October 3, 2022

Hon. Kevin Neal, Judge Executive
Marshall County Fiscal Court
1101 Main Street
Benton, KY 42025

RE: Award Recommendation Letter
Hunter Road & Walnut Grove Church Road Watermain Extensions
Materials Bid Package
Marshall County, Kentucky

Judge Neal,

On September 28th, sealed bids were accepted and opened for the above referenced project. One (1) competitive bid was received with the total bid amount tabulated as follows:

BIDDER	BID AMOUNT	DIFFERENCE
G&C Supply Co., Inc.	$134,472.40	

Following receipt of the bid, Rivercrest Engineering (Rivercrest) performed a review of the bid package for completeness and compliance with the contract requirements. Our staff and regional water/sewer clients have had the opportunity to work with G&C Supply Co., Inc. on many water and sewer construction projects in recent years, and each have been pleased with the service and responsiveness of this company. As only 1 bid was received, Rivercrest did reach out to the other plan holders to see what their reasoning was for not submitting a bid. The responses received simply stated that they felt the timing of the bid wasn't right for them, and they were concerned with being able to supply the required materials in a timely manner. Historically speaking, G&C Supply Co., Inc. has been the low bidder on many material bids over the last few years.

It has been based upon this information and experience that Rivercrest recommends acceptance of **G&C Supply Co., Inc.'s** bid, and award of this project at the amount indicated in their bid - **$134,472.40**. A copy of G&C's bid proposal has been included with this recommendation letter. If the Fiscal Court wishes to award the materials contract, as noted, Rivercrest will coordinate with the Judge Executive and G&C Supply Co., Inc. for preparation and execution of a Purchase Order Agreement for the required water line construction materials, as bid.

If you have any questions, or wish to discuss further, please call me at your convenience.

Sincerely,
Rivercrest Engineering, Inc.

Charles D. McCann II, P.E.
Project Manager

cc: Randal Scott, Mayor City of Hardin
Rivercrest Job No. 22002

HUNTER RD & WALNUT GROVE CHURCH RD WATERMAIN EXTENSIONS
FINAL DESIGN CONSTRUCTION COST ESTIMATE
FOR CITY OF HARDIN & MARSHALL COUNTY FISCAL COURT
AUGUST 2022 - UPDATED 9.28.22

ITEM	DESCRIPTION	UNIT	QUANTITY	MTL. UNIT PRICE BID - G&C SUPPLY CO., INC.	ESTIMATED INSTALL UNIT PRICE	COMPOSITE UNIT PRICE (MTL + INSTALL)	TOTAL
1	6" SDR-21 PVC WATERMAIN (TRENCH)	LF	2,770	$11.76	$38.24	$50.00	$138,500
2	6" SDR-21 RJ/PVC WATERMAIN (HDD)	LF	280	$14.84	$60.16	$75.00	$21,000
3	4" SDR-21 PVC WATERMAIN (TRENCH)	LF	5,650	$5.43	$34.57	$40.00	$226,000
4	4" SDR-21 RJ/PVC WATERMAIN (HDD)	LF	840	$7.60	$64.40	$72.00	$60,480
5	4" SDR-21 PVC WATERMAIN (UNENCASED BORE)	LF	130	$5.47	$66.53	$72.00	$9,360
6	2" DR9 HDPE (TRENCH)	LF	2,470	$2.72	$15.28	$18.00	$44,460
7	2" DR9 HDPE (HDD)	LF	220	$2.72	$22.28	$25.00	$5,500
8	3/4" HDPE SERVICE (TRENCH)	LF	570	$0.35	$22.65	$23.00	$13,110
9	3/4" HDPE SERVICE (BORE)	LF	105	$0.35	$22.65	$23.00	$2,415
10	5/8" X 3/4" METER SETTING (NEW SETTING - RELOCATE EXISTING METER)	EA	8	$276.78	$1,023.22	$1,300.00	$10,400
11	ABANDON EXISTING METER SETTING	EA	8		$200.00	$200.00	$1,600
12	RECONNECT EXISTING SERVICE	EA	8		$250.00	$250.00	$2,000
13	6"X 6" TAPPING SLEEVE AND VALVE	EA	1	$725.52	$2,474.48	$3,200.00	$3,200
14	6" MJ GATE VALVE	EA	8	$869.53	$730.47	$1,600.00	$12,800
15	4" MJ GATE VALVE	EA	14	$681.41	$718.59	$1,400.00	$19,600
16	2" MJ GATE VALVE	EA	2	$430.39	$769.61	$1,200.00	$2,400
17	FIRE HYDRANT	EA	3	$2,719.88	$2,280.12	$5,000.00	$15,000
18	POST HYDRANT	EA	6	$1,200.00	$3,300.00	$4,500.00	$27,000
19	2" FLUSH HYDRANT	EA	2	$1,200.00	$1,500.00	$2,700.00	$5,400
20	6"X13" CONNECTING PIECE	EA	3	$194.28	$155.72	$350.00	$1,050
21	4"X13" CONNECTING PIECE	EA	5	$170.10	$129.90	$300.00	$1,500
22	6"X6" ANCHORING TEE	EA	3	$277.92	$222.08	$500.00	$1,500
23	4"X4" ANCHORING TEE	EA	5	$142.00	$308.00	$450.00	$2,250
24	REMOVE EXISTING FLUSH HYDRANT	EA	2		$400.00	$400.00	$800
25	VALVE BOX	EA	9	$197.00	$203.00	$400.00	$3,600
26	6" MJ SLEEVE	EA	2	$146.86	$133.14	$280.00	$560
27	6" MJ 45°	EA	3	$137.56	$142.44	$280.00	$840
28	6" MJ 22.5°	EA	3	$125.49	$154.51	$280.00	$840
29	6" MJ 11.25°	EA	1	$129.20	$150.80	$280.00	$280
30	6"X 2" MJ REDUCER	EA	1	$346.71	$150.00	$496.71	$497
31	4" MJ 45°	EA	1	$88.30	$161.70	$250.00	$250
32	4" MJ 11.25°	EA	1	$77.15	$172.85	$250.00	$250
33	4"X4" MJ TEE	EA	3	$141.28	$188.72	$330.00	$990
34	4" MJ CAP	EA	1	$54.00	$176.00	$230.00	$230
35	4" MJ SLEEVE	EA	7	$98.54	$151.46	$250.00	$1,750
36	6" THRUST RESTRAINT GLAND	EA	16	$79.05	$40.95	$120.00	$1,920
37	4" THRUST RESTRAINT GLAND	EA	36	$63.50	$36.50	$100.00	$3,600
38	6" FOSTER ADAPTER	EA	10	$154.00	$66.00	$220.00	$2,200
39	4" FOSTER ADAPTER	EA	12	$121.00	$79.00	$200.00	$2,400
40	2" MJ SLEEVE	EA	1	$245.38	$150.00	$395.38	$395
41	2" THRUST RESTRAINT GLAND	EA	7	$31.00	$49.00	$80.00	$560
42	COMPACTED SELECT FILL	TONS	270		$27.00	$27.00	$7,290
43	KY CLASS "B" CONCRETE THRUST BLOCKING (2500 PSI)	CY	13		$180.00	$180.00	$2,340
44	ASPHALT PAVING (3.5" THICK)	TONS	6		$350.00	$350.00	$2,100
45	LANDSCAPE RESTORATION	SY	33,500		$3.00	$3.00	$100,500
46	MOBILIZATION	LS	1		$5,000.00	$5,000.00	$5,000
47	BONDS/INSURANCE	LS	1		$23,000	$23,000.00	$23,000
				Construction Subtotal =			**$788,717**
				Contingency (10%) =			$78,872
				Engineering Services Contract =			$188,800
				TOTAL ESTIMATE OF PROBABLE PROJECT COST =			**$1,056,389**

* 120 Day Lead time is not toss. due

Rivercrest Engineering, Inc.

DUE TO THE UNSTABLE
MARKET AND FLUCTUATING
MANUFACTURING COST, YOUR PRICE
MAY BE SUBJECT TO CHANGE
CALL 1-800-238-3836 TO
CONFIRM PRICE

PROJECT MANUAL

FOR

HUNTER ROAD & WALNUT GROVE CHURCH ROAD WATERMAIN EXTENSIONS

MATERIALS BID PACKAGE

For the

Marshall County Fiscal Court
(City of Hardin)

SEPTEMBER 2022

22002

SECTION 00100

INSTRUCTIONS TO BIDDERS

1. BID SUBMITTAL

In order to receive consideration, make all bids in strict accordance with the following:

A. Two (2) copies of the required forms shall be submitted as the Bidder's proposal. Do not change the wording of the Bid Form. Unauthorized conditions, limitations, or provisions attached to the proposal shall be cause for rejection of the proposal. Alterations by erasure or interlineation must be explained or noted in the bid over the signature of the bidder.

B. No telegraphic bid or telegraphic modifications of bid will be considered. No bids received after the time fixed for receiving bids will be considered. Late bids will be returned to the sender unopened.

C. Each bid shall be addressed to the Owner, and shall be delivered to the Owner at the address given in the invitation to bid on or before the day and hour set for opening of bids. Each bid shall be enclosed in a sealed envelope bearing the title of the project, the name and address of the bidder, and the date and hour of the bid opening. It is the sole responsibility of the bidder to see that his bid is received on time.

2. INTERPRETATIONS

If any person contemplating submitting a bid for these materials is in doubt as to the true meaning of any part of the specifications or finds discrepancies in or omissions from any part of the specifications, they may contact the Engineer no later than two (2) days prior to the bid opening date. Interpretations or corrections of the specifications will be made only by Addendum, and will be mailed, delivered, or emailed to each bidder of record.

Contact Name: Charles McCann
Title: Engineer
Email: cmccann@rivercresteng.com
Telephone: 270-201-2036

3. EXAMINATION OF SPECIFICATIONS

Before submitting a bid, each bidder shall carefully examine the specifications. Each bidder shall fully inform themselves prior to bidding as to all requirements, and they shall include in their bid a sum to cover all costs of all items necessary to complete the project as set forth in the specifications. No allowance will be made to any bidder because of lack of such examination or knowledge. The submission of a bid will be construed as conclusive evidence that the bidder has made such examination.

SECTION 00020

INVITATION TO BID

RECEIPT OF PROPOSALS: The Marshall County Fiscal Court will receive bids for the Hunter Road & Walnut Grove Church Road Watermain Extensions – MATERIALS BID PACKAGE, until 10:00 am on Wednesday, September 28, 2022, in the Marshall County Courthouse, 1101 Main Street, KY 42025, at which time all bids will be publicly opened and read aloud.

PROJECT: Material supply of required water main piping, service line piping, hydrants, valves, fittings, restraints, etc. for the construction of the referenced water main extension project.

OBTAINING CONTRACT DOCUMENTS: Digital copies of bid documents may be obtained from the office of Rivercrest Engineering, Inc. at no charge. Contact the Rivercrest Engineering office at 270-201-2036 or email cmccann@rivercresteng.com for copies of the bid documents.

OWNER'S RIGHTS RESERVED: The Marshall County Fiscal Court reserves the right to reject any or all bids or waive any informalities in the bidding. No bid shall be withdrawn for a period of thirty (30) days subsequent to the opening of bids without the consent of the Marshall County Fiscal Court.

MARSHALL COUNTY FISCAL COURT

By Kevin Neal

Title Judge Executive

4. WITHDRAWAL OF BIDS

Any bidder may withdraw his/her bid, either personally or by written request, at any time prior to the scheduled time for opening bids. No bidder may withdraw his bid for a period of thirty (30) days after the date set for opening thereof, and all bids shall be subject to acceptance by the Owner during this period.

5. REJECTION OF BIDS

The Owner reserves the right to reject all bids or to disregard any minor irregularities in deciding to accept a bid. All bids shall not be rejected without proper justification.

6. PROOF OF COMPETENCY OF BIDDER

Any bidder may be required to furnish evidence satisfactory to the Owner that they have sufficient means and experience in the types of work called for to assure completion of the Contract in a satisfactory manner.

7. EVALUATION OF BIDS

The Owner will perform an evaluation of each Bid to determine conformance with the Bid Documents. Non-conforming Bids may be rejected at the sole discretion of the Owner.

8. AWARD OF BID

Award of a Bid will be based upon consideration of the following:

- Cost
- Conformance with specifications
- Ability to meet schedules
- Previous customer satisfaction

The Owner will consider each of the above criterion based upon the relative importance to this Bid and will award the contract to the best evaluated bid as determined solely by the Owner.

9. BID PRICING

The unit price for each of the bid items in the Proposal of each Bidder shall include its pro-rate share of overhead and profit so that the sum of the products obtained by multiplying the quantity shown for each item by the unit price represents the total bid. Any bid not conforming to this requirement may be rejected. Bid Pricing shall include any and all delivery transportation charges, handling charges, FOB destination, fees, taxes, labor, materials, equipment, tools and services necessary for complete manufacture and delivery.

10. BID QUANTITIES

Quantities depicted in the Bid Proposal reflect estimated or intended quantities of the item to be purchased. However, the Owner does not guarantee that a minimum number of items will be purchased and reserves the right to change the actual number of items purchased without adjustment to the bid unit price.

11. ISSUANCE OF A PURCHASE ORDER AND DELIVERY

It is anticipated that the Owner will issue a purchase order during the month of October 2022. Unless otherwise coordinated and approved by the Owner, Bidder shall deliver all items contained within the purchase order (PO) within one hundred twenty (120) calendar days following issuance of that PO. All materials, equipment, etc., shall be delivered to F.O.B. destination City of Hardin, 104 2nd Street, Hardin, KY 42048 / (270) 437-4361.

12. INDUSTRY STANDARDS

The bidder shall comply fully with all industry standards (AWWA, ANSI, etc.) as required in the Specifications.

13. MANUFACTURER'S SPECIFICATIONS AND SUBMITTALS

Each Bidder shall include, with his/her bid, one (1) complete set of manufacturer's specifications, shop drawing submittals for each item to be supplied, along with warranty information as appropriate. The manufacturer's supplied information shall include a description of the items proposed and the conformance with the Bid Documents.

14. TAX EXEMPT

The Marshall County Fiscal Court is exempt from all Federal excise tax and Commonwealth of Kentucky Sales Tax. Therefore, each Bid price shall be net, exclusive of taxes. The successful Bidder will be furnished valid exemption certificates upon request.

15. REQUESTS FOR PAYMENT

Subsequent to satisfactory performance of the Bid requirements in accordance with all of the provisions thereof, the Owner agrees to make payment within thirty (30) days after receipt of a properly completed and submitted invoice. The Owner reserves the right to withhold any or all payments or portions thereof if the Bidder fails to perform in accordance with the provisions of the Bid Documents.

END OF SECTION

SECTION 00310

UNIT PRICE BID FORM

BID PROPOSAL
HUNTER ROAD & WALNUT GROVE CHURCH ROAD WATERMAIN EXTENSIONS
MATERIALS BID PACKAGE

Proposal of G+C Supply Co. Inc. hereinafter called (BIDDER), organized and existing under the laws of the Commonwealth of Kentucky to the MARSHALL COUNTY FISCAL COURT (hereinafter called OWNER).

In compliance with your Invitation to Bid, Bidder hereby proposes to supply all material for the **Hunter Road & Walnut Grove Church Road Watermain Extension – Materials Bid Package** in strict accordance with the CONTRACT DOCUMENTS, within the time set forth therein, and at the prices stated below.

By submission of this BID, each BIDDER certifies and in the case of a joint BID, each party thereto certifies as to its own organization, that this BID has been arrived at independently, without consultation, communication or agreement as to any matter relating to this BID with any other BIDDER or with any other competitor.

In submitting this BID, it is understood that the right is reserved by the OWNER to reject any and all BIDS. If notice of the acceptance of this bid is given to the BIDDER within thirty (30) days after the time of receipt of bids, the BIDDER agrees to provide materials in accordance with the Bid Documents.

BIDDER acknowledges receipt of the following ADDENDUM:

_____

_____

_____

HUNTER RD & WALNUT GROVE CHURCH RD WATERMAIN EXTENSIONS
FOR CITY OF HARDIN & MARSHALL COUNTY FISCAL COURT
UNIT BID FORM - MATERIALS ONLY

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
1	6" SDR-21 PVC WATERMAIN (TRENCH)	LF	2,770		
2	6" SDR-21 RJ/PVC WATERMAIN (HDD)	LF	280		
3	4" SDR-21 PVC WATERMAIN (TRENCH)	LF	5,650		
4	4" SDR-21 RJ/PVC WATERMAIN (HDD)	LF	840		
5	4" SDR-21 PVC WATERMAIN (UNENCASED BORE)	LF	130		
6	2" DR9 HDPE (TRENCH)	LF	2,470		
7	2" DR9 HDPE (HDD)	LF	220		
8	3/4" HDPE SERVICE (TRENCH)	LF	570		
9	3/4" HDPE SERVICE (BORE)	LF	105		
10	5/8" X 3/4" METER SETTING (NEW SETTING - RELOCATE EXISTING METER)	EA	8		
11	6"X 6" TAPPING SLEEVE AND VALVE	EA	1		
12	6" MJ GATE VALVE	EA	8		
13	4" MJ GATE VALVE	EA	14		
14	2" MJ GATE VALVE	EA	2		
15	FIRE HYDRANT	EA	3		
16	POST HYDRANT	EA	6		
17	2" FLUSH HYDRANT	EA	2		
18	6"X13" CONNECTING PIECE	EA	3		
19	4"X13" CONNECTING PIECE	EA	5		
20	6"X6" ANCHORING TEE	EA	3		
21	4"X4" ANCHORING TEE * Not an Option. Sub. Reg tee	EA	5		
22	VALVE BOX	EA	9		
23	6" MJ SLEEVE	EA	2		
24	6" MJ 45°	EA	3		
25	6" MJ 22.5°	EA	3		
26	6" MJ 11.25°	EA	1		
27	6"X 2" MJ REDUCER	EA	1		
28	4" MJ 45°	EA	1		
29	4" MJ 11.25°	EA	1		
30	4"X4" MJ TEE	EA	3		
31	4" MJ CAP	EA	1		
32	4" MJ SLEEVE	EA	7		
33	6" THRUST RESTRAINT GLAND	EA	16		
34	4" THRUST RESTRAINT GLAND	EA	36		
35	6" FOSTER ADAPTER	EA	10		
36	4" FOSTER ADAPTER	EA	12		
37	2" MJ SLEEVE	EA	1		
38	2" THRUST RESTRAINT GLAND	EA	7		
				TOTAL =	

G & C SUPPLY CO., Inc.

