDARD PACKAGES
	SIZE (AWG)	STRANDING			COPPER WEIGHT/MFT	PRODUCT WEIGHT/MFT	
CU UF (SOLID) TRACER WIRE							
74303XXX	14 AWG	SOLID	0.060" (60 MIL)	0.185"	12.400 lbs	28.000 lbs	32, 47
74304XXX	12 AWG	SOLID	0.060" (60 MIL)	0.201"	19.500 lbs	37.000 lbs	32, 47
74305XXX	10 AWG	SOLID	0.060" (60 MIL)	0.222"	30.996 lbs	51.000 lbs	32, 47
74306XXX	8 AWG	SOLID	0.080" (80 MIL)	0.289"	49.975 lbs	82.000 lbs	32, 47
CU UF (STRANDED) TRACER WIRE							
74308XXX	14 AWG	7-STRAND	0.060" (60 MIL)	0.193"	12.600 lbs	29.000 lbs	32, 47
74310XXX	12 AWG	7-STRAND	0.060" (60 MIL)	0.212"	19.600 lbs	38.000 lbs	32, 47
74312XXX	10 AWG	7-STRAND	0.060" (60 MIL)	0.238"	31.136 lbs	52.000 lbs	32, 47
74314XXX	8 AWG	7-STRAND	0.080" (80 MIL)	0.307"	49.824 lbs	83.000 lbs	32, 47

PART # DESIGNATION (AWG & COLOR)				
COLOR	14 AWG SOLID	12 AWG SOLID	10 AWG SOLID	8 AWG SOLID
BLACK	7430301xx	7430401xx	7430501xx	7430601xx
BLUE	7430302xx	7430402xx	7430502xx	7430602xx
GREEN	7430305xx	7430405xx	7430505xx	7430605xx
ORANGE	7430306xx	7430406xx	7430506xx	7430606xx
PURPLE	7430308xx	7430408xx	7430508xx	7430608xx
RED	7430309xx	7430409xx	7430509xx	7430609xx
WHITE	7430311xx	7430411xx	7430511xx	7430611xx
YELLOW	7430312xx	7430412xx	7430512xx	7430612xx
COLOR	14 AWG STRND	12 AWG STRND	10 AWG STRND	8 AWG STRND
BLACK	7430801xx	7431001xx	7431201xx	7431401xx
BLUE	7430802xx	7431002xx	7431202xx	7431402xx
GREEN	7430805xx	7431005xx	7431205xx	7431405xx
ORANGE	7430806xx	7431006xx	7431206xx	7431406xx
PURPLE	7430808xx	7431008xx	7431208xx	7431408xx
RED	7430809xx	7431009xx	7431209xx	7431409xx
WHITE	7430811xx	7431011xx	7431211xx	7431411xx
YELLOW	7430812xx	7431012xx	7431212xx	7431412xx

PART # DESIGNATION (PACKAGE SIZE)			
SIZE	PACKAGING	TYPE	PART NO.
14 AWG SOLID	4 x 500 FT REEL	CARTON	xxxxxxx32
	1 x 2500 FT REEL	BULK REEL	xxxxxxx47
12 AWG SOLID	4 x 500 FT REEL	CARTON	xxxxxxx32
	1 x 2500 FT REEL	BULK REEL	xxxxxxx47
10 AWG SOLID	2 x 500 FT REEL	CARTON	xxxxxxx32
	1 x 2500 FT REEL	BULK REEL	xxxxxxx47
8 AWG SOLID	1 x 500 FT REEL	BULK REEL	xxxxxxx32
	1 x 2500 FT REEL	BULK REEL	xxxxxxx47
14 AWG STRANDED	4 x 500 FT REEL	CARTON	xxxxxxx32
	1 x 2500 FT REEL	BULK REEL	xxxxxxx47
12 AWG STRANDED	4 x 500 FT REEL	CARTON	xxxxxxx32
	1 x 2500 FT REEL	BULK REEL	xxxxxxx47
10 AWG STRANDED	2 x 500 FT REEL	CARTON	xxxxxxx32
	1 x 2500 FT REEL	BULK REEL	xxxxxxx47
8 AWG STRANDED	1 x 500 FT REEL	BULK REEL	xxxxxxx32
	1 x 2500 FT REEL	BULK REEL	xxxxxxx47