WATER, SEWER & GAS SUPPLIES
SIGN & SAFETY SUPPLIES

P.O. Drawer 459 - 1105 State Route 77
Atwood, TN 38220
(731)662-7193 or (800)238-3836

QUOTATION

Order Number	
1921315	
Order Date	Page
09/26/2022 08:47:20	1 of 4

Bill To:
CITY OF HARDIN WATER DEPT.
P.O. BOX 57
HARDIN, KY 42048

Ship To:
CITY OF HARDIN WATER DEPT.
90 COMMERCE STREET
HARDIN, KY 42048

(270) 437-4361

Customer ID: 1114

PO Number	*Ship Route*	*Taker*
HUNTER RD WALNUT GROVE	UTLY	TCOULTER

Quantities			Status Key B = Backorder D = Direct C = Canceled	*Item ID* / *Item Description*	*Unit Size*	*Unit Price*	*Extended Price*
Ordered	*Remaining*	*Status of Balance*					
2,780	2,780			RR200-6 6 CLASS 200 PVC RR PIPE SDR 21	FT	11.7600	32,692.80
280	280			YM-6-IB 6" CERTAINTEED YELLOWMINE SDR21 RESTRAINED JOINT PIPE, INTEGRAL BELL TYPE	FT	14.8400	4,155.20
5,660	5,660			RR200-4 4 CLASS 200 PVC RR PIPE SDR 21	FT	5.4300	30,733.80
840	840			YM-4-IB 4" CERTAINTEED YELLOWMINE SDR21 RESTRAINED JOINT PIPE, INTEGRAL BELL TYPE	FT	7.6000	6,384.00
140	140			RR200-4 4 CLASS 200 PVC RR PIPE SDR 21	FT	5.4700	765.80
2,500	2,500			HDPE-2-9-500 2IPS X 500' ROLL SDR-9 HIGH DENSITY POLY PIPE	FT	2.7200	6,800.00
200	200			HDPE-2-9-40 2" X 40' HIGH DENSITY POLY PIPE SDR 9 40' JOINT	FT	2.7200	544.00
500	500			ENDOPURE-200B-500 3/4 CTS X 500FT BLUE WATER TUBING	FT	0.3500	175.00

All returns may be subject to a manufacturers re-stocking charge. All custom or non-stock

G & C SUPPLY CO., Inc.

WATER, SEWER & GAS SUPPLIES
SIGN & SAFETY SUPPLIES

P.O. Drawer 459 - 1105 State Route 77
Atwood, TN 38220
(731) 662-7193 or (800) 238-3836

QUOTATION

Order Number	
1921315	
Order Date	Page
09/26/2022 08:47:20	2 of 4

Quantities			Status Key B = Backorder D = Direct C = Canceled	Item ID / Item Description	Unit Size	Unit Price	Extended Price
Ordered	Remaining	Status of Balance					
				250 LBS PSI RATING SDR 9			
200	200			ENDOPURE-200B-100 3/4 CTS X 100FT BLUE WATER TUBING 250 LBS PSI RATING SDR 9	FT	0.3500	70.00
8	8			VBHH72-7W-41-33-NL 5/8X3/4 FORD COPPERSETTER PJCTS X DP W/L.W. BALL VALVE & DUAL CHECK VALVE 7" TALL **NO LEAD**	EA	223.7800	1,790.24
1	1			FAST-700-6A 6 X 6 ALL STAINLESS TAPPING SLEEVE FOR PVC W/C FLG.	EA	725.5200	725.52
8	8			4067-01-6 6 M&H MJ RW GATE VALVE (342061)	EA	869.5300	6,956.24
14	14			4067-01-4 4 M&H MJ RW GATE VALVE (342041)	EA	681.4100	9,539.74
2	2			4067-01-2 2 M&H MJ RW GATE VALVE	EA	430.3900	860.78
3	3			129-3-36-56 M&H HYD: 3 WAY 3 FT BURY 51/4 V.O., 6 " SHOE	EA	2,719.8800	8,159.64
8	8			33-36-2 M&H POST HYD: 1WAY 3FT BURY 21/4 V.O., 2 MJ SHOE	EA	1,200.0000	9,600.00
3	3			D132-613-DOM 6 X 13 DI MJ ANCHOR COUPLING-DOMESTIC	EA	194.2800	582.84
5	5			D132-413-DOM 4 X 13 DI MJ ANCHOR COUPLING-DOMESTIC	EA	170.1000	850.50
3	3			D130-66-DOM 6 X 6 DI MJ ANCHOR TEE L/ACCS-DOMESTIC	EA	277.9200	833.76
5	5			D110-4 4 DI MJ TEE L/ACCS.	EA	142.0000	710.00
15	15			GRAP-IP-4 4 GRIP RING ACCES. PACK	EA	72.2500	1083.75

All returns may be subject to a manufacturers re-stocking charge. All custom or non-stock

G & C SUPPLY CO., Inc.

WATER, SEWER & GAS SUPPLIES
SIGN & SAFETY SUPPLIES

P.O. Drawer 459 - 1105 State Route 77
Atwood, TN 38220
(731)662-7193 or (800)238-3836

QUOTATION

Order Number	
1921315	
Order Date	Page
09/26/2022 08:47:20	3 of 4

Quantities			Status Key B = Backorder D = Direct C = Canceled	Item ID / Item Description	Unit Size	Unit Price	Extended Price
Ordered	Remaining	Status of Balance					
				FOR IPS PVC PIPE			
9	9			145325 VALVE BOX LID-DOMESTIC-M/WATER-TYLER	EA	197.0000	1,773.00
9	9			144946 16 TYLER DOMESTIC TOP SECTION ONLY SCREW TYPE FOR 6860-A VALVE BOX	NC	0.0000	0.00
9	9			145011 TYLER BOTTOM SECTION ONLY	NC	0.0000	0.00
2	2			D121-6-DOM 6 X 12 DI MJ SOLID SLEEVE L/ACC. ***DOMESTIC ONLY***	EA	146.8600	293.72
3	3			D102-6-DOM 6 DI MJ 45 ELL L/ACC - DOMESTIC	EA	137.5600	412.68
3	3			D104-6-DOM 6 DI MJ 22 1/2 ELL L/ACCESS-DOMESTIC	EA	125.4900	376.47
1	1			D106-6-DOM 6 DI MJ 11-1/4 ELL L/ACC - DOMESTIC	EA	129.2000	129.20
1	1			D116-62 6 X 2 DI MJ REDUCER L/ACCS.	EA	346.7100	346.71
1	1			D102-4-DOM 4 DI MJ 45 ELL L/ACCESS-DOMESTIC	EA	88.3000	88.30
1	1			D106-4-DOM 4 DI MJ 11-1/4 ELL L/ACCS. ***DOMESTIC***	EA	77.1500	77.15
3	3			D110-4-DOM 4 DI MJ TEE L/ACCS. - DOMESTIC	EA	141.2800	423.84
1	1			D126-4-DOM 4 DI MJ CAP L/ACCESS-DOMESTIC	EA	54.0000	54.00
7	7			D121-4-DOM 4 X 12 DI MJ SOLID SLEEVE L/ACCS. ***DOMESTIC ONLY***	EA	98.5400	689.78
16	16			UFR1300-S-6-I 6 M.J. RESTRAINER FOR PVC ***Ordered As:*** UFR1300-S-6-U	EA	67.4800	1,079.68
36	36			UFR1300-S-4-I 4 M.J. RESTRAINER FOR PVC ***Ordered As:*** UFR1300-S-4-U	EA	59.0800	2,126.88

All returns may be subject to a manufacturers re-stocking charge. All custom or non-stock

G & C SUPPLY CO., Inc.

WATER, SEWER & GAS SUPPLIES
SIGN & SAFETY SUPPLIES

P.O. Drawer 459 - 1105 State Route 77
Atwood, TN 38220
(731)662-7193 or (800)238-3836

QUOTATION

Order Number	
1921315	
Order Date	Page
09/26/2022 08:47:20	4 of 4

Quantities			Status Key B = Backorder D = Direct C = Canceled	*Item ID* *Item Description*	*Unit Size*	*Unit Price*	*Extended Price*
Ordered	*Remaining*	*Status of Balance*					
10	10			6FA-BC 6 FOSTER ADAPTER W/KIT	EA	154.0000	1,540.00
12	12			4FA-BC 4 FOSTER ADAPTER W/KIT	EA	121.0000	1,452.00
1	1			D121-2 2 X 12 DI MJ SOLID SLEEVE L/ACCS.	EA	245.3800	245.38
7	7			UFR1300-S-2-I 2 M.J. RESTRAINER FOR PVC	EA	31.0000	217.00

Total Lines: 40

SUB-TOTAL:	134,472.40
TAX:	0.00
AMOUNT DUE:	**134,472.40**
U.S. Dollars	

All returns may be subject to a manufacturers re-stocking charge. All custom or non-stock

1. This is a unit price contract.

2. In the case of a discrepancy between unit prices and computed totals, unit prices should prevail.

KNOWLEDGE OF CONTRACT DOCUMENTS: The undersigned has examined the Specifications and other Contract Documents and is familiar with the requirements included therein.

BIDDER G+C Supply Co. Inc.

BY Taylor Coulter DATE 9-26-2022

TITLE Inside Sales

ADDRESS/PHONE/EMAIL 1105 Hwy 77 Atwood Tn 38220

731-662-7193 TCoulter@gcsupplyco.com

SECTION 02713

WATER DISTRIBUTION SYSTEM

PART 1 – GENERAL

1.01 DESCRIPTION

A. Work included – Provide treated water distribution system as shown on the Drawings, specified herein, and needed for a complete and proper installation.

B. Related Work – Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections, in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE – Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.03 SUBMITTALS

A. Submit two (2) copies of product data sheets on material to be supplied/used.

B. Product Data

1. Materials list of items proposed to be provided under this Section;
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
3. Names and addresses of the nearest service and maintenance organization that readily stocks repair parts;
4. Manufacturer's recommended installation procedures which, when approved by the Engineer, will become the basis for accepting or rejecting actual installation procedures used on the Work.

PART 2 – PRODUCTS

2.01 PIPE, FITTINGS, AND ACCESSORIES

A. General – Provide pipe, fittings, and accessories complying with the following requirements:

B. Pipe

1. DIP (Ductile Iron Pipe)

(a) Ductile iron push on joint

Class 350 ductile iron pipe shall comply with ANSI A-21.51 (AWWA C111).

Use cement mortar lining complying with ANSI A-21.4 (AWWA C104) with a bituminous exterior seal coat.

Provide 8 mil thick, low density polyethylene meeting the requirements of ANSI A-21-5 (AWWA C105). All D.I.P. shall be wrapped with V-Bio Enhanced Polywrap. Cost of poly wrap is incidental to the cost of D.I.P.

(b) Ductile iron flanged joint

Comply with either ANSI A-21.15 (AWWA C115) with a 125-pound flanged joint or ANSI B-16.1 - ANSI B16.5 with a 125-pound cast iron "Uni-Flange" adapter as manufactured by Uni-Flange Corporation.

2. PVC (Polyvinyl Chloride) Pipe

(a) Use rigid unplasticized polyvinyl chloride (PVC) complying with ASTM D1784 and D2241. The PVC compound used in the manufacture of this pipe shall meet or exceed the requirements for class 12454-A or 12454-B as defined by ASTM D1784. Provide pipe with a standard dimension ratio (SDR) of 21 with pressure rating of 200 psi complying with ASTM D2241. Provide an NSF approved pipe for potable water service.

(b) In addition, Pipe shall be tested and inspected at the factory. Testing shall be accomplished in conformance with the following ASTM specifications utilizing the test methods specified therein:

Dimensions	ASTM D 3034-81 or ASTM F679-80 and D 2122-81
Extrusion Quality	ASTM D 2152-80
Pipe Stiffness (5%)	ASTM D 2412-77
Impact Resistance	ASTM D 2444-80

3. HDPE (High Density Polyethylene) Pipe – Use HDPE with a standard dimension ratio (DR) of 26 with a working pressure rating of 64 psi and conforming to ASTM F714 and D3035. The pipe shall be sized with standard iron pipe size (IPS) and shall be DriscoPlex 4100 or approved equal.

4. Restrained-Joint PVC Pipe – Use Certa-Lok Yelomine RJ/PVC pipe with a working pressure rating of 200 psi (DR 21) as manufactured by Certain Teed Pipe and Plastics Group or approved equal.

5. Fusible PVC Pipe – Use Fusible PVC pipe with a working pressure of 200 psi (min), conforming to ASTM D2241, ASTM D1785, and conforming to cell classification 12454 per ASTM D1784. Pipe shall be, or equal to Fusible PVC pipe as manufactured by Underground Solutions, Inc., Poway, CA.

C. Joints

1. DI (Ductile Iron) Push-On-Joint – Comply with ANSI A-21.11 (AWWA C111)

2. DI (Ductile Iron) Flanged Joint – Comply with either ANSI A-21.15 (AWWA C115) with a 125-lb flanged joint or ANSI B-16.1 - ANSI B16.5 with a 125-lb cast iron "Uni-Flange" adapter as manufactured by Uni-Flange Corporation.

3. PVC (Polyvinyl-Chloride) Joint

(a) Provide a push on type joint with a continuous elastomeric ring gasket compressed into the annular space between bell and spigot end of pipe complying with ASTM D3139.

(b) A typical joint assembly shall be tested by a qualified independent laboratory per test requirements of ASTM D3212-81. The manufacturer shall submit to the Engineer sufficient copies of certification and test results by shipment to

the job site that will permit the Owner to retain two copies.

4. HDPE (High Density Polyethylene) Joint – Form joints by heat fusion method in accordance with the manufacturer's recommendations and ASTM D3261.

D. Fittings

1. Use mechanical joint fittings for all exterior below grade pressure piping complying with AWWA C153.

2. Use cement lining complying with ANSI A-21.4 (AWWA C104) with a bituminous seal coat.

3. All fittings must be manufactured in the United States of America unless otherwise approved prior to bidding by the Owner/Engineer.

4. Double wrap all fittings with 8-mil polyethylene wrap prior to placing concrete thrust blocking. Tape polyethylene wrapping around pipe barrels to provide a water tight seal around the fittings.

5. HDPE Fittings – Use HDPE fittings conforming to AWWA C906 requirements. Provide mechanical joint adapter kits at transition points to other pipe types.

E. Valves

1. Gate Valves

(a) Provide resilient seated gate valves complying with AWWA C509 with a non-rising stem, double O-ring seal stuffing box and iron body with epoxy coated interior surfaces complying with AWWA C550. Working pressure of 250 psi designed to work equally well with pressure on either side of the gate. Use American Darling Series 2500, Mueller, or approved other.

(b) Provide connections as required for the piping in which they are installed.

(c) Provide all exterior below grade valves with standard operating nut and all interior valve with handwheel. Provide tee handle socket operating wrenches of suitable size.

(d) Provide below grade valves with valve boxes of the screw type adjustable pattern with a lid marked water.

(e) Valves 3" and smaller

(1) Provide all bronze, screwed, single wedge disc, screw in bonnet, packing gland, and nut, with a non-rising stem.

(2) Provide below grade valves with a suitable precast concrete box with a lid marked water.

2. Butterfly Valves

(a) With the exception of tapping valves, all valves 16" and larger shall be butterfly valves unless otherwise noted on the drawings.

(b) Provide butterfly valves in accordance with Section 15110 of these specifications.

3. Tapping Valves – Use tapping valves meeting the general operating and material requirements of Section E.1. of this specification. Use Mueller RWGV tapping

valve, or approved equal.

4. Valve Boxes

   (a) For butterfly valves, use cast iron, slip type adjustable pattern, similar and equal to Bingham & Taylor or Utility Pipe Model CVB562. For gate valves, use cast iron screw type adjustable pattern, similar and equal to Bingham & Taylor 4905.

   (b) The boxes shall have a lid marked "water" similar and equal to Bingham & Taylor 4905-L1.5.

   (c) The valve boxes shall be of sufficient length to permit the valve to set at the depth indicated by required cover on the pipe shown on the Drawings. Provide cast iron valve box extensions, as necessary, similar or equal to Bingham & Taylor 4905-X.

   (d) Provide valve stem extensions on all water lines greater than 5 feet deep. Valve stem extensions shall be similar or equal to Bingham & Taylor 5051.

F. Restraint Joint Gaskets – Use restrained joint gaskets in all DIP installation within steel encasement. In addition, use restrained joint gaskets in all pipe joints within creek crossings and roadway crossings and within one DIP pipe joint connection either side of steel encasement. Use "Field Lok" gaskets as manufactured by U.S. Pipe and Foundry Company.

G. Thrust Restraint Glands for Ductile Iron Pipe – Use thrust restraint glands ensuring 360° contact between the gland and the pipe wall. Uni-Flange Series 1300 joint restraint devices as manufactured by Ford Meter Box Company, Inc. or approved other. Use thrust restraint glands on each mechanical joint connection 6" in diameter and larger. All glands shall be domestic unless approved prior to bidding by the Owner/Engineer.

H. Thrust Restraint Glands for PVC Pipe – Use thrust restraint glands ensuring 360° contacts between the gland and the pipe wall. Use Uni-flange Series 1300 joint restraint devices as manufactured by Ford Meter Box Company, Inc. or approved other. Use thrust restraint glands for PVC pipe on each mechanical joint connection 6" in diameter and larger. All glands shall be domestic unless approved prior to bidding by the Owner/Engineer.

   SO-EZ MJ Gland Snap-On Gaskets, as manufactured by Ford Meter Box Company, Inc. shall not be accepted for use on any mechanical joint piping or restraint.

I. Joint Restraint Glands for PVC Pipe – Use joint restraint glands ensuring 360° contact between the gland and the pipe wall. Use Uni-Flange Series 1390 joint restraint devices as manufactured by Ford Meter Box Company, Inc., or approved other. Use joint restraint glands at field engineer's discretion or as shown on the Plans. All glands shall be domestic unless approved prior to bidding by the Owner/Engineer.

J. Petroleum -Resistant Gaskets – Where noted on the drawings, provide petroleum-resistant gaskets for push-on and mechanical joint fittings. Petroleum-resistant gaskets shall be manufactured from Nitrile in accordance with AWWA C111. All gaskets shall be domestic.

K. Stainless Steel All-thread Rods – Use 3/4" diameter stainless steel all-thread rods complying with ASTM Type 303 stainless steel. Use rods at field engineer's discretion or as shown on the Plans. Cost associated with contractor installation, equipment, materials, etc., is incidental to the cost for pipe.

L. Service Saddles – Use service saddles as manufactured by Ford Meter Box Company with all service connections made on PVC or asbestos cement pipe.

M. Tapping Sleeves – Use stainless steel FAST Tapping Sleeves as manufactured by Ford Meter Box Company, or approved equal. Tapping sleeves shall be domestic unless otherwise approved prior to bidding by the Owner.

N. Steel Casing Pipe – Use steel casing pipe conforming to ASTM A139. All encasement shall have a minimum yield strength of 35,000 psi and a minimum thickness of .25 inches for casing diameter of 16 inches and less, 0.312 inch thickness for casing diameters of 18, 20, and 22 inches, and 0.344 inch thickness for casing diameter of 24 inches. Coat the outside of all steel encasement pipe with either an epoxy or bituminous coating. Casing spacers and end seals are considered incidental to the unit price of the steel encasement.

O. Fire Hydrants

1. General

   (a) Use fire hydrants complying in all respects with the latest revision for AWWA C502. Use fire hydrants with one (1) 4½" pumper nozzle with National Standard Thread and two (2) 2½" bronze hose nozzles with National Standard Thread. Secure all caps with long heavy chains. Use hydrants with a one piece bronze operating nut to be opened in a counterclockwise direction. Use hydrants with a compression main valve, bronze seat ring with bronze seating. Bronze upper plate, high tensile steel stem, and O-ring seals. The inlet valve opening shall be 5¼" diameter with 6½" ID standpipe section and a 6" high strength cast iron inlet connection.

   (b) Use hydrants with replaceable, breakable sections, or components such that in the event the barrel is broken off, the valve will remain closed, the barrel will not be damaged, and the stem will not be bent.

   (c) Furnish hydrants from the factory with one shop coat of bright red Inertol Rust Inhibitive Primer No. 621 with a minimum dry mil thickness of 1.5.

   (d) Use Mueller Super Centurion 250 or American Darling B-84-B-5, or approved equal.

2. Hydrant Valves – Equip all 5¼" hydrants with 6" gate valves as shown on the drawings.

3. Anchoring Tee – Use standard mechanical joint anchoring tees with a split ductile iron rotating gland on the branch. Use trim tyte ductile iron mechanical joint anchoring tees as manufactured by U.S. Pipe and Foundry Company, Birmingham, Alabama, or an approved equal. Tee shall be domestic unless otherwise approved prior to bidding by the Owner/Engineer.

4. Hydrant Connecting Pieces – Use hydrant connecting pieces with integrally cast standard mechanical joint on one end and a split ductile iron rotating gland on the other. Use hydrant connecting pieces as manufactured by American Cast Iron Pipe Company, Birmingham, Alabama, No. A108954 or an approved equal. Connecting piece shall be domestic unless otherwise approved prior to bidding by the Owner/Engineer.

P. Copper Pipe

1. Pipe – Use Type "K" soft copper tubing complying with ASTM Specifications B 88 and AWWA Specification C800. Install service lines with a continuous run of pipe

from the main to the meter.

2. Fittings – All fittings or unions for the copper service lines shall be of standard brass compression stop type for flared connections. Threads on fittings shall conform to AWWA C800, "Standard Threads for Underground Service Line Fittings."

3. Verification – Verify the size of existing service lines prior to installation of replacement or relocated service lines. Notify the Engineer prior to installation of any discrepancies between plan information and field verified information.

Q. Polyethylene Pipe

1. Pipe – Use copper tubing size, DR 9, P.E. Municipal Service tubing complying with ASTM Specifications ASTM D2737. Install service lines with a continuous run of pipe from the main to the meter. All PE service lines shall be installed with a continuous run of tracer wire.

2. Fittings – All fittings or unions for the P.E. service lines shall be of standard brass type for pack joint connections. Threads on fittings shall conform to AWWA C800, "Standard Threads for Underground Service Line Fittings."

3. Verification – Verify the size of existing service lines prior to installation of replacement or relocated service lines. Notify the Engineer prior to installation of any discrepancies between plan information and field verified information.

4. Service Saddle – Use Romac Style 101N-H & 202N-H Service Saddles (or approved equal) for connections on HDPE piping.

R. Copper Tracer Wire & Locator Tape

1. Tracer Wire –All water lines shall be installed with a continuous run of tracer wire. 12 Gauge coated solid copper tracer wire shall be supplied. Splices shall be made with the aid of DBR Direct Bury Splice Connectors as MFG. by 3M Electrical Products Division or equivalent.

2. Warning/Locator Tape – All water mains shall be installed with a continuous run of reflective warning/locator tape. The tape shall be labeled "Caution Water Main Below" or similar. Locator tape shall be installed approximately 12 (min) -24 (max) inches from the finished ground surface.

3. Costs for tracer wire and locator tape shall be considered incidental to unit price paid for water main unless otherwise noted.

PART 3 – EXECUTION

3.01 SURFACE CONDITIONS – Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 FIELD MEASUREMENT – Make necessary measurements in the field to assure precise fit of items in accordance with the approved design.

3.03 HANDLING

A. Handle pipe accessories so as to ensure delivery to the trench in sound, undamaged condition:

1. Carry pipe into position; do not drag.

2. Use pinch bars or tongs for aligning or turning the pipe only on the bare end of the pipe.

B. Thoroughly clean interior of pipe and accessories before lowering pipe into trench. Keep clean during laying operations by plugging or other method approved by the Engineer.

C. Before installation, inspect each piece of pipe and each fitting for defects: Material found to be defective before or after laying: Replace with sound material meeting the specified requirements, and without additional cost to the Owner.

D. Store rubber gaskets in a-cool dark place until just prior to time of installation.

3.04 PIPE CUTTING

A. Cut pipe neatly and without damage to the pipe.

B. Unless otherwise recommended by the pipe manufacturer, and authorized by the Engineer, cut pipe with mechanical cutter only.

1. Use wheel cutters when practical.

2. Cut plastic pipe square, and remove all burrs.

3.05 LOCATING

A. Locate water line at least ten feet away, horizontally, and 18 inches, vertically, from sewer line.

B. Do not place water lines in the same trench with sewer lines or electric wiring.

C. Whenever it is necessary to deflect pipe from a straight line, either in the vertical or horizontal plane, to avoid obstruction of plumb stems, or where long-radius curves are permitted, the amount of deflection allowed shall not exceed that required for satisfactory making of the joint and comply with the manufacturer's allowable units.

3.06 PLACING AND LAYING

A. General

1. Lower pipe and accessories into trench by means of derrick, ropes, belt slings, or other equipment approved by the Engineer.

2. Do not dump or drop pipe work materials into the trench.

3. Lay pipe with the bells facing in the direction of laying, except where necessary in making connections to other lines.

4. Rest the full length of each section of pipe solidly on the pipe bed, with recesses excavated to accommodate bells, couplings and joints.

5. Take up and relay pipe that has the grade or joint disturbed after laying.

6. Do not lay pipe in water, or when trench conditions are unsuitable for the work.

7. Securely close open ends of pipe, fittings, and valves when work is not in progress.

8. Where any part of coating or lining is damaged, repair to the approval of the Engineer and at no additional cost to the Owner.

9. All pipe laying shall be in strict accordance with manufacturer's recommendations and installation manual unless otherwise specified.

10. Install appropriate lengths of copper tracer wire and locator tape in the water main trench as required per the Drawings.

3.07 JOINTING

A. Asbestos Cement Pipe

1. Install couplings in accordance with AWWA C603.

2. Install heavy couplings for service line connections in accordance with the recommendations of the manufacturer.

3.08 VALVES

A. Location – Valves shall be located as shown on the Plans and approved by the Engineer.

B. Valve Boxes and Valve Pits – A valve box shall be provided for every valve. The valve box shall not transmit shock or stress to the valve and shall be centered and plumb over the wrench nut of the valve using a centering disk as manufactured by American Flow Control. The valve box shall be flush with the surface of the finished pavement or such other level as may be directed.

3.09 THRUST BLOCKING

A. General

1. Provide thrust blocks on plugs, caps, tees, and bends deflecting 11-1/4° or more either vertically or horizontally.

2. Provide KDOH Class B concrete for thrust blocking.

B. Installation

1. Prepare trench well or other supporting earth surface by exposing firm undisturbed soil just prior to concrete placement.

2. Place thrust blocks as shown in the typical details with sufficient volume of concrete.

3. Sides of thrust blocking not subject to thrust may be placed against forms.

4. Place thrust blocking so the fitting joints will be accessible for repair.

5. Place polyethylene wrap around fittings, bolts, and glands to prevent exposure to concrete.

3.10 INSPECTING

A. Pressure Piping

1. Closing uninspected work – Do not allow or cause any of the work of this Section to be covered up or enclosed until after it has been completely inspected and tested, and has been approved by the Engineer.

3.11 TESTING & DISINFECTION

A. Scope:

The Contractor shall furnish all materials, equipment, tools and labor necessary to perform all of the tests called for and required herein. The hydrostatic tests shall consist of a pressure test and leakage test. The Contractor may backfill the pipe at his discretion; however, if the pipe has to be repaired it shall be uncovered, repaired and backfilled at no expense to the Owner.

B. Pressure Tests:

1. General. After the trench has been backfilled as specified, all newly laid pipe, or any valved section thereof, shall be subjected to 150 psi pressure test under the supervision of the Engineer and the Water Superintendent.

2. Length of Test. The duration of each pressure test shall be two hours, after reaching 150 psi.

3. Procedure. Each valve section of the pipe shall be slowly filled with water and the specified test pressure applied by means of a pump connected to the pipe in a manner satisfactory to the Engineer. The pump, pipe, connections, gauges and all necessary apparatus shall be furnished by the Contractor. The test connection shall be made at the highest point in the test section or provisions made for pressure differentials due to elevations. The test pressure may not vary ± 2 psi for the duration of the test. Provide pressure gauge with ability to read pressure in increments of 1 psi.

4. Expelling Air. Before applying the test pressure, all air shall be expelled from the pipe. If hydrants or blowoff valves are not available at high places, the Contractor shall make the necessary taps (requires service clamp and corporation stop) at points of highest elevation before the test is made with the approval of the Engineer. These taps shall be left in place and location marked.

5. Defects. Any cracked or defective pipes, fittings, valves or hydrants discovered in consequence of this pressure test shall be removed and replaced by the Contractor with new material in the manner specified and the test shall be repeated until satisfactory to the Engineer.

C. Leakage Test:

1. General. A leakage test shall be conducted concurrently with the pressure test. The duration of each leakage test shall be two hours and during the test, the main shall be subject to 150 psi pressure.

2. Permissible Leakage. Leakage is defined as the quantity of water to be supplied into the newly laid pipe, or any valved section thereof, necessary to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled.

   No pipe installation will be accepted until the leakage is less than the number of gallons per hour as determined by the following schedule:

Allowable Leakage Per 1,000 Feet of Pipeline			
Pipe Size (Inches)	**Maximum Loss (Gal./Hr.)**	**Test Pressure (PSI)**	**Test Period (Hours)**

18	1.66	150	2
12	1.10	150	2
10	0.92	150	2
8	0.74	150	2
6	0.55	150	2

3. Procedure. Each end of the main shall be capped. The main shall then be filled slowly with water by means of a pump connected to the low end of the main. The pump shall be connected to the main in a manner satisfactory to the Engineer. Provisions shall be made at the high end of the main to expel all air from the line. After all air has been expelled from the main, the water pressure in the main shall then be increased gradually to 150 psi. After the pressure has stabilized to 150 psi the test shall begin. Water required to maintain 150 psi shall be withdrawn from a calibrated container. The outlet end of any pressure regulating device shall discharge into the calibrated container in order to accurately determine the actual amount of water required to maintain the required 150 psi water pressure within the test section.

   Should any test of the pipe disclose leakage greater than that specified, the Contractor shall, at his own expense, repair the defective joints or sections until the leakage is within the specified allowance.

4. Final Acceptance. No pipe installation will be accepted until the leakage is less than the number of gallons per hour as specified in the above table for the size pipe being tested.

D. Disinfection:

1. All completed water mains, valves, tees, crosses, etc., shall be disinfected in accordance with "AWWA Standard for Disinfecting Water Mains ANSI/AWWA C651-99" and in accordance with the following requirements:

2. The mains shall be thoroughly disinfected before being placed in service by the use of chlorine or chlorine compounds in such amount as to produce a concentration of at least 50 PPM and a residual of at least 25 PPM at the end of 24 hours.

3. The chlorine residual at the end of the 24 hour period will be verified by the Contractor in the presence of the Engineer (or Engineer's representative) and a representative of the County Health Department. If the chlorine residual in the main is less than 25 ppm, the main shall be disinfected again.

4. After the chlorine residual has been verified, the main shall be thoroughly flushed until the chlorine concentration is found to be at levels equal to levels within the surrounding water system. A water sample shall be taken at that time for a bacteria test to be performed by a state certified laboratory. The Contractor will be responsible for sampling and testing at his own expense.

5. All water used in disinfection shall be dechlorinated and approved by the Engineer

prior to discharge to surface water or surrounding area.

END OF SECTION

HDPE Water/Sewer | IPS

PRESSURE-RATED HDPE PIPE

JM Eagle™

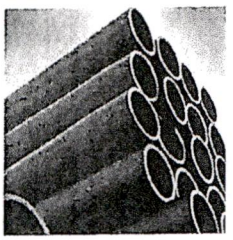
DELIVERING GOOD WATER TO YOU

ANSI/AWWA C906, ASTM F714, ASTM D3035
ASTM D3350 Cell Class 445574C/E, PPI (TR-4) PE 4710
ANSI/NSF 61/14

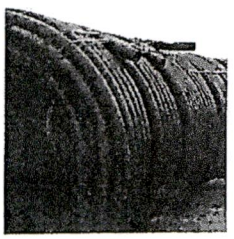
MARKETS

Potable | Reclaim | Sewer | Drainage | Irrigation | Rehabilitation

DESCRIPTION



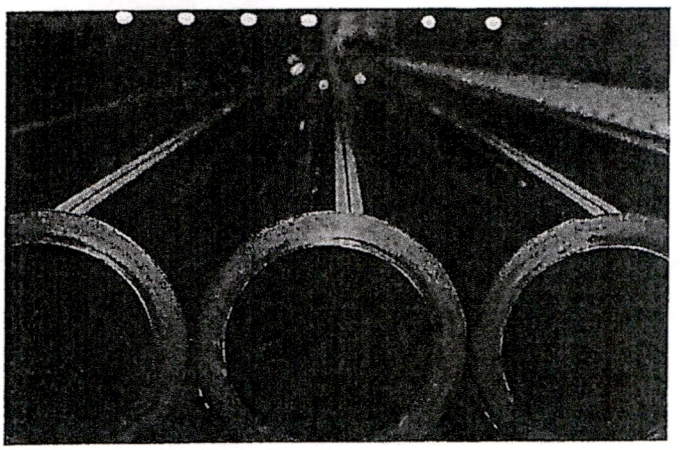
Standard HDPE



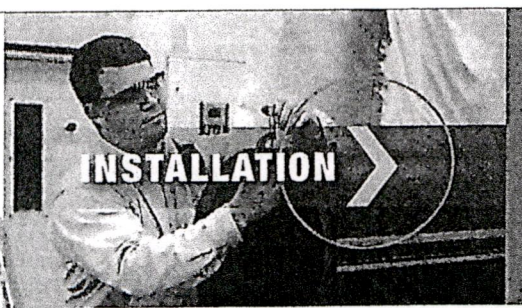
Coiled HDPE

IPS	PIPE SIZES:	ADDITIONAL OPTIONS:
Nominal Laying Length: 40/50 feet *(Laying length tolerances are in accordance with AWWA and ASTM standards)*	4", 5", 6", 7", 8", 10", 12", 14", 16", 18" 20", 22", 24", 26" 28", 30", 32", 34", 36" 42", 48", 54", 63"	Perforated*: 4", 5", 6, 7", 8"
		Coil*: 4", 5", 6"
PIPE COLORS:	**BLACK W/COLOR STRIPES:**	**ADDITIONAL COLOR OPTIONS:**
Black	Blue Green Purple	Grey*

AWWA C906	
DR 7	335 psi
DR 9	250 psi
DR 11	200 psi
DR 13.5	160 psi
DR 17	125 psi
DR 19	112 psi
DR 21	100 psi
DR 26	80 psi
DR 32.5	63 psi

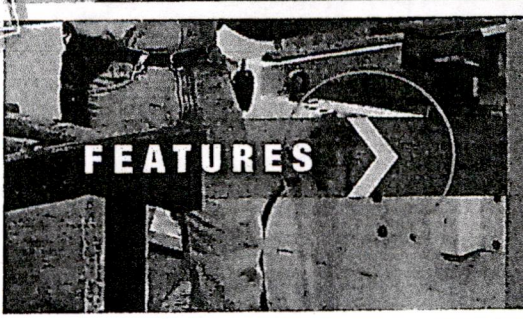


BENEFITS



Lightweight, with long laying length, great for easy transportation and installation.

Pipe applicable for open-trench and slip-lining installation.



Extremely durable, corrosive, gouging and abrasion resistant.

Features 100 years design life per Florida DOT.

Great flexibility, and highly suitable for earthquake-prone areas.

Highest PE pressure rating, resistance to slow crack growth and rapid crack propagation.

Made in America

JM Eagle 50 YEAR WARRANTY ON PLASTIC PIPE

*Please call regarding availability.