TRACER WIRE

CU UF



PRO-LINE SAFETY PRODUCTS COMPANY
 1099 ATLANTIC DRIVE, UNIT 1 • WEST CHICAGO, IL 60185
 TOLL FREE: 800.554.3424



V8503 Assembly



Product Number

48503086

Design Features

- Materials
- Cleanout/Monument Box Frame
- Gray Iron (CL35B)
- Cleanout/Monument Box Cover
- Gray Iron (CL35B)

- Design Load
- Non-Traffic
- Open Area
- n/a
- Coating
- Undipped
- √ Designates Machined Surface

Certification

- ASTM A48

- Country of Origin: USA

Major Components

48503011
48503046

Drawing Revision

04/29/2004 Designer: DEW
3/19/2013 Revised By: DAE

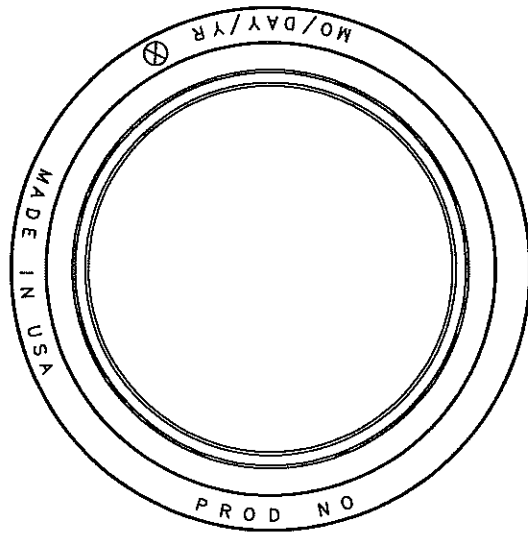
Disclaimer

Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

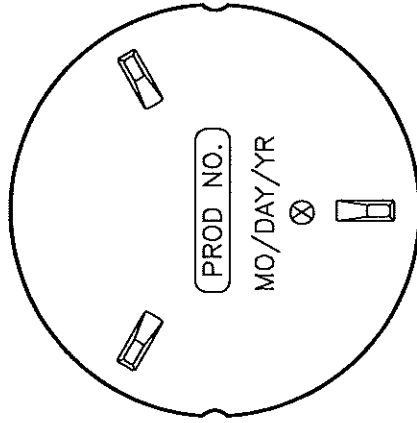
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Contact

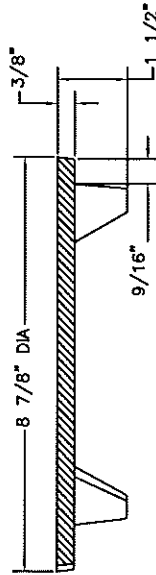
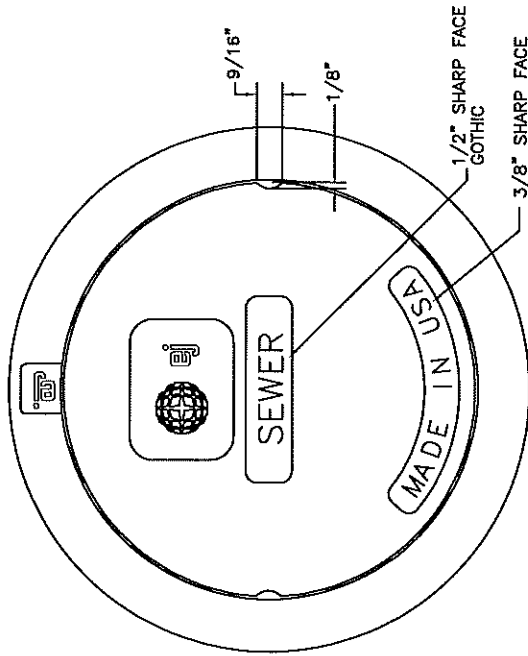
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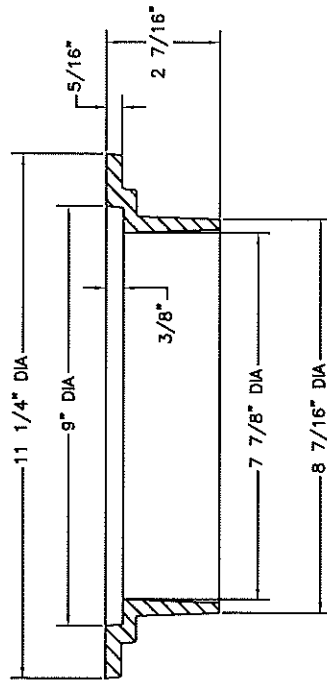
BOTTOM VIEW



BOTTOM VIEW



COVER SECTION



RING SECTION