HDPE Water/Sewer | IPS

PRESSURE-RATED HDPE PIPE

JM Eagle™

DELIVERING GOOD WATER TO YOU

SUBMITTAL AND DATA SHEET

HDPE IRON PIPE SIZE (IPS) PRESSURE PIPE

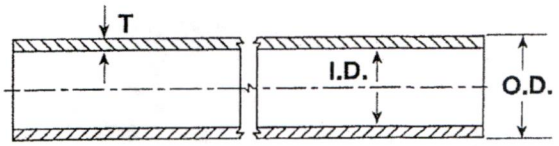
PIPE SIZE (IN)	AVG O.D. (IN)	DR 7 (335 psi) MIN. T. (IN)	DR 7 (335 psi) AVG I.D. (IN)	DR 7 (335 psi) WGT (LBS/FT)	DR 9 (250 psi) MIN. T. (IN)	DR 9 (250 psi) AVG I.D. (IN)	DR 9 (250 psi) WGT (LBS/FT)	DR 11 (200 psi) MIN. T. (IN)	DR 11 (200 psi) AVG I.D. (IN)	DR 11 (200 psi) WGT (LBS/FT)
4	4.500	0.643	3.137	3.40	0.500	3.440	2.75	0.409	3.633	2.30
5	5.375	0.795	3.747	4.85	0.618	4.109	3.92	0.506	4.338	3.29
6	6.625	0.946	4.619	7.36	0.736	5.065	5.96	0.602	5.349	4.99
7	7.125	1.018	5.056	8.52	0.792	5.446	6.89	0.648	5.751	5.78
8	8.625	1.232	6.013	12.48	0.958	6.594	10.09	0.784	6.963	8.46
10	10.750	1.536	7.494	19.40	1.194	8.219	15.68	0.977	8.679	13.14
12	12.750	1.821	8.889	27.28	1.417	9.746	22.07	1.159	10.293	18.49
14	14.000	2.000	9.760	32.90	1.556	10.107	26.61	1.273	11.301	22.30
16	16.000	2.286	11.154	42.97	1.778	12.231	34.75	1.455	12.915	29.12
18	18.000	2.571	12.549	54.37	2.000	13.760	43.97	1.636	14.532	36.84
20	20.000	2.857	13.943	67.13	2.222	15.289	54.28	1.818	16.146	45.49
22	22.000	3.143	15.337	81.23	2.444	16.819	65.68	2.000	17.760	55.05
24	24.000	3.429	16.732	96.67	2.667	18.348	78.18	2.182	19.374	65.52
26	26.000	N/A	N/A	N/A	2.889	19.875	91.75	2.364	20.988	76.90
28	28.000	N/A	N/A	N/A	3.111	21.405	106.40	2.545	22.605	89.15
30	30.000	N/A	N/A	N/A	3.333	22.934	122.13	2.727	24.219	102.35
32	32.000	N/A	N/A	N/A	N/A	N/A	N/A	2.909	25.833	116.46
34	34.000	N/A	N/A	N/A	N/A	N/A	N/A	3.091	27.447	131.48
36	36.000	N/A	N/A	N/A	N/A	N/A	N/A	3.273	29.061	147.41

Product Standard:
ANSI/AWWA C906
ASTM F714
ASTM D3035
Pipe Compound:
PPI TR-4 PE 4710, ASTM D3350
Cell Class 445574 C/E
Certification: ANSI/NSF 61, ANSI/NSF 14*
Additional Option:
Perforated (4" - 8")*

Nominal Laying Length: 40/50 feet (Laying length tolerances are in accordance with AWWA and ASTM standards)
Coil option available upon request for size 6" and below.
Installation: JM Eagle™ HDPE Water/Sewer Installation Guide

Manning Coefficient (n) = 0.009
Hazen-Williams Coefficient (c) = 150

*Supply may vary based on plant location. Please call regarding availability.



T: (Wall Thickness) **I.D.:** (Inside Diameter) **O.D.:** (Outside Diameter)

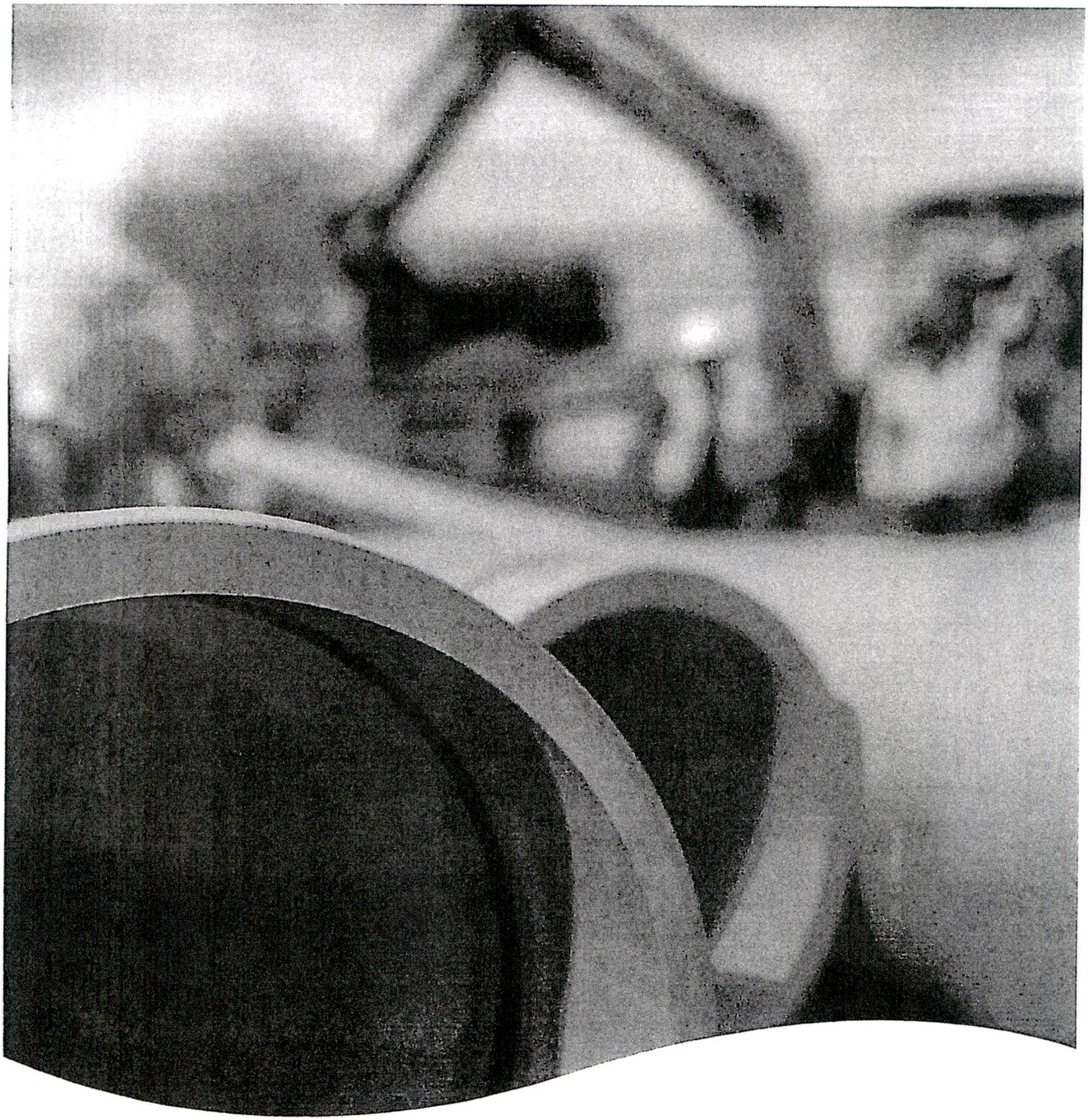
PIPE SIZE (IN)	AVG O.D. (IN)	DR 13.5 (180 psi) MIN. T. (IN)	DR 13.5 (180 psi) AVG I.D. (IN)	DR 13.5 (180 psi) WGT (LBS/FT)	DR 17 (125 psi) MIN. T. (IN)	DR 17 (125 psi) AVG I.D. (IN)	DR 17 (125 psi) WGT (LBS/FT)	DR 19 (111 psi) MIN. T. (IN)	DR 19 (111 psi) AVG I.D. (IN)	DR 19 (111 psi) WGT (LBS/FT)
4	4.500	0.333	3.794	1.91	0.265	3.938	1.55	0.237	3.998	1.39
5	5.375	0.412	4.531	2.73	0.327	4.705	2.21	0.283	4.775	1.99
6	6.625	0.491	5.584	4.15	0.390	5.798	3.35	0.349	5.885	3.02
7	7.125	0.528	6.006	4.80	0.420	6.237	3.88	0.375	6.330	3.49
8	8.625	0.639	7.270	7.03	0.507	7.550	5.68	0.454	7.663	5.12
10	10.750	0.796	9.062	10.92	0.632	9.410	8.82	0.566	9.550	7.95
12	12.750	0.944	10.749	15.36	0.750	11.160	12.41	0.671	11.327	11.19
14	14.000	1.037	11.802	18.52	0.824	12.253	14.98	0.737	12.438	13.49
16	16.000	1.185	13.488	24.19	0.941	14.005	19.55	0.842	14.215	17.61
18	18.000	1.333	15.174	30.61	1.059	15.755	24.75	0.947	15.992	22.29
20	20.000	1.481	16.860	37.79	1.176	17.507	30.53	1.053	17.768	27.52
22	22.000	1.630	18.544	45.75	1.294	19.257	36.86	1.158	19.545	33.30
24	24.000	1.778	20.231	54.44	1.412	21.007	43.99	1.263	21.322	39.63
26	26.000	1.926	21.917	63.89	1.529	22.759	51.61	1.368	23.100	46.51
28	28.000	2.074	23.603	74.09	1.647	24.508	59.87	1.474	24.875	53.94
30	30.000	2.222	25.289	85.04	1.765	26.258	68.74	1.579	26.653	61.92
32	32.000	2.370	26.967	96.76	1.882	28.010	78.18	1.684	28.430	70.45
34	34.000	2.519	28.660	109.26	2.000	29.760	88.28	1.790	30.205	79.54
36	36.000	2.667	30.346	122.49	2.118	31.510	98.98	1.895	31.983	89.17
42	42.000	3.111	35.404	166.70	2.471	36.761	134.72	2.211	37.314	121.37
48	48.000	3.556	40.462	217.76	2.824	42.013	175.97	2.526	42.644	158.52
54	54.000	N/A	N/A	N/A	3.177	47.265	222.67	2.842	47.975	200.63

PIPE SIZE (IN)	AVG O.D. (IN)	DR 21 (100 psi) MIN. T. (IN)	DR 21 (100 psi) AVG I.D. (IN)	DR 21 (100 psi) WGT (LBS/FT)	DR 26 (80 psi) MIN. T. (IN)	DR 26 (80 psi) AVG I.D. (IN)	DR 26 (80 psi) WGT (LBS/FT)	DR 32.5 (63 psi) MIN. T. (IN)	DR 32.5 (63 psi) AVG I.D. (IN)	DR 32.5 (63 psi) WGT (LBS/FT)
4	4.500	0.214	4.046	1.27	0.173	4.133	1.03	0.138	4.207	0.83
5	5.375	0.265	4.832	1.81	0.214	4.936	1.48	0.171	5.025	1.19
6	6.625	0.315	5.957	2.74	0.255	6.084	2.24	0.204	6.193	1.81
7	7.125	0.340	6.406	3.18	0.274	6.544	2.59	0.219	6.661	2.09
8	8.625	0.411	7.754	4.66	0.332	7.921	3.80	0.265	8.063	3.06
10	10.750	0.512	9.665	7.24	0.413	9.874	5.90	0.331	10.048	4.77
12	12.750	0.607	11.463	10.17	0.490	11.711	8.30	0.392	11.919	6.69
14	14.000	0.667	12.586	12.28	0.538	12.895	10.00	0.431	13.086	8.08
16	16.000	0.762	14.385	16.03	0.615	14.696	13.07	0.492	14.957	10.54
18	18.000	0.857	16.183	20.28	0.692	16.533	16.54	0.554	16.826	13.36
20	20.000	0.952	17.982	25.03	0.769	18.370	20.43	0.615	18.696	16.48
22	22.000	1.048	19.778	30.31	0.846	20.206	24.72	0.677	20.565	19.95
24	24.000	1.143	21.577	36.06	0.923	22.043	29.42	0.738	22.435	23.72
26	26.000	1.238	23.375	42.32	1.000	23.880	34.53	0.800	24.304	27.86
28	28.000	1.333	25.174	49.07	1.077	25.717	40.05	0.862	26.173	32.33
30	30.000	1.429	26.971	56.36	1.154	27.554	45.98	0.923	28.043	37.09
32	32.000	1.542	28.730	64.11	1.231	29.390	52.31	0.985	29.912	42.22
34	34.000	1.619	30.568	72.36	1.308	31.227	59.06	1.046	31.782	47.63
36	36.000	1.714	32.366	81.12	1.385	33.064	66.22	1.108	33.651	53.42
42	42.000	2.000	37.760	110.43	1.615	38.576	90.08	1.292	39.261	72.68
48	48.000	2.286	43.154	144.25	1.846	44.086	117.68	1.477	44.869	94.95
54	54.000	2.571	48.549	182.51	2.077	49.597	148.95	1.662	50.477	120.20
63	63.000	3.000	56.640	248.46	2.423	57.863	202.73	1.938	58.891	163.53

CUSTOMER SERVICE:1.800.621.4404

THIS PRODUCT IS MADE IN AMERICA

PRINTED JUNE 2018 REV12

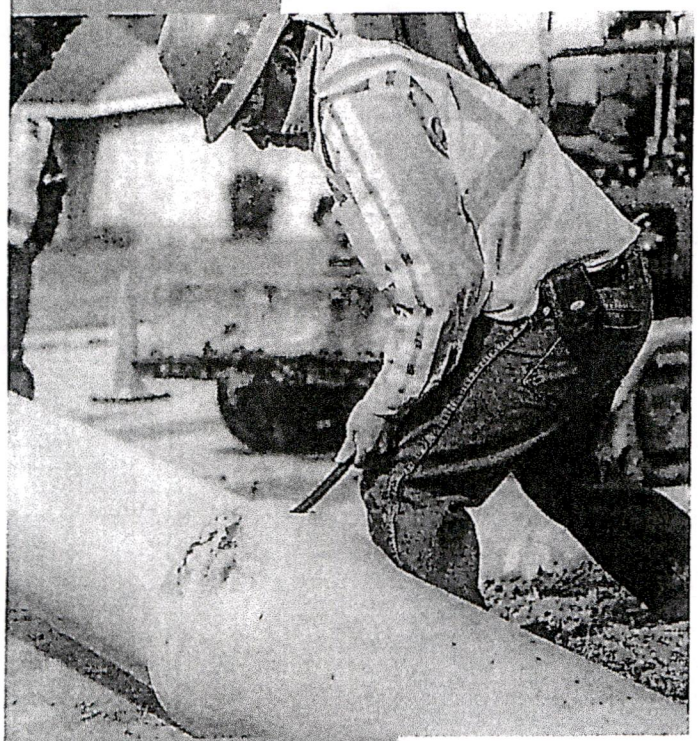


MUNICIPAL

Products Overview

Westlake
Pipe & Fittings

PVC: America's Preferred Municipal Pipe



Our municipal waterworks and sewer infrastructure demands pipe systems that are proven to last. Our water and wastewater infrastructure is in critical condition and PVC pipe has become the clear economic choice for long-lasting functionality. Today, PVC pipe is specified more than twice as much as any other pipe material for its lifetime durability, corrosion resistance and ease of installation.

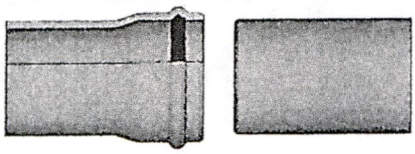
Westlake Pipe & Fitting' Municipal PVC Pipe Solutions are proven for potable water, gravity & force main sewers, and the growing use of water reclamation pipe as potable water becomes a precious commodity in the drought regions of our country. Repairs and new installations are simply easier and more cost effective with our PVC pipe systems:

- Corrosive and chemical resistant, inside and out
- Segmented pipe for simple assembly in restrictive job site conditions
- Certa-Lok® restrained joint pipe systems are completely non-metallic
- More dimensionally stable than HDPE and faster to install & repair than fused joints
- Proven solutions for trenchless & open-cut applications
- Available with Certa-Lok Technology for restrained joint applications
- UV/Impact-resistant Yelomine® formulation available for bypass and temporary pipe systems
- Products are selectively listed, see product specification sheets for industry listings:

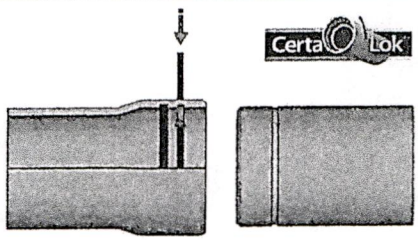
NSF Only products bearing the NSF Mark are Certified

UL FM APPROVED SP

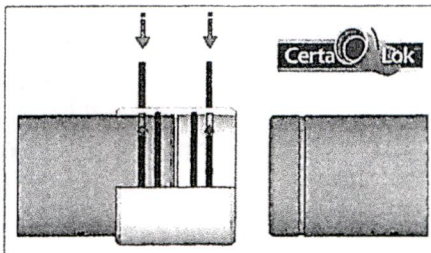
Make the Connection



IB: (Bell & Spigot)
- Water, Sewer, & Reclaim
- Open cut installation
- CIOD: AWWA C900
- IPS: ASTM D2241
- PSM: ASTM D3034/F679
- Rieber Gasket/ASTM F477



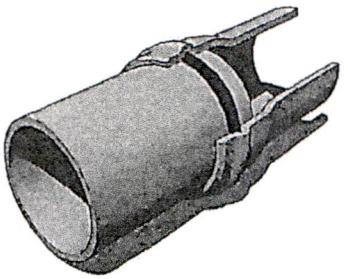
RJIB: (Restrained Joint Integral Bell)
- Water, Sewer, & Reclaim
- Trenchless or open-cut installation
- CIOD: C900 Certa-Lok
- IPS: D2241 Certa-Lok
- Certa-Flo Gravity Sewer
- Yelomine – temporary bypass
- 6" through 16"
- Certa-Com electrical/communication
- O-ring or Profile Gasket/ASTM F477



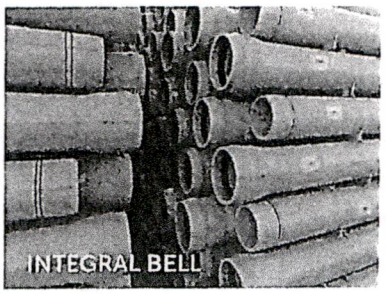
RJ: (Restrained Joint Coupled)
- Water, Sewer, & Reclaim
- Trenchless or open-cut installation
- CIOD: C900 Certa-Lok
- IPS: D2241 Certa-Lok
- 2" through 24"
- O-ring or Profile Gasket/ASTM F477

IB: Integral Bell

Our Integral Bell & Spigot design is excellent for open-cut applications where the affordability and durability of PVC are required.



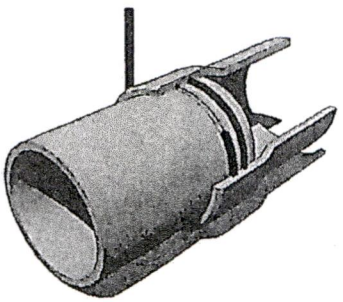
Pressure Pipe	Pipe Sizes	DR	Pressure Class
CIOD: AWWA C900 Potable Water, Force Main & Reclaim	30", 36"	51	80 psi
	16" thru 36"	41	100 psi
	16" thru 36"	32.5	125 psi
	4" thru 36"	25	165 psi
	14" thru 36"	21	200 psi
	4" thru 30"	18	235 psi
	4" thru 16"	14	305 psi
IPS: ASTM D2241 Potable Water, Force Main & Reclaim	1.5" thru 12"	SDR 13.5 thru 41	100 thru 315 psi



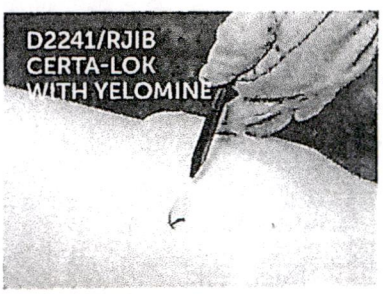
Gravity Sewer	Pipe Sizes	SDR	Pipe Stiffness
PSM: ASTM D3034	4" thru 15"	SDR 35	46 psi
	4" thru 15"	SDR 26	115 psi
	4", 6"	SDR 23.5	153 psi
PSM: ASTM F679	18" thru 36"	PS 46	46 psi
	18" thru 36"	PS 115	115 psi

RJIB: Restrained Joint Integral Bell

Certa-Lok RJIB has a smooth profile perfect for horizontal directional drilling & static pipe bursting applications. Available in Certa-Lok D2241/RJIB with Yelomine for temporary bypass applications.

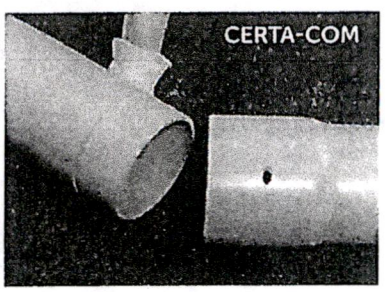


Certa Lok®



Pressure Pipe	Pipe Sizes	DR	Pressure Class
CIOD: C900/RJIB Certa-Lok Potable Water, Force Main & Reclaim	16"	25	165 psi
	6" thru 16"	18	235 psi
	6" thru 12"	14	305 psi
IPS: D2241/RJIB Certa-Lok with Yelomine Potable Water, Force Main, Reclaim, Aboveground & Temporary Bypass	4" thru 8"	21	200 psi
	4" thru 8"	17	250 psi
	Yelomine is a unique modified PVC compound designed to be sunlight & impact resistant for reliable above ground use. NSF approved for potable water use.		

Gravity Sewer	Pipe Sizes	DR	Pipe Stiffness
Certa-Flo IPS Gravity Sewer	10", 12"	26	115 psi
	4", 6", 8"	21	224 psi



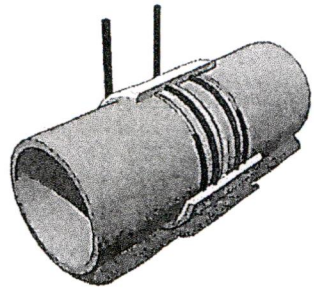
Conduit	Pipe Sizes	Schedule	
Certa-Com	3", 4", 5", 6"	40	
	8"	80	
Certa-Com PVC pipe features Certa-Lok, the industry original non-metallic mechanically restrained joint system designed for use in electrical & communication conduit systems. Certa-Com PVC pipe is made in iron pipe size (IPS) outside diameters and meets all performance requirements of NEMA TC-2 and UL 651.			

RJ: Restrained Joint – Coupled

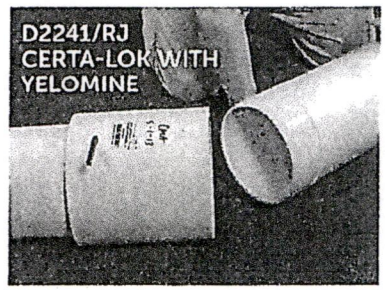
Certa-Lok RJ offers design flexibility for trenchless or open-cut applications. Available with Yelomine for temporary bypass applications.

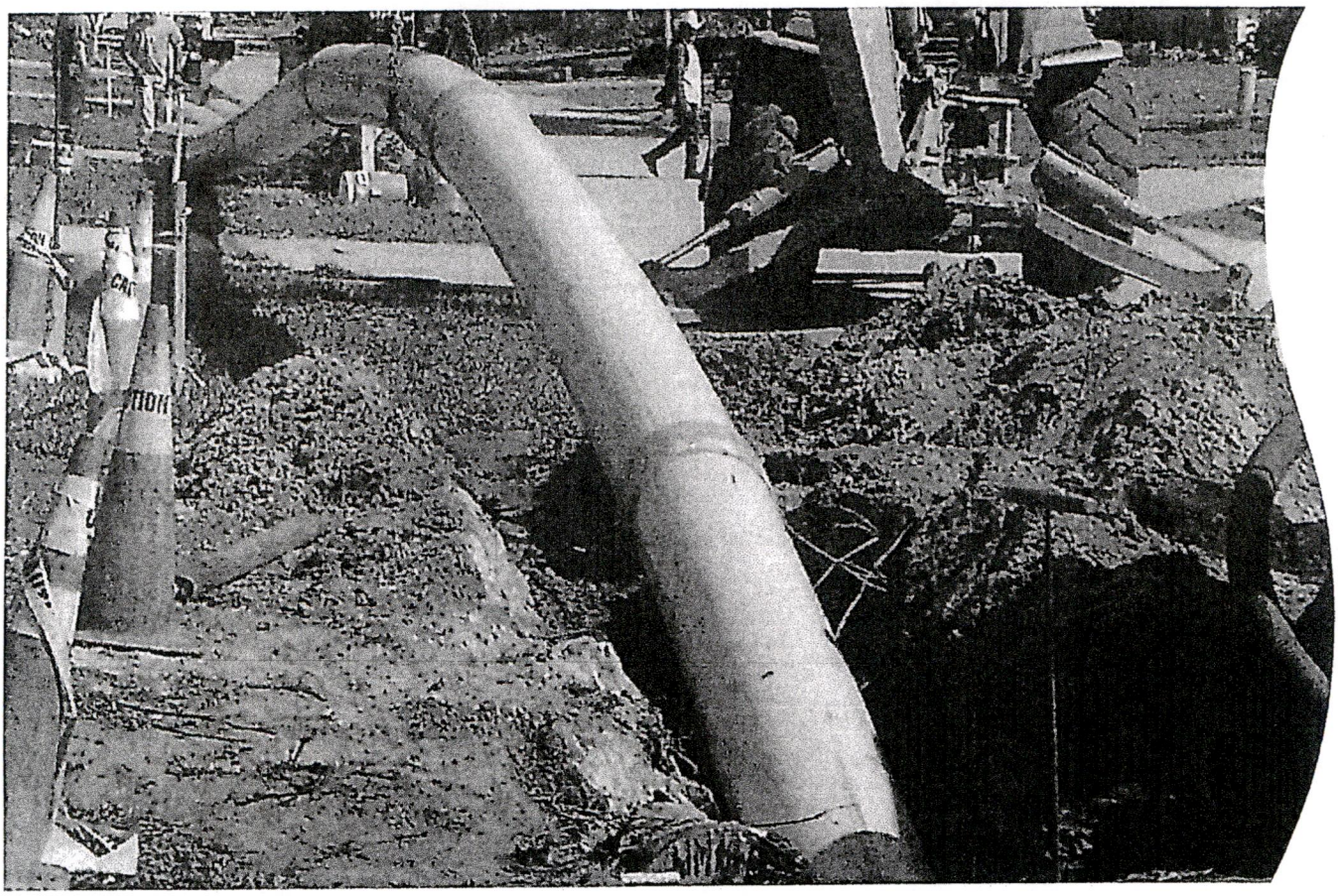
Pressure Pipe	Pipe Sizes	DR	Pressure Class
CIOD: C900/RJ Certa-Lok Potable Water, Force Main & Reclaim	14" thru 24"	25	165 psi
	14" thru 24"	21	200 psi
	4" thru 24"	18	235 psi
	4" thru 12", 16"	14	305 psi
IPS: D2241/RJ Certa-Lok with Yelomine Potable Water, Force Main, Reclaim, Aboveground & Temporary Bypass	6" thru 12"	32.5	125 psi
	6" thru 12"	26	160 psi
	16"	26	90 psi
	4" thru 12", 16"	21	200 psi
	2" thru 8"	17	250 psi
	4" thru 8"	13.5	315 psi
	4" thru 8"	12.43	350 psi

Yelomine is a unique modified PVC compound designed to be sunlight & impact resistant for reliable above ground use. NSF approved for potable water use.



Certa Lok®





Municipal

PRODUCT SPECIFICATION

ASTM D2241/IB PVC PRESSURE PIPE

Gasketed Integral Bell

Our ASTM D2241 Gasketed Integral Bell PVC Pipe product line is manufactured to meet the needs of water distribution and irrigation systems. With top quality raw materials and modern processing technology, our D2241 pipe meets all industry standards in addition to our own rigorous quality control requirements.

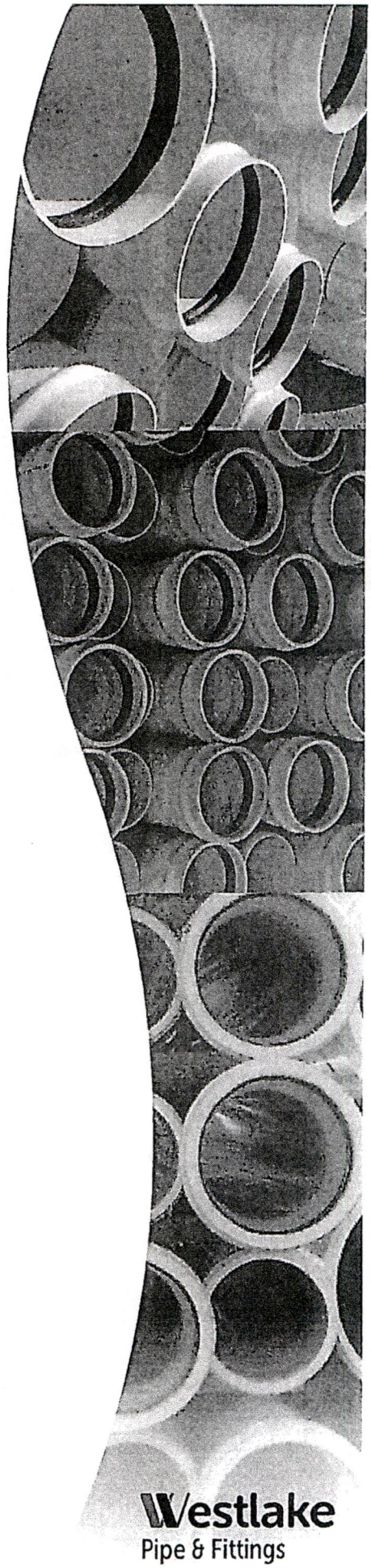
Our D2241 pipe utilizes Rieber style gaskets throughout the entire product offering to create a leak-free joint.

SHORT FORM SPECIFICATION		
Pipe Standard:	ASTM D2241	
Diameter Std.:	Iron Pipe Size (IPS)	
Nominal Sizes:	1½", 2", 2½", 3", 4", 6", 8", 10", 12"	
Dimension Ratios & Pressure Ratings:	SDR 41 – 100 psi SDR 32.5 – 125 psi SDR 26 – 160 psi	SDR 21 – 200 psi SDR 17 – 250 psi SDR 13.5 – 315 psi
Lay Length:	14' – Made-to-order 20' – All Sizes 40' and 42' – 2" to 6" Sizes	
Pipe Compound.:	ASTM D1784 Cell Class 12454	
Pipe Joint Std.:	ASTM D3139	
Max. Angular Joint Deflection:‡	1°	
Gasket Standard:	ASTM F477	
Gasket Material Offerings:	Standard – SBR Optional – NBR or EPDM	
Installation Std.:	ASTM D2774	

Applications	Potable Water	Wastewater	Reclaimed Water
Color:	White	Green	Purple
Certifications:*	NSF 14 NSF 61	None	None

‡See Installation Guide for more information.

NSF *Only products bearing the NSF Mark are Certified*



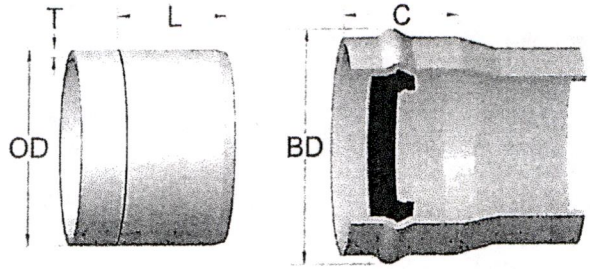
Westlake
Pipe & Fittings

www.westlakepipe.com

PRODUCT SPECIFICATION

ASTM D2241/IB PVC PRESSURE PIPE

Gasketed Integral Bell



D2241/IB PIPE DIMENSIONS & PERFORMANCE								
Nom. Size	Outside Diameter (OD)	SDR	Pressure Rating (psi)	Min. Wall Thickness (T)	Internal Diameter (ID)	Approx. Bell Diameter (BD)	Bell Depth (C)	Insertion Mark (L)
1 1/2"	1.900	21	200	0.090	1.720	2.625	3.250	2.625
		17	250	0.112	1.676			
		13.5	315	0.141	1.618			
2"	2.375	26	160	0.091	2.193	3.250	3.500	2.750
		21	200	0.113	2.149			
		17	250	0.140	2.095			
		13.5	315	0.176	2.023			
2 1/2"	2.875	26	160	0.110	2.655	4.000	4.125	3.125
		21	200	0.137	2.601			
		17	250	0.169	2.537			
		13.5	315	0.213	2.449			
3"	3.500	41	100	0.085	3.330	4.750	4.125	3.625
		32.5	125	0.108	3.284			
		26	160	0.135	3.230			
		21	200	0.167	3.166			
		17	250	0.206	3.088			
		13.5	315	0.259	2.982			
4"	4.500	41	100	0.110	4.280	5.875	4.625	4.000
		32.5	125	0.138	4.224			
		26	160	0.173	4.154			
		21	200	0.214	4.072			
		17	250	0.265	3.970			
		13.5	315	0.333	3.834			

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.

Westlake
Pipe & Fittings

PRODUCT SPECIFICATION

ASTM D2241/IB PVC PRESSURE PIPE

Gasketed Integral Bell

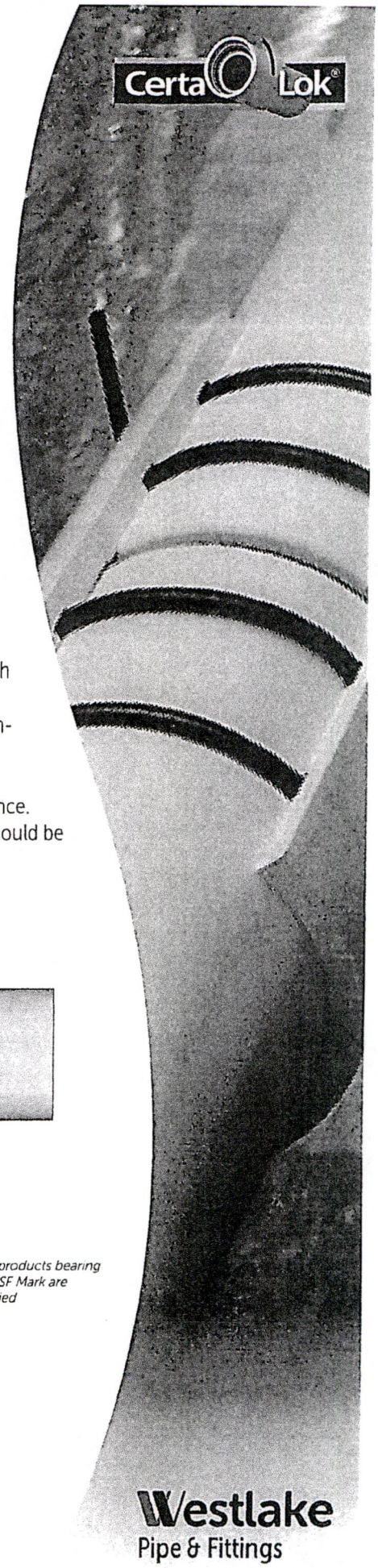
D2241/IB PIPE DIMENSIONS & PERFORMANCE								
Nom. Size	Outside Diameter (OD)	SDR	Pressure Rating (psi)	Min. Wall Thickness (T)	Internal Diameter (ID)	Approx. Bell Diameter (BD)	Bell Depth (C)	Insertion Mark (L)
6"	6.625	41	100	0.162	6.301	8.500	6.250	5.375
		32.5	125	0.204	6.217			
		26	160	0.255	6.115			
		21	200	0.316	5.993			
		17	250	0.390	5.845			
		13.5	315	0.491	5.643			
8"	8.625	41	100	0.210	8.205	10.625	7.250	6.375
		32.5	125	0.265	8.095			
		26	160	0.332	7.961			
		21	200	0.410	7.805			
		17	250	0.508	7.609			
10"	10.750	41	100	0.262	10.226	13.125	7.500	6.625
		32.5	125	0.331	10.088			
		26	160	0.413	9.924			
		21	200	0.511	9.728			
		17	250	0.632	9.486			
12"	12.750	41	100	0.311	12.128	15.550	8.250	7.375
		32.5	125	0.392	11.966			
		26	160	0.490	11.770			
		21	200	0.606	11.538			
		17	250	0.750	11.250			

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.

Westlake
Pipe & Fittings

Municipal



PRODUCT SPECIFICATION

D2241/RJ CERTA-LOK® YELOMINE® PVC PRESSURE PIPE | Restrained Joint

Our D2241/RJ Certa-Lok Yelomine PVC Pressure Pipe is manufactured to meet the demands of today's municipal needs for water and wastewater applications. Certa-lok pipe utilizes precision-machined grooves on the pipe and in both sides of the coupling which, when aligned, allow a spline to be inserted, resulting a fully circumferential restrained joint. Flexible elastomeric gaskets in the coupling provide a hydraulic seal.

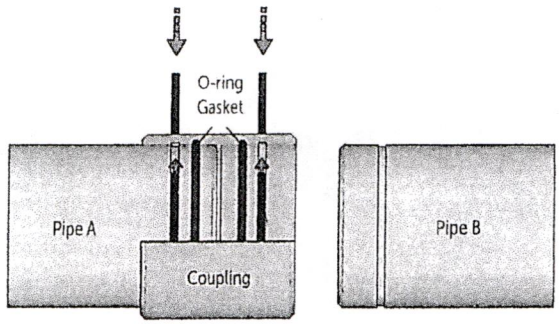
Trenchless & Restrained Joint Open-Cut Applications: This unique restrained joint pipe system is designed for trenchless applications with robust tensile strength for pulling multiple segments underground. This product reduces the jobsite footprint and minimizes community disruption with a reduced need for larger staging areas and traffic control.

Yelomine Formulation Enhancement for Aboveground and Temporary Bypass Applications: Yelomine products are manufactured from a specially formulated PVC compound that contains impact modifiers and UV inhibitors. This special formulation provides up to 6x the impact strength of normal PVC pipe over an extended period of time allowing for Yelomine products to be used aboveground and in high-impact situations like temporary bypass. Joints assembled with the non-permanent gasket option can be disassembled and reused for future jobs or system changes.

16" PR 200 psi couplings are manufactured from fibreglass and do not have enhanced UV resistance. For above ground installation, Yelomine products restrain the joints - the proposed installation should be analyzed for additional restraint requirements.

INSTALLATION METHODS

- Above Ground
- Temporary Bypass
- Static Pipe-bursting
- Horizontal Directional Drilling
- Open-cut



Applications	Potable Water	Wastewater	ReclaimedWater
Pipe Color:	Yellow	Green	Purple
Coupling Color:	Yellow	Yellow	Yellow
Certifications:*	NSF 61, NSF 14*	None	None

NSF *Only products bearing the NSF Mark are Certified*

** SDR 26, SDR 21, SDR 17 pipe with PVC couplings rated up to 250 psi rated only.*

Westlake Pipe & Fittings

www.westlakepipe.com

PRODUCT SPECIFICATION

D2241/RJ CERTA-LOK® YELOMINE® PVC PRESSURE PIPE | Restrained Joint

SHORT FORM SPECIFICATION	
Pipe Standard:	ASTM D2241
Diameter Std.:	Iron Pipe Size (IPS)
Nominal Sizes:	2", 3", 4", 6", 8", 10", 12", 14", 16"
Dimension Ratios & Pressure Ratings:	SDR 26 - 160 psi SDR 21 - 200 psi SDR 17 - 250 psi SDR 13.5 - 315 psi DR 12.43 - 350 psi
Standard Lay Length:	20'
Pipe Compound:	ASTM D1784 Cell Class 12454 with Yelomine Technology
Coupling Compound	ASTM D1784 Cell Class 12454 with Yelomine Technology
Pipe Joint Std.:	ASTM D3139
Max. Angular Joint Deflection:‡	0.5° per side of coupling 1° total per joint
Gasket Standard:	ASTM F477
Gasket Material Offering:	See Table
Installation Std.:	ASTM D2774

** See note about the proper gasket choice for your application.*

‡See Installation Guide for more information..

Westlake Pipe & Fittings

PRODUCT SPECIFICATION

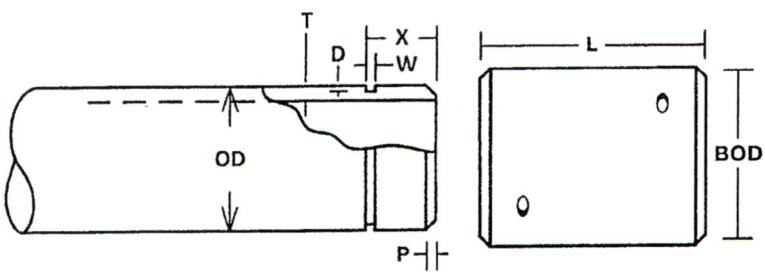
D2241/RJ CERTA-LOK® YELOMINE® PVC PRESSURE PIPE

Restrained Joint

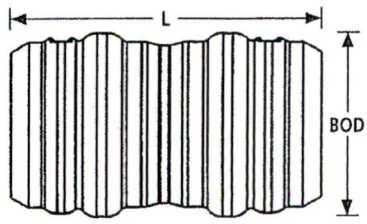
PERFORMANCE DATA					
Nom. Size	Pipe Class	Pressure Rating (psi)	Min. Bend Radius (ft)	Max. Pull Force (lbf)	Max. % Change per 20' Stick
2"	SDR 17	250	39.6	1,400	25.38
3"	SDR 17	250	58.3	3,800	17.15
4"	SDR 21	200	75.0	5,200	13.30
	SDR 17	250		5,200	
	SDR 13.5	315		Contact	
	DR 12.43	350		Contact	
6"	SDR 26	160	110	6,200	9.10
	SDR 21	200		6,900	
	SDR 17	250		7,100	
	SDR 13.5	315		Contact	
	DR 12.43	350		Contact	
8"	SDR 26	160	144	10,900	7.00
	SDR 21	200		13,000	
	SDR 17	250		13,000	
	SDR 13.5	315		Contact	
	DR 12.43	350		Contact	
10"	SDR 26	160	179	17,700	5.60
	SDR 21	200		20,000	
12"	SDR 26	160	213	20,600	4.73
	SDR 21	200		23,300	
14"	SDR 26	160	233	21,400	4.38
16"	SDR 26	90**	267	20,000**	3.68
		160†		62,000†	
	SDR 21	200†		62,000†	

*** = Rating limited by PVC coupling*

† = Full rating achieved with fiberglass coupling



2"-4" Molded Couplings



www.westlakepipe.com

Westlake
Pipe & Fittings

PRODUCT SPECIFICATION

D2241/RJ CERTA-LOK® YELOMINE® PVC PRESSURE PIPE

Restrained Joint

D2241/RJ CERTA-LOK YELOMINE PIPE & COUPLING DIMENSIONS

Nom. Size	Outside Diameter (OD)	DR	Pipe							Coupling		
			Min. Wall Thickness (T)	Internal Diameter (ID)	X	W	D	P	Weight (lb/ft)	BOD	L	Weight (lb/ft)
2"	2.375	SDR 17#	0.140	2.095	1.750	0.250	0.098	0.182	0.65	3.300	5.485	0.8
3"	3.500	SDR 17#	0.206	3.088	2.500	0.375	0.135	0.182	1.4	4.435	7.200	1.5
4"	4.500	SDR 21#	0.214	4.072	3.000	0.375	0.135	0.182	1.9	5.470	8.250	3.2
		SDR 17	0.265	3.970					2.3			
		SDR 13.5#	0.333	3.834					2.9	5.964	8.250	5.1
		DR 12.43	0.362	3.776					3.0			
6"	6.625	SDR 26	0.255	6.115	3.000	0.375	0.135	0.302	3.3	7.840	8.250	5.7
		SDR 21	0.316	5.993					4.1			
		SDR 17	0.390	5.845					5.0			
		SDR 13.5#	0.491	5.643					6.2	8.366	8.250	8.6
		DR 12.43	0.533	5.559	3.000	0.500	0.135	0.302	6.6	9.050	8.250	12.5
8"	8.625	SDR 26	0.332	7.961	3.163	0.500	0.145	0.631	5.6	10.190	10.125	11.8
		SDR 21	0.410	7.805					6.9			
		SDR 17	0.508	7.609					8.4			
		SDR 13.5#	0.639	7.347					10.6	10.947	10.125	18.3
		DR 12.43	0.694	7.237	3.288	0.750	0.180	0.631	11.2	10.947	10.125	18.4
10"	10.750	SDR 26	0.413	9.924	3.500	0.500	0.215	0.631	8.7	12.438	12.125	18.9
		SDR 21	0.511	9.728					10.7			
12"	12.750	SDR 26	0.490	11.770	3.625	0.750	0.215	0.631	12.3	14.648	12.125	25.3
		SDR 21	0.606	11.538					15.0			
14"	14.000	SDR 26	0.538	12.924	3.500	0.500	0.215	0.631	14.8	16.000	12.125	29.1
16"	16.000	SDR 26	0.615	14.770	3.610	0.750	0.215	0.631	19.3	*PVC Coupling*		
										17.400	12.125	22.8
		SDR 21	0.762	14.476					23.7	*Fiberglass Coupling*		
										17.224	12.000	31.5

= Pipe spigot has thickened wall to provide additional joint strength. Ask us for assistance with mandrel sizing if needed.

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. Coupling class chosen must meet or exceed pressure rating of pipe alone.
4. Maximum Pull Force includes 2:1 safety factor.
5. Internal diameter calculated using nominal outside diameter and minimum wall thickness.
6. 2"-4" DR17 couplings are molded.

www.westlakepipe.com

Westlake Pipe & Fittings

PRODUCT SPECIFICATION

D2241/RJ CERTA-LOK® YELOMINE® PVC PRESSURE PIPE

Restrained Joint

D2241/RJ CERTA-LOK YELOMINE ACCESSORIES

Application*	Nom. Size	Couplings			Splines				Gaskets			
		Material	Max. Pressure (psi)	Part Number**	Material	Size	Length	Part Number	Material	Shape	Size	Part Number
Permanent Standard	2"	PVC	250	82157715020	Nylon	0.188 Dia.	10.5	S0210RN0	NBR	Round	0.240	OR020YMPI
	3"	PVC	250	82157715037	Nylon	0.250 Dia.	16	S0316RN0	NBR	Round	0.240	OR030YMPI
	4"	PVC	250	82157715044	Nylon	0.250 Dia.	18	S4518RN0	NBR	Round	0.240	OR040YMPI
			350	82157745232	Nylon	0.250x0.250	18	S0418SN0				
	6"	PVC	250	82157715068	Nylon	0.250 Dia.	24	S0624RN0	NBR	Round	0.313	OR060YMPI
			315	82157745249	Nylon	0.250x0.250	24	S0624SN0				
			350	Contact	Contact Customer Service				Contact Customer Service			
	8"	PVC	250	82157715075	Nylon	0.313x0.313	32	S0832SN1 S0832SN1	NBR	Round	0.400	OR080YMPI
			315	82157745256								
			350	Contact	Contact Customer Service				Contact Customer Service			
	10"	PVC	200	82157715105	Nylon	0.375x0.375	39	S1039SN0	IR/SBR	Round	0.438	OR100YMPI
	12"	PVC	200	82157716652	Nylon	0.375x0.625	46	S1246TN0	IR/SBR	Round	0.438	OR120YMPI
	14"	PVC	160	82157745218	Nylon	0.375x0.375	48	S1448SN0	IR/SBR	Round	0.438	OR140YMPI
	16"	PVC	90	82157745225	Nylon	0.375x0.625	60	S1656TN0	IR/SBR	Round	0.438	OR160YMPI
		Fiberglass Composite	200	82157745409								
Non-Permanent Standard	2"	PVC	250	82157705021	Nylon	0.188 Dia.	10.5	S0210RN0	NBR	Round	0.210	OR020YMNN
	3"	PVC	250	82157705038	Nylon	0.250 Dia.	16	S0316RN0	NBR	Round	0.210	OR030YMNN
	4"	PVC	250	82157705045	Nylon	0.250 Dia.	18	S4518RN0	NBR	Round	0.210	OR040YMNN
			350	82157745034	Nylon	0.250x0.250	18	S0418SN0				
	6"	PVC	250	82157705069	Nylon	0.250 Dia.	24	S0624RN0	NBR	Round	0.275	OR060YMNN
			315	82157745041	Nylon	0.250x0.250	24	S0624SN0	NBR	Round	0.275	OR060YMNN
			350	82157745096	Nylon	0.250x0.375	32	S0832SN1	NBR	Round	0.275	OR060YMNN
	8"	PVC	250	82157705076	Nylon	0.313x0.313	32	S0832SN1	NBR	Round	0.375	OR080YMNI
			315	82157745058								
			350	82157745102	Nylon	0.375x0.625	32	S0832TN2				
	10"	PVC	200	82157705106	Nylon	0.375x0.375	39	S1039SN0	IR/SBR	Round	0.407	OR100YMNI
	12"	PVC	200	82157716669	Nylon	0.375x0.625	46	S1246TN0	IR/SBR	Round	0.407	OR120YMNI
	14"	PVC	160	82157745218	Nylon	0.375x0.375	48	S1448SN0	IR/SBR	Round	0.407	OR140YMNI
	16"	PVC	90	82157745027	Nylon	0.375x0.625	60	S1656TN0	IR/SBR	Round	0.407	OR160YMNI
		Fiberglass Composite	200	82157745416								

Westlake Pipe & Fittings

Municipal

PRODUCT SPECIFICATION

D2241/RJ CERTA-LOK® YELOMINE® PVC PRESSURE PIPE

Restrained Joint

** Non-permanent gaskets are typically used in temporary bypass applications that require disassembly and reuse of the joint. They should never be specified for permanent, buried, or submerged applications.*

Permanent gaskets are slightly larger and make diassembly of the joint more difficult. They are intended for all installations that do not require disassembly during the system's service life including buried installation, river and road crossings, and all installations that would expose joints to long-term or excessive misalignment due to external loads.

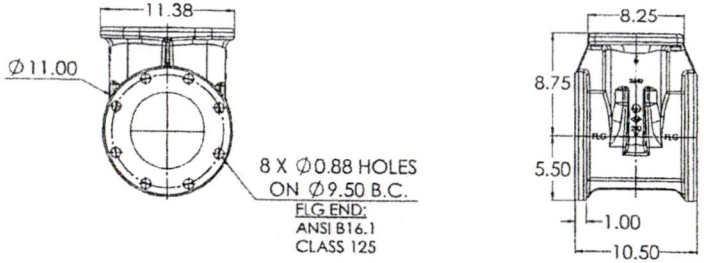
If in doubt as to which gasket should be chosen, consult your Sales Representative or Technical Services Group.

*** = Includes coupling, 2 gaskets, and 2 splines*

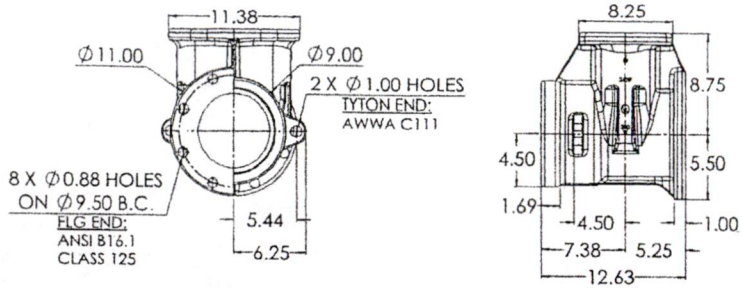
Some or all of these products are protected by patents. Visit www.westlakepipe.com/patents for more information.

Westlake Pipe & Fittings

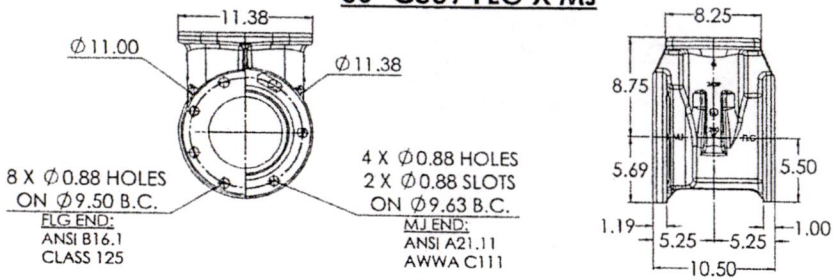
06" C509 FLG X FLG



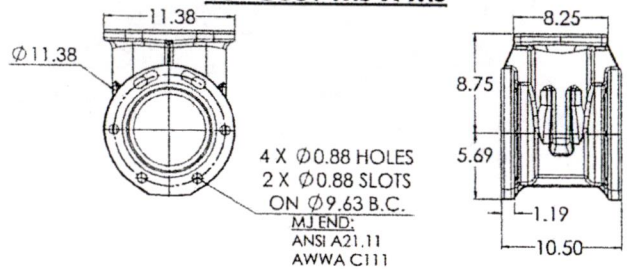
06" C509 FLG X TYTON



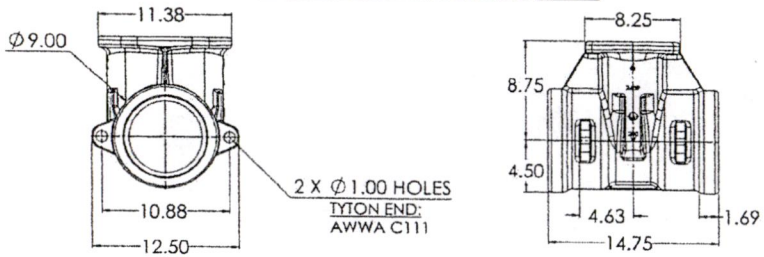
06" C509 FLG X MJ



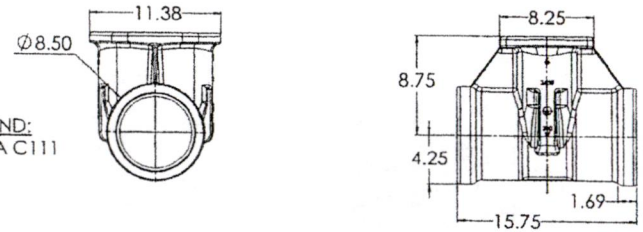
06" C509 MJ X MJ

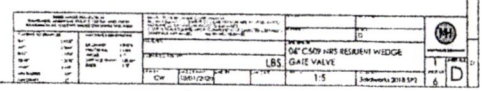


06" C509 TYTON X TYTON

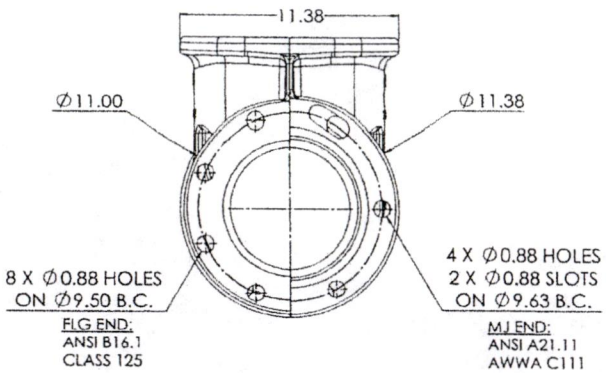


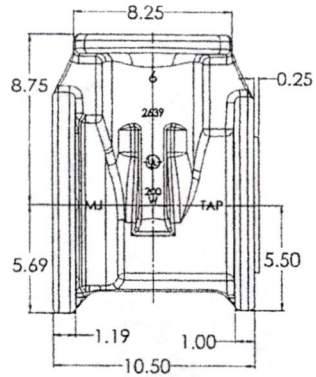
06" C509 PVC X PVC





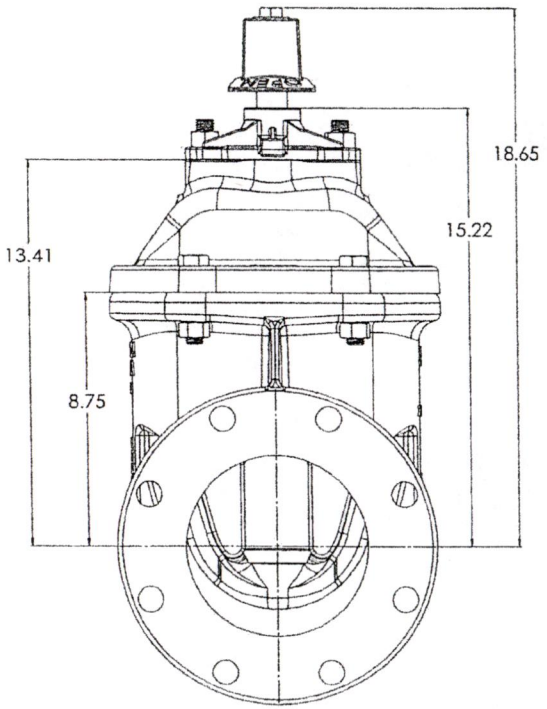
06" C509 MJ X TAP



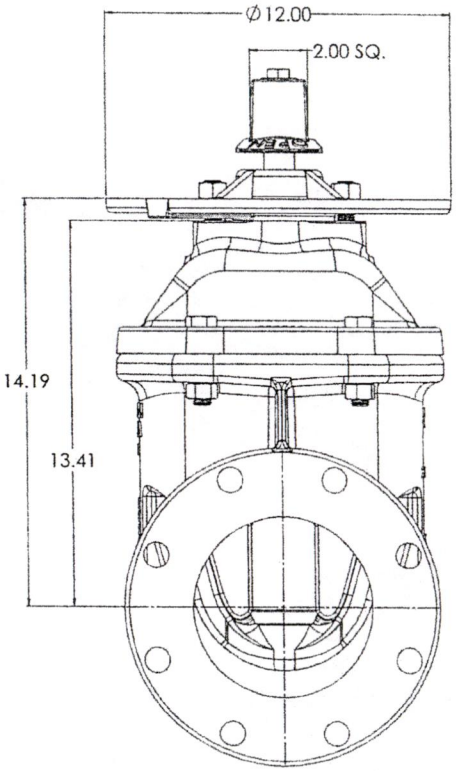


				D	
			LBS	06" C509 NRS RESILIENT WEDGE GATE VALVE	
		CW	10/01/2021	1:5	2 of 6 D

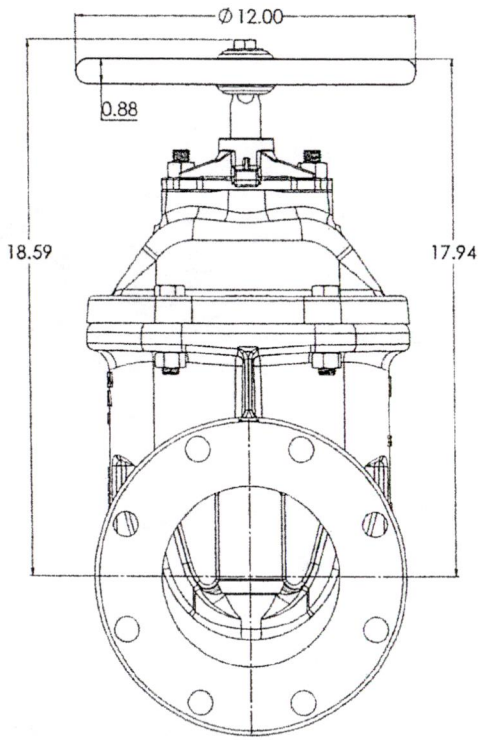
OPERATING NUT WITH O-RING PLATE

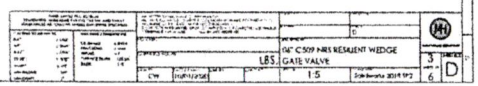


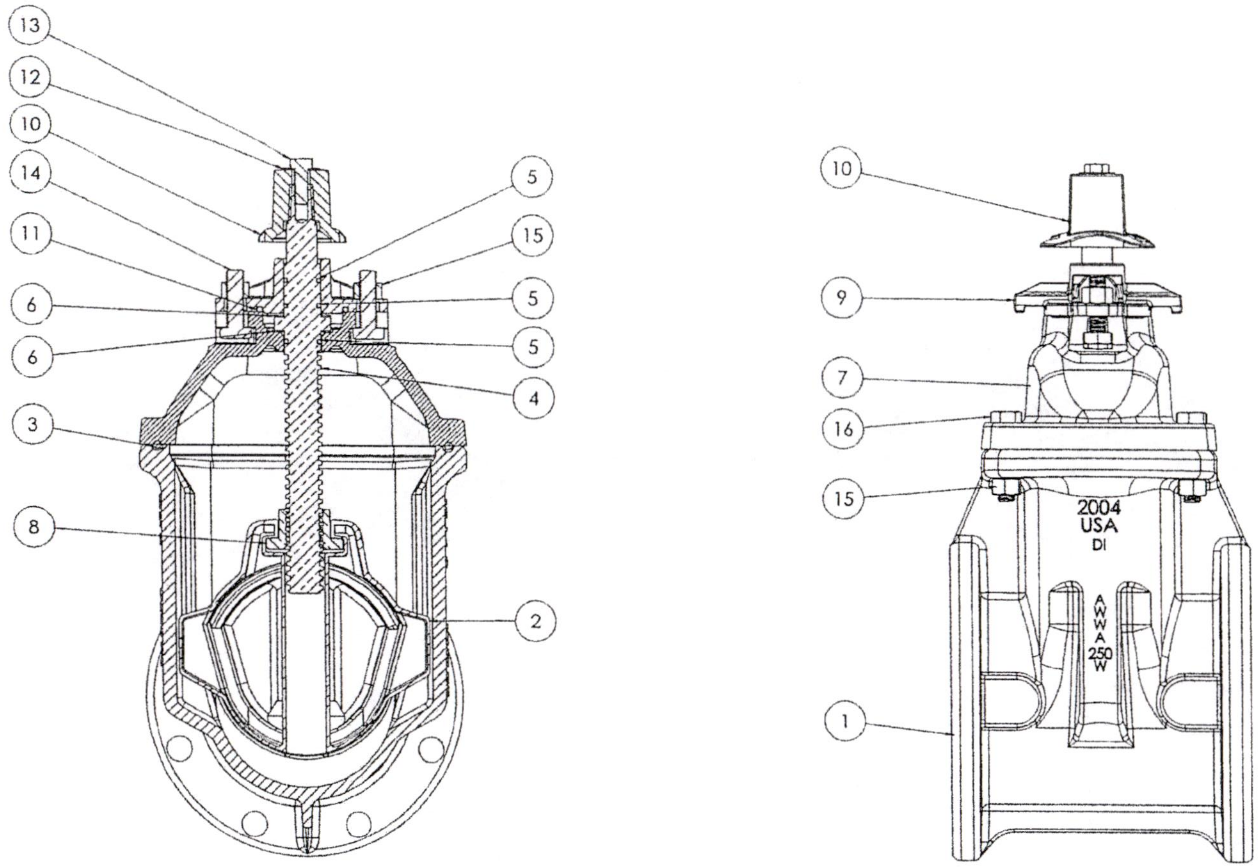
OPERATING NUT WITH INDICATOR POST PLATE



HANDWHEEL WITH O-RING PLATE





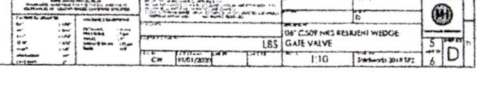


LBS.	06" C509 NRS RESILIENT WEDGE GATE VALVE	4	D
	1:10	6	

ITEM NO.	COMPONENT	QTY.	SIZE	STANDARD MATERIAL	OPTIONAL MATERIALS
1	BODY	1	-	DUCTILE IRON	-
2	WEDGE	1	-	EPDM/DUCTILE IRON	-
3	O-RING	1	#445	EPDM	BUNA-N
4	STEM	1	-	C86700	C99500 (LOW ZINC), 304 SS, 316 SS
5	O-RING	3	#214	EPDM	BUNA-N
6	THRUST WASHER	2	-	ACETAL	C26000
7	COVER	1	-	DUCTILE IRON	-
8	STEM NUT	1	-	C87850	C87610 (LOW ZINC)
9	O-RING PLATE	1	-	DUCTILE IRON	-
10	OPERATING NUT	1	-	DUCTILE IRON	C86700, ** Ø 12" HANDWHEEL**
11	O-RING	1	#335	EPDM	BUNA-N
12	WASHER	1	1/2"	18-8 SS	316 SS
13	HEX HEAD CAP SCREW	1	1/2"-13 X 1 1/4"	18-8 SS	316 SS
14	HEX HEAD CAP SCREW	2	5/8"-11 X 2"	18-8 SS	316 SS
15	HEX NUT	6	5/8"-11	18-8 SS	316 SS
16	HEX HEAD CAP SCREW	4	5/8"-11 X 2 3/4"	18-8	316 SS

VALVES CONFORM WITH THE FOLLOWING STANDARDS
- AWWA C509
- NSF 61

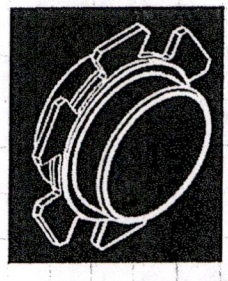
- LOW ZINC BRASS STEM AND STEM NUT AVAILABLE
- 100% DOMESTIC FASTENERS AND ORINGS OPTIONS AVAILABLE
- *OPEN LEFT* (COUNTERCLOCKWISE) AND *OPEN RIGHT* (CLOCKWISE) OPTIONS AVAILABLE
- TURNS TO OPEN FROM FULLY CLOSED: 20
- AWWA MAXIMUM ALLOWABLE CLOSING TORQUE 110 FT-LBS
- OPTIONAL HANDWHEEL CAN BE SUBSTITUTED FOR STANDARD 2" SQUARE OP. NUTS.
  - **NOTE: STANDARD HANDWHEEL SIZE LISTED OUT IN PARTS LIST.**
- MAXIMUM PRESSURE RATING 250 PSI



INFACT

MADE IN U.S.A.

INFACT CORPORATION
WATERWORKS PRODUCTS



FOSTER ADAPTOR
SPECIFICATIONS

WATERWORKS
PRODUCTS

TOLL FREE: 888-773-9130

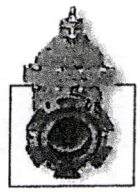
email: info@infactcorp.com
www.infactcorp.com

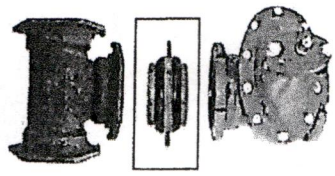
ENGINEERING DATA / PRODUCT OVERVIEW

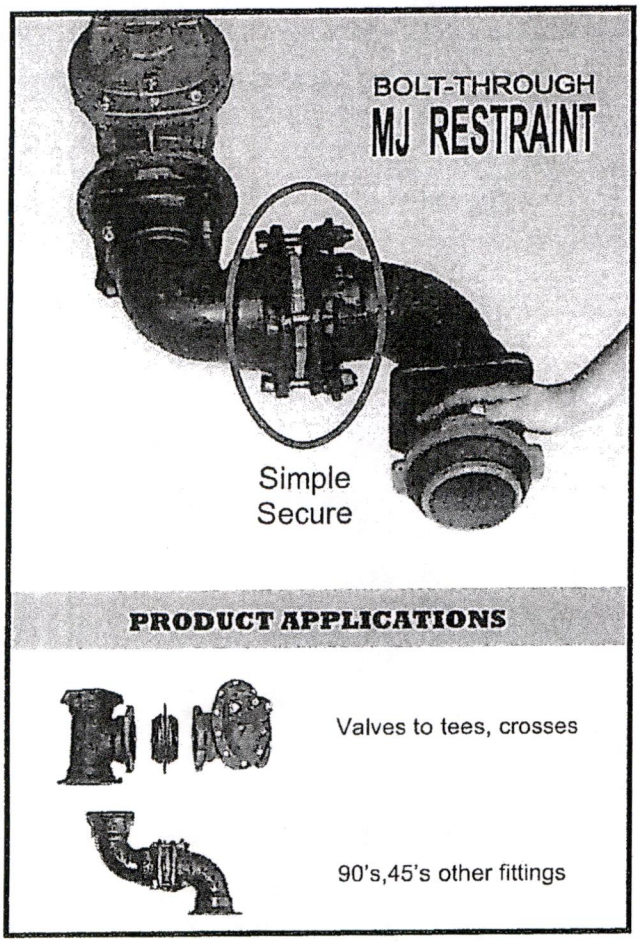
FOSTER ADAPTOR

BOLT-THRU MECHANICAL JOINT RESTRAINT

RESTRAIN MJ VALVES AND FITTINGS TO EACH OTHER



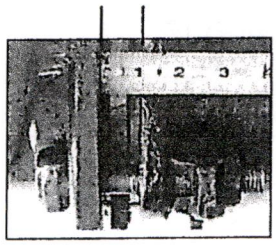




PRODUCT APPLICATIONS

Valves to tees, crosses

90's,45's other fittings



APPROXIMATE DRAW-UP LENGTHS

3 to 12-in	1-inch
14 to 24-in	2-inches
30 to 36-in	3-inches

PRODUCT BENEFITS

1. No pipe to saw
2. Space saving and light-weight
3. No possibility of pipe damage since no pipe connection is used
4. Secure bolt-through design makes for labor-saving, easy and fast installation
5. Made in U.S.A., ductile iron
   3 to 24-inch: 350psi rating
   30 to 36-inch: 250psi rating
6. Up to four times fewer bolts to tighten
7. Comes complete with all accessories
8. Close-coupled connections allow you to pre-assemble valves and fittings, then transport to the job site
9. Less chance for leakage. Two MJ's are connected using one accessory kit rather than the standard two
10. Available in standard asphalt or epoxy coating. Sizes 14 to 36-inch ship standard with epoxy coating

COATINGS	Asphalt or Epoxy on sizes 3 to 12-inch; 14-inch and above, epoxy is standard. Protecto 401 epoxy is available for sewer applications.
ACCESSORY PAKS	Corten included, Teflon® blue and stainless optional Special Long-bolt Accessory Paks available for C110 full-body fittings and certain butterfly valves with thicker bolt flanges.

IN FACT

SALES: (888) 773-9130
FAX: (615) 206-9787
EMAIL: info@infactcorp.com

MADE IN U.S.A.

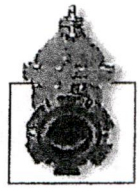
www.infactcorp.com

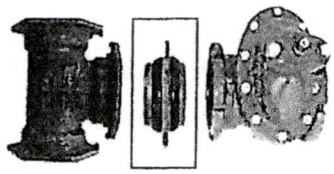
ENGINEERING DATA / PRODUCT CHECKLIST

FOSTER ADAPTOR

BOLT-THRU MECHANICAL JOINT RESTRAINT

RESTRAIN MJ VALVES AND FITTINGS TO EACH OTHER





SIZES	3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36
TYPICAL USES	Restrains valves to tees and valves to crosses Restrains reducers and other fittings to tees or crosses Restrains 90's and other fittings to each other
ADVANTAGES (Product)	✔ Tough, BOLT-THROUGH Restraint ✔ Takes the place of <u>two</u> bolt-on lug type products ✔ No pipe to saw and no lug bolts to tighten ✔ Ultra-compact; saves critical space; 1 to 2-inch draw-up length ✔ Quicker to install than to saw pipe and tighten up to 4 times more bolts ✔ One accessory kit to install (included in price) ✔ Integral casting, no welds ✔ 14, 16, 18, 20, 24, 30, 36-in epoxy coated — standard
ADVANTAGES (Manufacturer) INFACT PRODUCTS ARE AVAILABLE FROM YOUR LOCAL WATERWORKS DISTRIBUTOR	✔ Products made in U. S. A. and Infact is an American-owned company ✔ BIG inventory; Quick shipping; No extra charge to drop ship ✔ No minimum order
HYDRANT AND OTHER CONNECTIONS	1) When using 3-inch to 14-inch Fosters on both the "branch" and "run" of compact tees or crosses, the standard accessory bolts may obstruct each other. Substitution of shorter bolts should solve this. Conduct a trial connection prior to field assembly. Special short-bolt accessory paks are available. Contact Infact for more info. 2) Because of the large variety of hydrant designs, we strongly recommend that you conduct a trial connection prior to field assembly. Foster Adaptors can be assembled on many hydrant shoes that have adequate space for bolt clearance, including M&H Model 129, Mueller Centurion and Clow Medallion. Contact Infact for more info.
OPTIONS	1) NSF 61, 7-mil fusion bonded epoxy conforming to AWWA C116/A21.16-09 as well as the coating, surface preparation and application requirements of ANSI/ AWWA C550. 2) 40-mil Protecto 401 epoxy coating for Foster Adaptor sewer applications. Contact Infact for specs and availability. 3) *Long-bolt Paks,* to restrain C110 full-bodied fittings, certain valves, etc. with thicker bolt flanges.

IN FACT

SALES: (888) 773-9130
FAX: (615) 206-9787
EMAIL: info@infactcorp.com

MADE IN U.S.A.

www.infactcorp.com

ENDOT INDUSTRIES

PIPE AND TUBING

EndoPure

The Standard in Polyethylene Pipe and Tubing

EndoPure is a unique premium pipe and tubing; below are a few of the key points that distinguish ***EndoPure*** from other HDPE products:

- ***EndoPure*** is color coded blue to meet the international standard for water pipe and tubing. ***EndoPure*** will always provide a visual identification in the crowded underground.
- ***EndoPure*** has a clear core of virgin natural HDPE providing visible proof of quality and the assurance that no regrind materials have been used to produce ***EndoPure.***
- ***EndoPure*** is produced from PE 4710 High Performance HDPE resin with a track record of quality and performance and a 25% higher pressure rating than PE 3608 resin.
- ***EndoPure*** when accidentally gouged or cut will show the clear core, a visual indication that significant damage has occurred, something that is hard to spot on solid colored pipe.
- ***EndoPure*** is entirely compatible with current fitting and connectors made for HDPE water pipe and tubing.
- ***EndoPure*** has continuous consecutive footage marks every two feet to assist in installation.
- ***EndoPure*** is UV stabilized for protection from sunlight deterioration. When installed as underground water service tubing the life expectancy is up to 100 years.
- ***EndoPure*** printing is permanently embossed.
- ***EndoPure*** is NSF Certified to NSF-14 & 61 and meets AWWA C901-08 standards.
- ***EndoPure*** is backed by the strongest warranty in the industry. Endot is so confident that ***EndoPure*** is the best, most durable pipe and tubing available, we provide a warranty with no time limit and a labor reimbursement 3 times that of other plastic pipe and tubing.

CORPORATE HEADQUARTERS
60 Green Pond Road
Rockaway, NJ 07866
800-443-6368 • FAX 973-625-4087

ENDOT INDUSTRIES, INC.
www.endot.com • e-mail: info@endot.com

PLANT LOCATIONS
Greeneville, TN
Pryor Creek, OK

TYLER UNION®
Quality Waterworks Products

23U - ANSI/AWWA C153/A21.53
Mechanical Joint Compact
Ductile Iron Fittings
Revised 4/2018

☐ DOMESTIC ☐ NON-DOMESTIC

SUBMITTAL: C153 MECHANICAL JOINT PRODUCT

(Current revisions for the noted Standards apply)

SIZES: 2" - 64" (2" not included in ANSI/AWWA C153 standard)

STANDARDS: ANSI/AWWA C153/A21.53, NFPA13/24, 3"-16" UL and 3"-10" FM listed & approved (File - Tyler Union)

MATERIAL: Cast of ASTM A536 qualified ductile iron. Date code is cast on and required for traceability.

PRESSURE RATING: *Flanged fittings rated at 250 psi. Mechanical joints 2" – 24" rated at 350 psi and 30" – 48" at 250 psi.
*Note: With rubber annular ring flange gasket, 2" – 24" Flanged fittings can be rated at 350 psi.
Note: Wyes over 12" are not pressure rated. Contact Tyler Union for rating in your application.

DEFLECTION: Joint deflection 5° max for 2"– 12" and 3° max for 14"– 48". Reduces by 50% at nominal pipe & fitting diameters

NSF-61 & NSF372: Meets all requirements including Annex G, Tyler Union's Underwriters Laboratory listing MH16439.

ASPHALT COATING: Per ANSI/AWWA C104/A21.4 and ANSI/AWWA C153/A21.53.

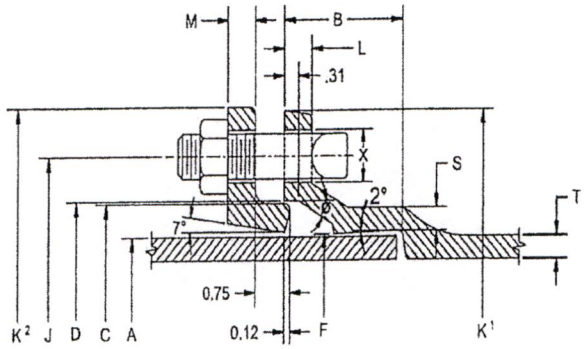
CEMENT LINING: Per ANSI/AWWA C104/A21.4, with double cement lining available upon request.

EPOXY COATING: Fusion bonded epoxy per ANSI/AWWA C116/A21.16. Additional coatings available upon request.

BARE FITTINGS: Available upon request.

FASTNERS: High strength low alloy weathering steel per ANSI/AWWA C111/A21.11 and ASTM A242

INSTALLATION: Install per AWWA C600/C651 using pipe conforming to ANSI/AWWA C151/A21.51 or AWWA C900/905.



NOMINAL JOINT DIMENSIONS IN INCHES — **BOLTS**

Size Inches	A Dia. DI Pipe	B Hub Depth	C Dia. GLAND	D Dia.	F Dia.	J Dia. GLAND	K¹ Dia.	K² Dia. GLAND	L	M GLAND	S	T	X	Size	Qty.
2	2.51	2.50	3.50	3.60	2.61	4.75	6.19	6.89	0.58	0.62	0.36	0.30	3/4	5/8x3	2
3	3.96	2.50	4.84	4.94	4.06	6.19	7.62	7.69	0.58	0.62	0.39	0.33	3/4	5/8x3	4
4	4.80	2.50	5.92	6.02	4.90	7.50	9.06	9.12	0.60	0.75	0.39	0.34	7/8	3/4x3-1/2	4
6	6.90	2.50	8.02	8.12	7.00	9.50	11.06	11.12	0.63	0.88	0.43	0.36	7/8	3/4x3-1/2	6
8	9.05	2.50	10.17	10.27	9.15	11.75	13.31	13.37	0.66	1.00	0.45	0.38	7/8	3/4x4	6
10	11.10	2.50	12.22	12.34	11.20	14.00	15.62	15.62	0.70	1.00	0.47	0.40	7/8	3/4x4	8
12	13.20	2.50	14.32	14.44	13.30	16.25	17.88	17.88	0.73	1.00	0.49	0.42	7/8	3/4x4	8
14	15.30	3.50	16.40	16.54	15.44	18.75	20.31	20.25	0.79	1.25	0.55	0.47	7/8	3/4x4-1/2	10
16	17.40	3.50	18.50	18.64	17.54	21.00	22.56	22.50	0.85	1.31	0.58	0.50	7/8	3/4x4-1/2	12
18	19.50	3.50	20.60	20.74	19.64	23.25	24.83	24.75	1.00	1.38	0.68	0.54	7/8	3/4x4-1/2	12
20	21.60	3.50	22.70	22.84	21.74	25.50	27.08	27.00	1.02	1.44	0.69	0.57	7/8	3/4x4-1/2	14
24	25.80	3.50	26.90	27.04	25.94	30.00	31.58	31.50	1.02	1.56	0.75	0.61	7/8	3/4x5	16
30	32.00	4.50	33.29	33.46	32.17	36.88	39.12	39.12	1.31	2.00	0.82	0.66	1-1/8	1x6	20
36	38.30	4.50	39.59	39.76	38.47	43.75	46.00	46.00	1.45	2.00	1.00	0.74	1-1/8	1x6	24
42	44.50	4.50	45.79	45.96	44.67	50.62	53.12	53.12	1.45	2.00	1.25	0.82	1-3/8	1-1/4x6-1/2	28
48	50.80	4.50	52.09	52.26	50.97	57.50	60.00	60.00	1.45	2.00	1.35	0.90	1-3/8	1-1/4x6-1/2	32
54	Available on Request														
60	Available on Request														
64	Available on Request														

Tyler Union Waterworks – Call Center Information
Anniston: (800) 226-7601
Corona: (866) 527-8471
Tyler: (800) 527-8478

TYLER UNION®
Quality Waterworks Products

30U – Non- Domestic
Standard Duty Valve and Service Boxes and Components
Revised 11/2016

SUBMITTAL:

(Current revisions for the noted Standards apply)

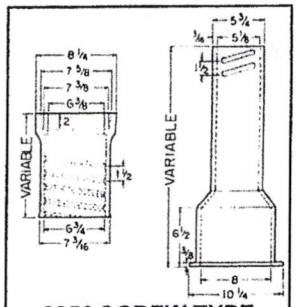
SIZES: Adjustable Slip and Screw type with standard assembly lengths ranging from 19" to 72" (Lengths noted do not include the addition of risers, extensions, and/or bases). See the catalog or List Price guide for accessories, lids, bases, risers, meter covers, etc.

STANDARDS: Produced with Class 35 cast iron in accordance with and meeting all applicable terms and provisions of ASTM A48. All Tyler Union valve boxes when properly installed are suitable for use in conjunction with projects utilizing American Association of State Highway and Transportation Officials (AASHTO) standards and provisions.

INSTALLATION: Per AWWA M44, Manual of Water Supply Practices

COATING: The asphaltic bituminous coating is applied to a minimum thickness of 1.5 mil and the coating once dry is neither brittle when cold or sticky when exposed to the sun

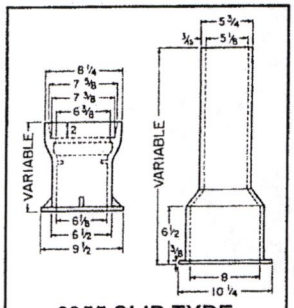
For 4" - 12" Valves
5-1/4" Shaft, Screw Type



6850 SCREW TYPE VALVE BOX
Cast Iron - 2 piece

Components	Extension Height
10T + 15B	19-22
10T + 24B	27-32
16T + 24B	27-37
16T + 30B	33-43
16T + 36B	39-50
26T + 30B	36-52
26T + 36B	39-60
26T + 24B + #60 Ext	53-71
26T + 36B + #60 Ext	64-82

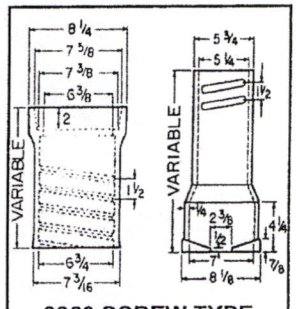
For 4" - 12" Valves
5-1/4" Shaft, Slip Type



6855 SLIP TYPE VALVE BOX
Cast Iron - 2 piece

Components	Extension Height
10T + 15B	19-22
10T + 24B	27-32
16T + 24B	27-37
16T + 30B	33-43
16T + 36B	39-50
26T + 30B	36-52
26T + 36B	39-60
26T + 24B + #60 Ext	53-71
26T + 36B + #60 Ext	64-82

For 3" - 20" Valves
5-1/4" Shaft, Screw Type



6860 SCREW TYPE VALVE BOX
Cast Iron - 3 piece

Components	Extension Height
10T + 12B	27-37
10T + 18B	33-42
16T + 24B	39-49
16T + 30B	45-54
16T + 36B	51-60
26T + 30B	45-66
26T + 36B	51-72
16T + 24B + #60 Ext	63-72
26T + 24B + #60 Ext	63-84
26T + 36B + #60 Ext	74-94

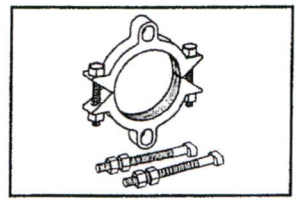
NOTE: Base Required, Order Separately

T = Top B = Bottom Ext = Extension

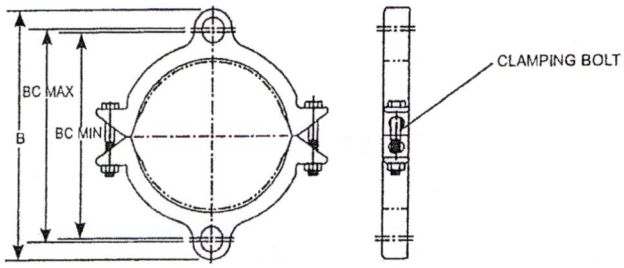
Tyler Union Waterworks – Call Center Information
Anniston: (800) 226-7601
Corona: (866) 527-8471
Tyler: (800) 527-8478

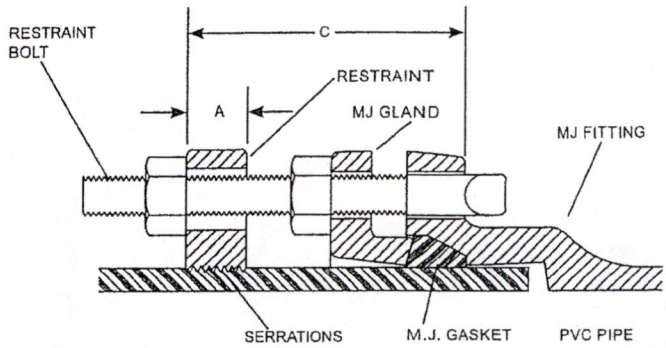
SUBMITTAL INFORMATION

Uni-Flange® Restraint - (*UFR1300-S-x-U style*)



SERIES 1300-S 4" - 12" RESTRAINT FOR PVC PIPE OR HDPE PIPE AND MECHANICAL JOINT / PUSH-ON FITTINGS





Nom. Pipe Size	OD (In.)	Catalog Number	A	B Approx.	C Max	Restraining Bolts / Rods		Clamping Bolts		BC Min	BC Max	Approx. Weight Lbs.	✓ Submitted Items
						No.	Size	No.	Size				
4"	4.50	UFR1300-S-4-U	1-1/8"	9-1/8"	6"	2	3/4" x 7"	2	5/8" x 3-1/2"	7.13"	7.50"	8.5	
6"	6.63	UFR1300-S-6-U	1-1/8"	11-1/8"	6"	2	3/4" x 7"	2	5/8" x 3-1/2"	9.13"	9.50"	10.0	
8"	8.63	UFR1300-S-8-U	1-1/4"	14-7/16"	6"	2	3/4" x 7"	2	3/4" x 4"	11.75"	12.75"	15.5	
10"	10.75	UFR1300-S-10-U	1-3/8"	16-5/8"	6"	4	3/4" x 7"	2	7/8" x 5"	13.50"	15.00"	26.5	
12"	12.75	UFR1300-S-12-U	1-3/8"	19-1/4"	6"	4	3/4" x 7"	2	7/8" x 5"	15.63"	17.63"	28.5	

FEATURES

- Cast ductile iron per ASTM A536 grade 65-45-12
- Black e-coat epoxy coating (NSF 61 approved) with gray painted top coat for identification
- 360° contact and support of the pipe wall
- Ideal companion for push-on fittings with restraining ears
- T-Bolts (included) - High strength, low alloy steel ANSI / AWWA C111 / A21.11
- Side clamping bolts and nuts - Grade 5, zinc-plated
- Rated at full-rated pressure of any class of PVC pipe or HDPE; minimum 2:1 safety factor

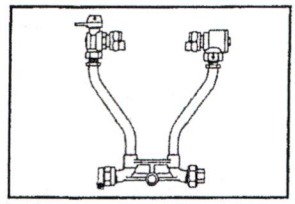
The Ford Meter Box Company, Inc.
P.O. Box 443, Wabash, Indiana U.S.A. 46992-0443
Phone: 260-563-3171 / Fax: 800-826-3487
Overseas Fax: 260-563-0167
www.fordmeterbox.com

07/28/20

Submitted By:

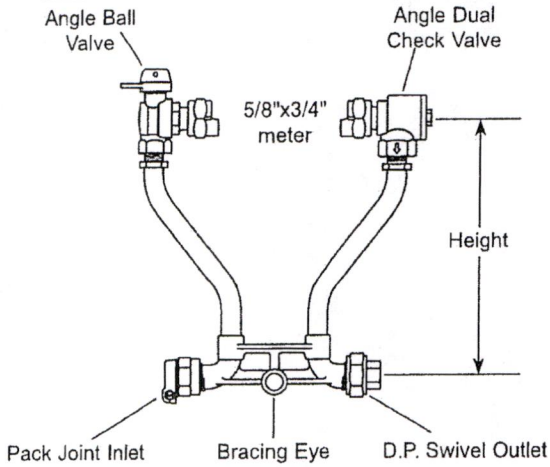
SUBMITTAL INFORMATION

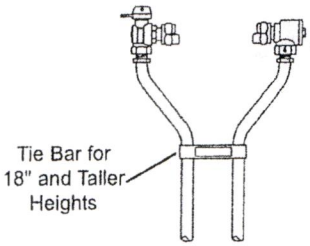
70 Series Coppersetter - *(VBHH72-xxW-41-xx-NL style)*



ANGLE BALL VALVE BY ANGLE DUAL CHECK VALVE (5/8" X 3/4" METER)

PACK JOINT FOR COPPER OR PLASTIC TUBING (CTS) INLET BY DOUBLE PURPOSE UNION SWIVEL OUTLET





Coppersetter Part Number

Height (Inches)	Approx. Wt. Lbs.	Catalog Number (Insert Service Line Conn. Size)	√ Submitted Item(s)
7	6.0	VBHH72-7W-41-xx-NL	
9	6.2	VBHH72-9W-41-xx-NL	
12	6.4	VBHH72-12W-41-xx-NL	
15	6.6	VBHH72-15W-41-xx-NL	
18	7.3	VBHH72-18W-41-xx-NL	
21	7.5	VBHH72-21W-41-xx-NL	
24	7.8	VBHH72-24W-41-xx-NL	
27	8.0	VBHH72-27W-41-xx-NL	
30	8.3	VBHH72-30W-41-xx-NL	
33	8.6	VBHH72-33W-41-xx-NL	
36	8.8	VBHH72-36W-41-xx-NL	
39	9.1	VBHH72-39W-41-xx-NL	
42	9.4	VBHH72-42W-41-xx-NL	

Service Line Size

Inlet	Outlet	Service Line Conn. Size	√ Submitted Item(s)
3/4" (CTS) P.J.	3/4" D.P. Swivel	33	
1" (CTS) P.J.	3/4" D.P. Swivel	43	

Note: Ford recommends insert stiffeners when using plastic pipe or tubing

FEATURES

- All brass that comes in contact with potable water conforms to AWWA Standard C800 (UNS NO C89833)
- The product has the letters "NL" cast into the main body for proper identification
- Brass components that do not come in contact with potable water conform to AWWA Standard C800 (ASTM B-62 and ASTM B-584, UNS NO C83600 - 85-5-5-5)
- Saddle Nuts hold the meter in place for tightening
- Bracing Eye is standard on all 70 Series Coppersetters
- Tie Bar is standard for 18" and taller Coppersetter heights (72 Series)
- Double Purpose Union Swivels will accommodate male iron pipe threads or flare copper
- 13/16" Copper Risers provide more flow capacity
- All Ford Setters are assembled with lead-free solder
- Copper conforms to ASTM B-75, Copper Alloy #122
- ASSE 1024 approved Dual Check Valve

The Ford Meter Box Company, Inc.
P.O. Box 443, Wabash, Indiana U.S.A. 46992-0443
Phone: 260-563-3171 / Fax: 800-826-3487
Overseas Fax: 260-563-0167
http://www.fordmeterbox.com

02/22/13

Submitted By: