I.P.S. PRESSURE

MEETS ASTM D2241

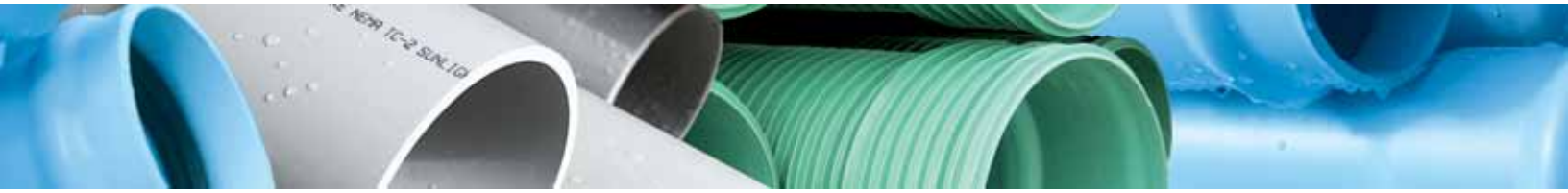
JM Eagle™

Building essentials for a better tomorrow™

I.P.S. PRESSURE

PVC I.P.S. Pressure Rate Pipe
SDR 64 / SDR 41 / SDR 32.5 / SDR 26 / SDR 21 / SDR 17

Pressure Rated 63, 100, 125, 160, 200 & 250 psi
Ring - Tite™ Joints 1.5" - 12"



I.P.S. PRESSURE

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PRODUCT DESCRIPTION

IPS PRESSURE ASTM D2241

FOR USE IN RURAL, AGRICULTURAL WATER SYSTEMS AND OTHER SERVICES

DESCRIPTION

JM Eagle's I.P.S. Pressure PVC Pipe conforms to ASTM D2241 for standard dimension ratios and is available in SDR 64 (63 psi) SDR 41 (100 psi), SDR 32.5 (125 psi), SDR 26 (160 psi), SDR 21 (200 psi) and SDR 17 (250 psi). PVC compounds used in the extrusion of this pipe meet or exceed the requirements of ASTM D1784 cell class 12454. Gaskets conform to ASTM F477. Joint design is tested to the requirements of ASTM D3139.

LONG LAYING LENGTHS

The standard laying length of I.P.S. Pressure PVC water pipe is 20 feet. This means that more ground can be covered during installation while eliminating the cost of unnecessary joints.

ANSI/NSF 14 AND NSF 61 LISTED, IAPMO LISTED, UL LISTED

Listing availability may vary by shipping location.

APPLICATIONS

These products are typically used in rural water, agricultural and turf irrigation pipelines; however, they may also be used for gravity sewer, force main, and water reclamation projects. The pressure rating of the pipe indicates the maximum allowable sustained pressure capacity with a long-term 2 to 1 safety factor.

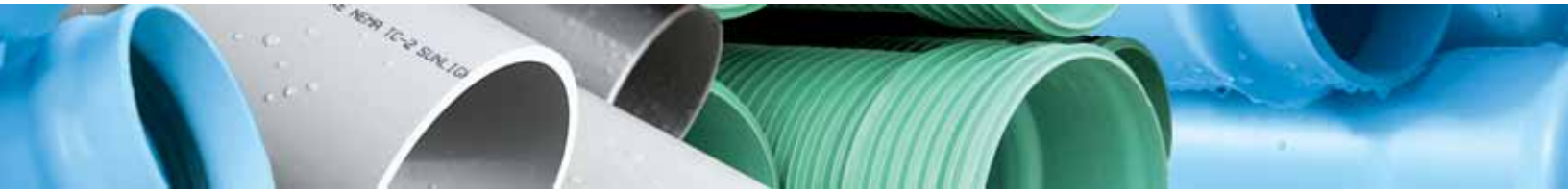
PURPLE RECLAIM AND GREEN SEWER FORCE MAIN

JM Eagle™ also manufactures this pipe in purple, specifically for reclaimed water systems and green for sewer force main applications. This pipe is made and tested to the same requirements as our standard products, except that the pigment used is purple or green. These products will not be marked with the NSF listing marks. Additionally, the purple pipe will be marked: "Reclaimed Water... Do Not Drink" and the green pipe will be marked "Forced Sewer."

QUALITY CONTROL

This pipe is tested in accordance with the provisions of ASTM D2241 and subject to inspection by our quality control inspectors throughout every step of the manufacturing process. JM Eagle's Quality Management System is ISO 9001: 2000 registered.* Copies of the registration certificates are available on our website at *http://www.jmeagle.com.*

* JM Eagle™ is in the process of obtaining the ISO 9001-2000 registration of Quality Management System for all locations.



CORROSION RESISTANCE

I.P.S. Pressure PVC pipe is unaffected by electrolytic or galvanic corrosion, or any known corrosive soil or water condition. You don't have to worry about tuberculation, or the need for costly lining, wrapping, coating, or cathodic protection.

FLOW CAPACITY

This PVC water pipe has a smooth interior that stays smooth over long years of service with no loss in carrying capacity. It's coefficient of flow is C=150 (Hazen & Williams) the best available in common use water systems. This capacity often allows savings in pumping costs as well as savings on the size of pipe required.

SAVE IN HANDLING COSTS

I.P.S. Pressure Pipe is designed for installed cost savings. Most sizes can be handled manually, so there is no need for costly installation equipment. Use the backhoe for excavating and backfilling only. Dig more trench, lay pipe faster and save more in cost per foot installed.

FIELD CUTTING AND BEVELING

I.P.S. Pressure pipe can be field cut with a power saw or ordinary handsaw. This eliminates the need to invest in costly cutting equipment. The pipe can also be beveled without the use of any expensive or complicated machinery.

LIGHT WEIGHT

A 20 foot length of Pressure Rated 200 psi, 8" I.P.S. Pressure PVC water pipe weighs approximately 144 pounds. That makes it easy to load, easy to transport, and easy to handle. Installers prefer it because it goes into the ground quickly-thus saving on installation costs.

SERVICE LIFE

Since PVC does not corrode and is resistant to most chemicals, the pipe does not lose strength due to either potable water corrosion or external galvanic soil conditions. The design of the pipe allows for a 2 to 1 long-term safety factor at the marked capacity of the pipe.

INSTALLATION

This product should be installed in accordance with JM Eagle™ Publication JME-06B, "I.P.S. Pressure and Irrigation Pipe Installation Guide" and JME-06B, Uni-Bell® Publication UNI-PUB-08-07, "Tapping Guide for PVC Pressure Pipe."

Note: JM Eagle™ does not recommend direct tapping of the IPS Pressure Pipe.

PRODUCT DESCRIPTION

(CONTINUED)

I.P.S. O.D.

Available in 1.5" through 12" diameter sizes, this pipe can be connected directly to most plumbing fixtures and IPS appurtenances. It can also be connected into cast and ductile iron fittings with the appropriate adapters, or transition gaskets.

RING-TITE™ JOINTS WITH LOCKED-IN GASKETS

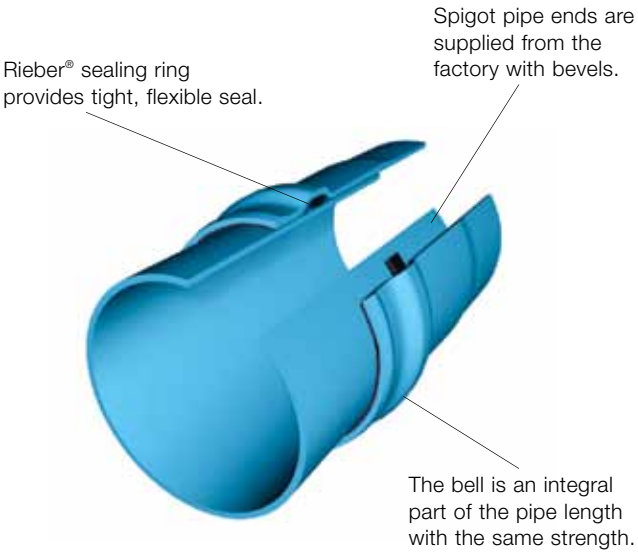
JM Eagle's Ring-Tite™ joint can be assembled quickly. Seated in a deep groove, the flexible elastomeric Rieber®* gasket provides a tight seal that protects the line from shock, vibration, earth movement, and compensates for expansion and contraction of pipe lengths. There's no field mixing or application of cement. It's a simple push-together joint that remains tight under normal operating conditions.

The factory installed Rieber® gaskets provide a tight, flexible seal, that resists rolling during installation. Special gasket types are available for use with certain chemical and petroleum products. Spigot pipe ends are supplied from the factory with bevels. The bell is an integral part of the pipe length with the same strength. Joints meet or exceed ASTM D3139 for joint tightness, including a 22 in. Hg vacuum for one hour, under deflection, with no leakage.

Note: Other types of gaskets may be provided. JM Eagle™ is in the process of converting all gasketed products to the Rieber® ring gasket.

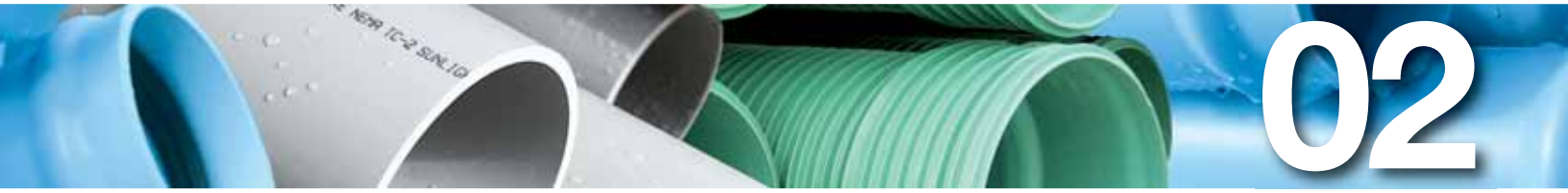
* Rieber® is a registered trademark of TI Specialty Products Inc.

RING-TITE™ JOINT



ACCESSORIES

JM Eagle's I.P.S. Pressure PVC pipe is compatible with all the items required for smooth installation of plumbing and irrigation pipelines.



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SURGE DESIGN

SURGE PRESSURES IN VARIOUS PRESSURE PIPE

It is important to note that for the same conditions of interrupted flow, the surge pressures generated in pipe with high tensile moduli will be greater than the surges in low moduli (PVC) pipe of similar dimensions.

As the modulus of tensile elasticity for a piping material increases, the resultant pressure surge, or “water hammer”, caused by a change in flow velocity also increases. For example, an instantaneous 2 fps (0.6 mps) flow velocity change in an 6" water main will create surge pressures as shown in **Table 1** for different pipe materials. For all system designs, surge pressures should be examined with the pipe material in use.

TABLE 1

PRESSURE SURGES IN 6 IN. WATER MAIN

In Response to 2 fps (0.6 mps) Instantaneous Flow Velocity Change

PIPE PRODUCT	PRESSURE SURGE	
	psi	kPa
Class 350 DI Pipe	109.0	751
DR 26 PVC Pipe	28.8	202

Pressure surges in PVC pipe (12454) of different dimension ratios in response to a 1 fps (0.3 mps) instantaneous flow velocity change are shown in **Table 2**.

TABLE 2

DESIGN TABLE FOR PVC PIPE-PRESSURE SURGE VS. DIMENSION RATIO

SDR	PRESSURE SURGE	
	psi	kPa
13.5	20.2	139
14	19.8	137
17	17.9	123
18	17.4	120
21	16.0	110
25	14.7	101
26	14.4	99
32.5	12.8	88
41	11.4	79
51	10.8	74
64	9.0	62

03

SHORT FORM SPECIFICATION

IPS PRESSURE ASTM D2241

SCOPE

This specification designates general requirements for 1.5" through 12" unplasticized polyvinyl chloride (PVC) plastic pressure pipe with integral bell and spigot joints for the conveyance of water and other fluids.

MATERIALS

This pipe shall meet the requirements of ASTM D2241 "Standard Specification for Polyvinyl Chloride (PVC) Pressure Rated Pipe (SDR Series)." All pipe shall be made from quality PVC resin, compounded to provide physical and mechanical properties that equal or exceed cell class 12454 as defined in ASTM D1784.

HYDROSTATIC TESTING

Random samples at given intervals are tested in compliance with ASTM D2241 for hydrostatic capability in the quick burst test.

STANDARD LAYING LENGTHS

Standard laying lengths shall be 20 feet for all sizes.

PIPE

All pipe shall be suitable for use as pressure conduit. Provisions must be made for expansion and contraction at each joint with an elastomeric ring. The bell shall consist of an integral wall section with a factory installed, solid cross section Rieber® elastomeric gasket which meets the requirements of ASTM F477. The bell section shall be designed to be at least as hydrostatically strong as the pipe barrel and meet the requirements of ASTM D2241. The joint design meets the requirements of ASTM D3139, under both pressure and 22 in. Hg vacuum. Sizes and dimensions shall be as shown in this specification.

Pipe installation and usage shall be in compliance with JM Eagle™ Publication JME-06B "I.P.S. Pressure and Irrigation Pipe Installation Guide" and Uni-Bell® Publication UNI-PUB-0807, "Tapping Guide for PVC Pressure Pipe."

QUICK BURST TEST

Randomly selected samples tested in accordance with ASTM D1599 shall withstand, without failure, the pressure listed below when applied in 60-70 seconds.

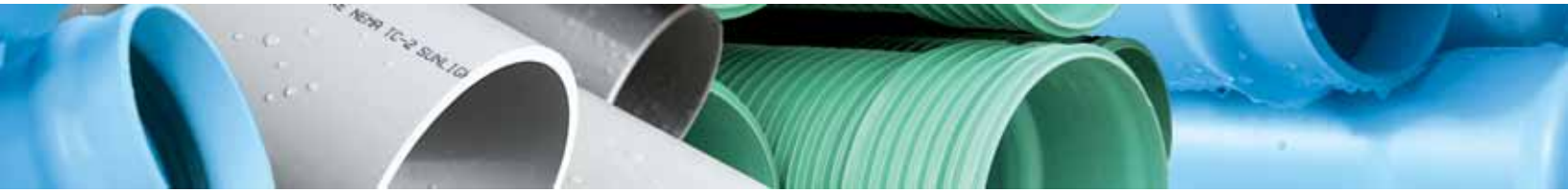
SDR	PRESSURE RATING (psi)	MINIMUM BURST PRESSURE AT 73°F (psi)
64	63	200
41	100	315
32.5	125	400
26	160	500
21	200	630
17	250	800

DROP IMPACT TEST

The pipe shall withstand ASTM D2241 Impact Test requirements using Tup 'B' and Flate Plate Holder 'B' at the energy specified in the following table.

PIPE SIZE (IN)	IMPACT (FT/LBS)	PIPE SIZE (IN)	IMPACT (FT/LBS)
1.5	30	5	100
2	30	6	120
2.5	40	8	160
3	60	10	160
4	90	12	160

There shall be no visible evidence of shattering or splitting when the energy is imposed.



TESTING REQUIREMENTS FOR RING-TITE™ PVC PRESSURE PIPE

TEST	ASTM 2241					
	63 psi	100 psi	125 psi	160 psi	200 psi	250 psi
LONG TERM PRESSURE TEST 1000 hours (psi)	130	210	270	340	420	530
SHORT TERM BURST TEST (psi)	200	315	400	500	630	800
EXTRUSION QUALITY OF PVC PIPE BY ACETONE IMMERSION TEST METHOD ASTM D2152	20 min	20 min	20 min	20 min	20 min	20 min
FLATTENING TEST Tests extrusion quality and ductility under slow loading conditions (Flattening Capability)	40% of OD between the plates within 2-5 min	40% of OD between the plates within 2-5 min	40% of OD between the plates within 2-5 min	40% of OD between the plates within 2-5 min	40% of OD between the plates within 2-5 min	40% of OD between the plates within 2-5 min

TYPICAL PHYSICAL AND CHEMICAL PROPERTIES AND CAPACITIES

PROPERTY	ASTM D2241 PRESSURE PVC PIPE	ASTM TEST METHOD
Fiber Stress at 73°F Short Term Bursting Strength (psi) 1,000 Hour Strength (psi)	 6400 4200	 D1599 D1598
Working Pressure Rating 73°F (% of rating at 73°F) 80°F (% of rating at 73°F) 100°F (% of rating at 73°F)	 100% 88% 62%	—
Chemical Resistance at 73°F Acids Salts-Bases Aliphatic Hydrocarbons (including crude oil)	 Excellent Excellent Good	—
Physical Properties of Compound Std. Test Specimens Minimum Tensile Strength (psi) at 73°F	 7000	 D638
Thermal Expansion (in/100 ft/50°F Change)	2"	—
Fire Resistance	Self Extinguishing	—
Flame Spread	10	E162
Smoke Development	330	E84
Coefficient of Flow Hazen & Williams	C=150	—
Mannings N Value	N=0.009	—

* Please contact sales for availability and product range.

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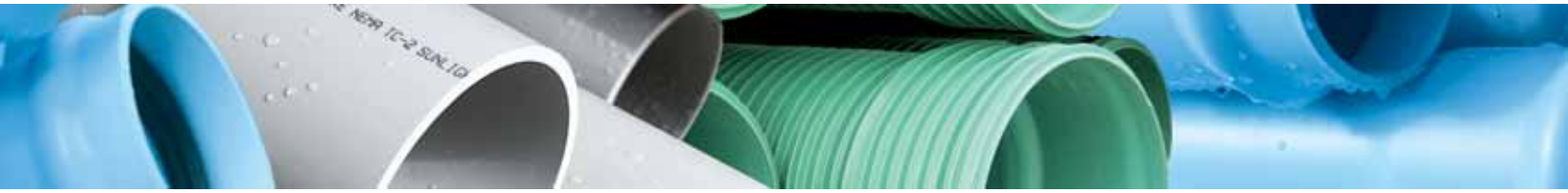
DIMENSIONS AND WEIGHTS

SUBMITTAL AND DATA SHEET

PIPE SIZE (IN)	AVERAGE O.D. (IN)	NOM. I.D. (IN)	MIN. T. (IN)	MIN. E (IN)	APPROX. D[9] (IN)	APPROX. WEIGHT (LBS/FT)
Rated 63 psi (SDR 64)						
6	6.625	6.40	0.104	5.50	7.20	1.60
8	8.625	8.33	0.135	6.25	9.30	2.40
10	10.750	10.39	0.168	6.75	11.50	3.80
12	12.750	12.32	0.199	8.00	13.80	5.30
Rated 100 psi (SDR 41)*						
3	3.500	3.320	0.085	4.20	3.84	—
4	4.500	4.267	0.110	4.50	4.94	1.03
5	5.563	5.27	0.136	4.65	6.10	1.60
6	6.625	6.282	0.162	5.20	7.27	2.23
8	8.625	8.180	0.210	5.90	9.47	3.75
10	10.750	10.195	0.262	6.70	11.80	5.86
12	12.750	12.091	0.311	8.10	13.99	8.28
Rated 125 psi (SDR 32.5)*						
1.5	1.900	1.773	0.060	3.45	2.14	0.23
2	2.375	2.220	0.073	3.70	2.67	0.35
2.5	2.875	2.688	0.088	3.95	3.23	0.51
3	3.500	3.271	0.108	4.20	3.93	0.77
4	4.500	4.207	0.138	4.50	5.05	1.28
5	5.563	5.200	0.171	4.65	6.25	2.00
6	6.625	6.193	0.204	5.20	7.44	2.79
8	8.625	8.063	0.265	5.90	9.69	4.70
10	10.750	10.048	0.331	6.70	12.07	7.35
12	12.750	11.919	0.392	8.10	14.32	10.36
Rated 160 psi (SDR 26)* (G) (P)						
1.5	1.900	1.745	0.073	3.45	2.19	0.28
2	2.375	2.182	0.091	3.70	2.74	0.44
2.5	2.875	2.642	0.110	3.50	3.32	0.64
3	3.500	3.214	0.135	4.10	4.04	0.95
4	4.500	4.133	0.173	4.50	5.19	1.58
5	5.563	5.109	0.214	4.65	6.42	2.40
6	6.625	6.084	0.255	5.20	7.65	3.44
8	8.625	7.921	0.332	5.90	9.95	5.85
10	10.750	9.874	0.413	6.70	12.40	9.12
12	12.750	11.711	0.490	8.10	14.71	12.89

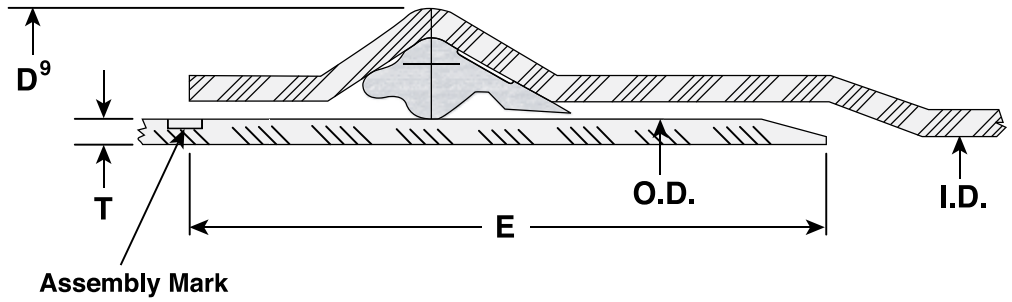
* Please contact sales for availability and product range.



SUBMITTAL AND DATA SHEET

PIPE SIZE (IN)	AVERAGE O.D. (IN)	NOM. I.D. (IN)	MIN. T. (IN)	MIN. E (IN)	APPROX. D^9 (IN)	APPROX. WEIGHT (LBS/FT)
Rated 200 psi (SDR 21)* (G) (P)						
1.5	1.900	1.709	0.090	3.45	2.26	0.44
2	2.375	2.135	0.113	3.70	2.83	0.54
2.5	2.875	2.585	0.137	3.95	3.42	0.79
3	3.500	3.146	0.167	4.20	4.17	1.17
4	4.500	4.046	0.214	4.50	5.36	1.93
6	6.625	5.955	0.316	5.20	7.89	4.23
8	8.625	7.754	0.410	5.90	10.27	7.18
10	10.750	9.667	0.511	6.70	12.79	11.20
12	12.750	11.465	0.606	8.10	15.17	15.82
Rated 250 psi (SDR 17)* (G) (P)						
1.5	1.900	1.641	0.112	3.45	2.39	0.58
2	2.375	2.078	0.140	3.70	2.94	0.66
2.5	2.875	2.517	0.169	3.95	3.55	0.94
3	3.500	3.063	0.206	4.20	4.32	1.42
4	4.500	3.938	0.265	4.50	5.56	2.36
6	6.625	5.803	0.390	5.20	8.19	5.11
8	8.625	7.553	0.508	5.90	10.66	8.69
10	10.750	9.410	0.632	6.70	13.28	13.55
12	12.750	11.160	0.750	8.10	15.75	19.20

* Prior to ordering or specifying, please consult JM Eagle™ for product and/or listing availability.
(G) Green pipe available in sizes 4"-12"
(P) Purple pipe available in sizes 2"-12"



I.D. : Inside Diameter
O.D. : Outside Diameter
T. : Wall Thickness
D^9: Bell Outside Diameter
E: Distance between Assembly Mark to the end of spigot

05

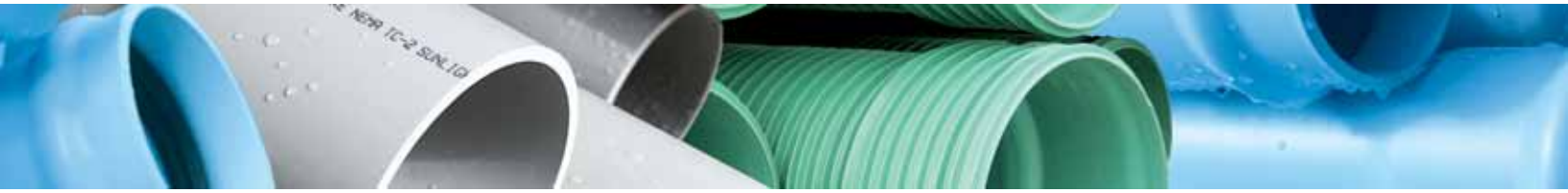
FLOW/FRICTION CHARTS

FLOW/FRICTION LOSS, RING-TITE™ PRESSURE PVC PIPE

1.5" I.P.S. O.D. (ASTM D2241) ACTUAL O.D. 1.900 INCH

FLOW (GAL/MIN)	SDR 32.5 (125 psi)		SDR 26 (160 psi)		SDR 21 (200 psi)	
	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT
10	1.320	0.194	1.360	0.208	1.400	0.223
20	2.640	0.699	2.720	0.751	2.799	0.806
30	3.960	1.481	4.079	1.592	4.199	1.708
40	5.280	2.523	5.439	2.713	5.598	2.910
50	6.600	3.814	6.799	4.101	6.998	4.399
60	7.920	5.347	8.159	5.748	8.397	6.165
70	9.240	7.113	9.519	7.647	9.797	8.203
80	10.559	9.109	10.879	9.793	11.196	10.504
90	11.879	11.329	12.238	12.180	12.596	13.064
100	13.199	13.770	13.598	14.804	13.996	15.879
110	14.519	16.429	14.958	17.662	15.395	18.945
120	15.839	19.301	13.318	20.751	16.795	22.257
130	17.159	22.385	17.678	24.066	18.194	25.814
140	18.479	25.679	19.037	27.607	19.594	29.611
150	19.799	29.178	20.397	31.370	20.993	33.647
160	21.119	32.883	21.757	35.352	22.393	37.919
170	22.439	36.790	23.117	39.553	23.793	42.425
180	23.759	40.898	24.477	43.970	25.192	47.162

Based on calculation methods and design tables set forth by the Uni-Bell® PVC Pipe Association, “Handbook of PVC Pipe Design and Construction.”



FLOW/FRICTION LOSS, RING-TITE™ PRESSURE PVC PIPE

2" I.P.S. O.D. (ASTM D2241) ACTUAL O.D. 2.375 INCH

FLOW (GAL/MIN)	SDR 32.5 (125 psi)		SDR 26 (160 psi)		SDR 21 (200 psi)		SDR 17 (250 psi)	
	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT
10	0.838	0.064	0.866	0.069	0.897	0.076	0.947	0.086
20	1.676	0.231	1.732	0.251	1.793	0.273	1.893	0.311
30	2.514	0.490	2.598	0.531	2.690	0.578	2.840	0.659
40	3.352	0.835	3.464	0.905	3.586	0.985	3.787	1.121
50	4.189	1.263	4.329	1.368	4.483	1.489	4.733	1.695
60	5.027	1.770	5.195	1.917	5.380	2.087	5.680	2.374
70	5.865	2.355	6.061	2.551	6.276	2.776	6.627	3.158
80	6.703	3.015	6.927	3.266	7.173	3.555	7.573	4.043
90	7.541	3.750	7.793	4.062	8.069	4.422	8.520	5.027
100	8.379	4.558	8.659	4.938	8.966	5.375	9.467	6.109
110	9.217	5.438	9.525	5.891	9.863	6.412	10.413	7.287
120	10.055	6.389	10.391	6.921	10.759	7.534	11.360	8.560
130	10.893	7.410	11.256	8.027	11.656	8.737	12.307	9.926
140	11.730	8.500	12.122	9.208	12.553	10.023	13.254	11.385
150	12.568	9.659	12.988	10.463	13.449	11.389	14.200	12.935
160	13.406	10.885	13.854	11.791	14.346	12.835	15.147	14.575
170	14.244	12.178	14.720	13.192	15.242	14.360	16.094	16.305
180	15.082	13.538	15.586	14.665	16.139	15.963	17.040	18.123

Based on calculation methods and design tables set forth by the Uni-Bell® PVC Pipe Association, “Handbook of PVC Pipe Design and Construction.”

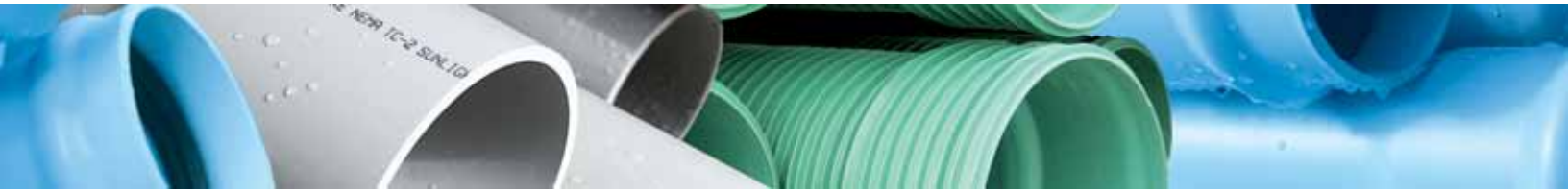
FLOW/FRICTION CHARTS
(CONTINUED)

FLOW/FRICTION LOSS, RING-TITE™ PRESSURE PVC PIPE

2.5" I.P.S. O.D. (ASTM D2241) ACTUAL O.D. 2.875 INCH

FLOW (GAL/MIN)	SDR 32.5 (125 psi)		SDR 26 (160 psi)		SDR 21 (200 psi)		SDR 17 (250 psi)	
	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT
10	0.570	0.025	0.589	0.027	0.612	0.030	0.646	0.034
20	1.139	0.091	1.178	0.098	1.224	0.108	1.291	0.123
30	1.709	0.192	1.767	0.208	1.836	0.228	1.937	0.260
40	2.279	0.327	2.355	0.354	2.448	0.389	2.582	0.442
50	2.848	0.494	2.944	0.535	3.060	0.588	3.228	0.668
60	3.418	0.692	3.533	0.750	3.672	0.824	3.873	0.936
70	3.988	0.921	4.122	0.998	4.285	1.097	4.519	1.245
80	4.557	1.180	4.711	1.278	4.897	1.405	5.164	1.594
90	5.127	1.467	5.300	1.590	5.509	1.747	5.810	1.983
100	5.697	1.783	5.889	1.933	6.121	2.123	6.455	2.409
125	7.121	2.696	7.361	2.922	7.651	3.210	8.069	3.641
150	8.545	3.778	8.833	4.095	9.181	4.499	9.683	5.101
175	9.969	5.027	10.305	5.449	10.711	5.986	11.297	6.784
200	11.394	6.437	11.777	6.977	12.241	7.665	12.910	8.685
225	12.818	8.006	13.249	8.678	13.772	9.534	14.524	10.800
250	14.242	9.731	14.722	10.548	15.302	11.588	16.138	13.124
275	15.666	11.610	16.194	12.584	16.832	13.825	17.752	15.655
300	17.090	13.640	17.666	14.784	18.362	16.242	19.366	18.389

Based on calculation methods and design tables set forth by the Uni-Bell® PVC Pipe Association, “Handbook of PVC Pipe Design and Construction.”



FLOW/FRICTION LOSS, RING-TITE™ PRESSURE PVC PIPE

3" I.P.S. O.D. (ASTM D2241) ACTUAL O.D. 3.500 INCH

FLOW (GAL/MIN)	SDR 32.5 (125 psi)		SDR 26 (160 psi)		SDR 21 (200 psi)		SDR 17 (250 psi)	
	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT
10	0.384	0.010	0.397	0.010	0.413	0.011	0.436	0.012
20	0.768	0.035	0.794	0.038	0.826	0.041	0.871	0.041
30	1.151	0.073	1.190	0.080	1.239	0.088	1.307	0.088
40	1.535	0.125	1.587	0.136	1.652	0.150	1.743	0.150
50	1.919	0.189	1.984	0.205	2.066	0.226	2.179	0.226
75	2.878	0.400	2.976	0.434	3.098	0.479	3.268	0.478
100	3.838	0.682	3.968	0.740	4.131	0.816	4.357	0.814
125	4.797	1.031	4.960	1.118	5.164	1.234	5.446	1.231
150	5.757	1.445	5.952	1.567	6.197	1.729	6.536	1.724
200	7.676	2.462	7.936	2.670	8.262	2.946	8.714	2.936
225	8.635	3.062	8.928	3.321	9.295	3.664	9.804	3.651
250	9.594	3.722	9.920	4.037	10.328	4.453	10.893	4.437
275	10.554	4.441	10.912	4.816	11.361	5.313	11.982	5.292
300	11.513	5.217	11.904	5.659	12.393	6.242	13.071	6.216
325	12.473	6.051	12.896	6.563	13.426	7.239	14.161	7.209
350	13.432	6.941	13.888	7.528	14.459	8.304	15.250	8.268
375	14.392	7.887	14.880	8.554	15.492	9.436	16.339	9.393
400	15.351	8.889	15.872	9.640	16.525	10.634	17.429	10.585

Based on calculation methods and design tables set forth by the Uni-Bell® PVC Pipe Association, “Handbook of PVC Pipe Design and Construction.”

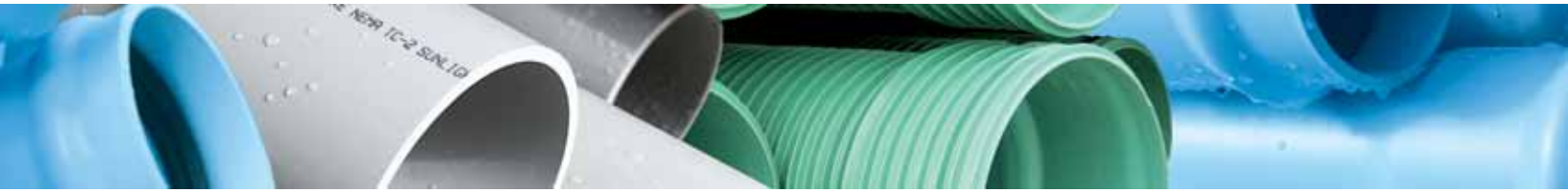
FLOW/FRICTION CHARTS
(CONTINUED)

FLOW/FRICTION LOSS, RING-TITE™ PRESSURE PVC PIPE

4" I.P.S. O.D. (ASTM D2241) ACTUAL O.D. 4.500 INCH

FLOW (GAL/MIN)	SDR 41 (100 psi)		SDR 32.5 (125 psi)		SDR 26 (160 psi)		SDR 21 (200 psi)		SDR 17 (250 psi)	
	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT
25	0.563	0.014	0.578	0.015	0.598	0.017	0.624	0.018	0.659	0.021
50	1.126	0.052	1.157	0.055	1.197	0.060	1.249	0.066	1.318	0.076
75	1.690	0.110	1.735	0.117	1.795	0.127	1.873	0.141	1.977	0.161
100	2.253	0.187	2.313	0.199	2.393	0.216	2.497	0.240	2.636	0.273
125	2.816	0.282	2.892	0.301	2.992	0.327	3.122	0.363	3.295	0.413
150	3.379	0.396	3.470	0.422	3.590	0.458	3.746	0.508	3.954	0.579
175	3.943	0.526	4.048	0.561	4.188	0.610	4.370	0.676	4.613	0.770
200	4.506	0.674	4.627	0.719	4.787	0.781	4.994	0.866	5.272	0.986
225	5.069	0.838	5.205	0.894	5.385	0.971	5.619	1.077	5.931	1.226
250	5.632	1.019	5.784	1.087	5.983	1.180	6.243	1.309	6.591	1.489
300	6.759	1.428	6.940	1.523	7.180	1.654	7.492	1.834	7.909	2.087
350	7.885	1.900	8.097	2.026	8.377	2.201	8.740	2.440	9.227	2.775
400	9.012	2.433	9.254	2.595	9.573	2.818	9.989	3.125	10.545	3.553
450	10.138	3.026	10.410	3.227	10.770	3.505	11.237	3.887	11.863	4.418
500	11.265	3.678	11.567	3.922	11.966	4.260	12.486	4.724	13.181	5.369
550	12.391	4.388	12.724	4.680	13.163	5.082	13.735	5.636	14.499	6.404
600	15.518	5.155	13.880	5.498	14.360	5.971	14.983	6.622	15.817	7.523
650	14.644	5.979	15.037	6.376	15.556	6.925	16.232	7.680	17.135	8.723

Based on calculation methods and design tables set forth by the Uni-Bell® PVC Pipe Association, “Handbook of PVC Pipe Design and Construction.”



FLOW/FRICTION LOSS, RING-TITE™ PRESSURE PVC PIPE

5" I.P.S. O.D. (ASTM D2241) ACTUAL O.D. 5.563 INCH

FLOW (GAL/ MIN)	SDR 41 (100 psi)		SDR 32.5 (125 psi)		SDR 26 (160 psi)		SDR 21 (200 psi)		SDR 17 (250 psi)	
	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT
25	0.368	0.005	0.378	0.005	0.392	0.006	0.409	0.007	0.431	0.007
50	0.736	0.018	0.756	0.020	0.783	0.021	0.817	0.024	0.862	0.027
75	1.104	0.039	1.134	0.042	1.175	0.045	1.226	0.050	1.293	0.057
100	1.472	0.066	1.512	0.071	1.566	0.077	1.635	0.086	1.724	0.097
125	1.840	0.100	1.890	0.107	1.958	0.117	2.043	0.129	2.155	0.147
150	2.207	0.140	2.268	0.150	2.349	0.163	2.452	0.181	2.586	0.206
175	2.575	0.187	2.646	0.199	2.741	0.217	2.861	0.241	3.017	0.274
200	2.943	0.239	3.024	0.255	3.132	0.278	3.269	0.309	3.448	0.351
250	3.679	0.361	3.780	0.386	3.916	0.421	4.087	0.467	4.310	0.531
300	4.415	0.507	4.536	0.541	4.699	0.590	4.904	0.654	5.172	0.744
350	5.151	0.674	5.292	0.720	5.482	0.784	5.721	0.870	6.034	0.989
400	5.886	0.863	6.048	0.922	6.265	1.005	6.539	1.115	6.896	1.266
450	6.622	1.074	6.804	1.147	7.048	1.249	7.356	1.386	7.758	1.574
500	7.358	1.305	7.560	1.394	7.831	1.519	8.173	1.685	8.620	1.913
600	8.830	1.829	9.072	1.954	9.397	2.129	9.808	2.362	10.345	2.681
700	10.301	2.434	10.584	2.600	10.964	2.832	11.443	3.142	12.069	3.565
800	11.773	3.116	12.097	3.329	12.530	3.626	13.077	4.024	13.793	4.564
900	13.244	3.876	13.609	4.140	14.096	4.510	14.712	5.005	15.517	5.676

Based on calculation methods and design tables set forth by the Uni-Bell® PVC Pipe Association, “Handbook of PVC Pipe Design and Construction.”

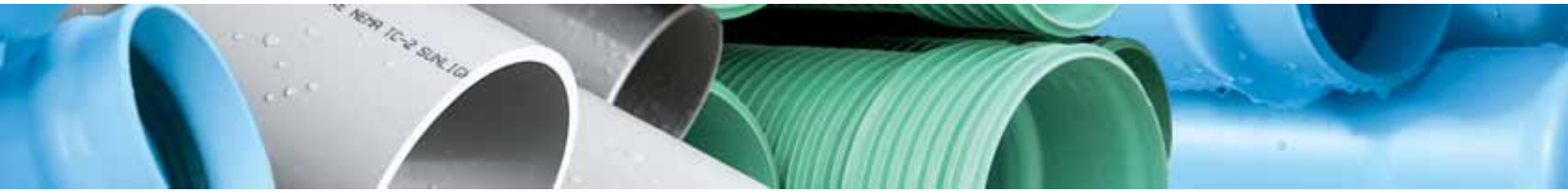
FLOW/FRICTION CHARTS
(CONTINUED)

FLOW/FRICTION LOSS, RING-TITE™ PRESSURE PVC PIPE

6" I.P.S. O.D. (ASTM D2241) ACTUAL O.D. 6.625 INCH

FLOW (GAL/ MIN)	SDR 64 (63 psi)		SDR 41 (100 psi)		SDR 32.5 (125 psi)		SDR 26 (160 psi)		SDR 21 (200 psi)		SDR 17 (250 psi)	
	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT
50	0.498	0.007	0.518	0.008	0.533	0.008	0.552	0.009	0.576	0.010	0.608	0.012
75	0.747	0.015	0.777	0.017	0.800	0.018	0.828	0.019	0.865	0.021	0.912	0.025
100	0.996	0.026	1.036	0.028	1.066	0.030	1.104	0.033	1.153	0.037	1.216	0.042
125	1.246	0.039	1.295	0.043	1.333	0.046	1.381	0.050	1.441	0.055	1.520	0.063
150	1.495	0.055	1.555	0.060	1.599	0.064	1.657	0.070	1.729	0.078	1.824	0.088
175	1.744	0.073	1.814	0.080	1.866	0.085	1.933	0.093	2.018	0.103	2.128	0.117
200	1.993	0.094	2.073	0.102	2.132	0.109	2.209	0.119	2.306	0.132	2.432	0.150
225	2.242	0.117	2.332	0.127	2.399	0.136	2.485	0.148	2.594	0.164	2.736	0.187
250	2.491	0.142	2.591	0.154	2.666	0.165	2.761	0.180	2.882	0.200	3.040	0.227
300	2.989	0.199	3.109	0.216	3.199	0.231	3.313	0.252	3.459	0.280	3.648	0.318
400	3.986	0.338	4.146	0.368	4.265	0.394	4.418	0.429	4.612	0.477	4.865	0.542
500	4.982	0.511	5.182	0.556	5.331	0.596	5.522	0.649	5.765	0.721	6.081	0.819
600	5.979	0.717	6.218	0.779	6.397	0.835	6.627	0.910	6.918	1.010	7.297	1.148
700	6.975	0.954	7.255	1.037	7.463	1.111	7.731	1.211	8.070	1.344	8.513	1.527
800	7.971	1.221	8.291	1.328	8.530	1.423	8.836	1.550	9.223	1.721	9.729	1.955
900	8.968	1.519	9.327	1.652	9.596	1.770	9.940	1.928	10.376	2.141	10.945	2.430
1000	9.964	1.846	10.364	2.008	10.662	2.151	11.044	2.344	11.529	2.602	12.162	2.954
1100	10.961	2.203	11.400	2.395	11.728	2.566	12.149	2.796	12.682	3.104	13.378	3.523

Based on calculation methods and design tables set forth by the Uni-Bell® PVC Pipe Association, “Handbook of PVC Pipe Design and Construction.”



FLOW/FRICTION LOSS, RING-TITE™ PRESSURE PVC PIPE

8" I.P.S. O.D. (ASTM D2241) ACTUAL O.D. 8.625 INCH

FLOW (GAL/ MIN)	SDR 64 (63 psi)		SDR 41 (100 psi)		SDR 32.5 (125 psi)		SDR 26 (160 psi)		SDR 21 (200 psi)		SDR 17 (250 psi)	
	VELOCITY FT/S	PRESSURE DROP PSI/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT
100	0.588	0.007	0.611	0.008	0.629	0.008	0.652	0.009	0.680	0.010	0.718	0.012
150	0.882	0.15	0.917	0.017	0.943	0.018	0.977	0.019	1.020	0.021	1.076	0.025
200	1.176	0.026	1.222	0.028	1.258	0.030	1.303	0.033	1.359	0.037	1.435	0.042
250	1.469	0.039	1.528	0.043	1.572	0.046	1.629	0.050	1.699	0.055	1.794	0.063
300	1.763	0.055	1.833	0.060	1.887	0.064	1.955	0.070	2.039	0.077	2.153	0.088
350	2.057	0.073	2.139	0.079	2.201	0.085	2.281	0.093	2.379	0.103	2.512	0.118
400	2.351	0.094	2.444	0.102	2.515	0.109	2.607	0.119	2.719	0.132	2.871	0.150
450	2.645	0.117	2.750	0.127	2.830	0.136	2.932	0.148	3.059	0.164	3.229	0.187
500	2.939	0.142	3.055	0.154	3.144	0.165	3.258	0.180	3.399	0.199	3.588	0.227
600	3.527	0.199	3.666	0.216	3.773	0.231	3.910	0.252	4.078	0.279	4.306	0.319
800	4.702	0.339	4.889	0.367	5.031	0.394	5.213	0.429	5.438	0.476	5.741	0.542
1000	5.878	0.512	6.111	0.555	6.289	0.595	6.516	0.649	6.797	0.719	7.176	0.820
1200	7.053	0.718	7.333	0.778	7.546	0.835	7.820	0.910	8.157	1.008	8.612	1.149
1400	8.229	0.955	8.555	1.036	8.804	1.110	9.123	1.211	9.516	1.342	10.047	1.528
1600	9.404	1.223	9.777	1.326	10.062	1.422	10.426	1.550	10.875	1.718	11.482	1.956
1800	10.590	1.521	10.999	1.649	11.320	1.769	11.729	1.928	12.235	2.137	12.918	2.432
2000	11.755	1.848	12.221	2.005	12.577	2.150	13.033	2.344	13.594	2.597	14.353	2.955
2200	12.931	2.205	13.444	2.392	13.835	2.565	14.336	2.796	14.954	3.099	15.788	3.525

Based on calculation methods and design tables set forth by the Uni-Bell® PVC Pipe Association, “Handbook of PVC Pipe Design and Construction.”

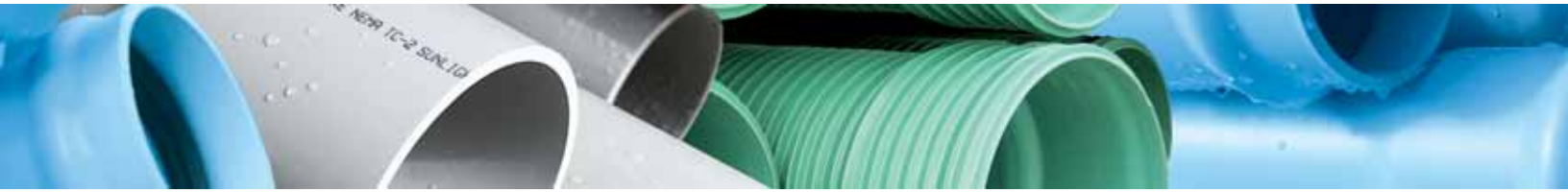
FLOW/FRICTION CHARTS
(CONTINUED)

FLOW/FRICTION LOSS, RING-TITE™ PRESSURE PVC PIPE

10" I.P.S. O.D. (ASTM D2241) ACTUAL O.D. 10.750 INCH

FLOW (GAL/ MIN)	SDR 64 (63 psi)		SDR 41 (100 psi)		SDR 32.5 (125 psi)		SDR 26 (160 psi)		SDR 21 (200 psi)		SDR 17 (250 psi)	
	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT
200	0.757	0.009	0.787	0.010	0.810	0.010	0.839	0.011	0.875	0.013	0.923	0.014
300	1.135	0.019	1.180	0.020	1.215	0.022	1.258	0.024	1.313	0.026	1.385	0.030
400	1.513	0.032	1.574	0.035	1.620	0.037	1.677	0.041	1.750	0.045	1.847	0.052
500	1.892	0.049	1.967	0.053	2.025	0.057	2.097	0.062	2.188	0.068	2.309	0.078
600	2.270	0.068	2.360	0.074	2.430	0.079	2.516	0.086	2.625	0.096	2.770	0.109
700	2.648	0.091	2.754	0.098	2.835	0.105	2.935	0.115	3.063	0.127	3.232	0.145
800	3.027	0.116	3.147	0.126	3.240	0.135	3.355	0.147	3.500	0.163	3.694	0.186
900	3.405	0.144	3.541	0.157	3.644	0.168	3.774	0.183	3.938	0.203	4.156	0.231
1000	3.783	0.176	3.934	0.190	4.049	0.204	4.193	0.222	4.375	0.246	4.617	0.281
1100	4.162	0.209	4.327	0.227	4.454	0.243	4.613	0.265	4.813	0.294	5.079	0.335
1400	5.297	0.327	5.508	0.355	5.669	0.381	5.871	0.414	6.126	0.459	6.464	0.523
1700	6.431	0.469	6.688	0.508	6.884	0.545	7.129	0.594	7.438	0.658	7.849	0.749
2000	7.566	0.634	7.868	0.687	8.099	0.737	8.387	0.802	8.751	0.889	9.235	1.012
2300	8.701	0.821	9.048	0.890	9.314	0.954	9.645	1.039	10.064	1.152	10.620	1.311
2600	9.836	1.030	10.229	1.116	10.529	1.198	10.902	1.304	11.376	1.446	12.005	1.644
2900	10.971	1.261	11.409	1.367	11.743	1.466	12.160	1.596	12.689	1.770	13.390	2.012
3200	12.106	1.513	12.589	1.640	12.958	1.759	13.418	1.915	14.001	2.124	14.775	2.414
3500	13.241	1.786	13.769	1.936	14.173	2.077	14.676	2.261	15.314	2.507	16.160	2.850

Based on calculation methods and design tables set forth by the Uni-Bell® PVC Pipe Association, “Handbook of PVC Pipe Design and Construction.”



FLOW/FRICTION CHARTS
(CONTINUED)

FLOW/FRICTION LOSS, RING-TITE™ PRESSURE PVC PIPE

12" I.P.S. O.D. (ASTM D2241) ACTUAL O.D. 12.750 INCH

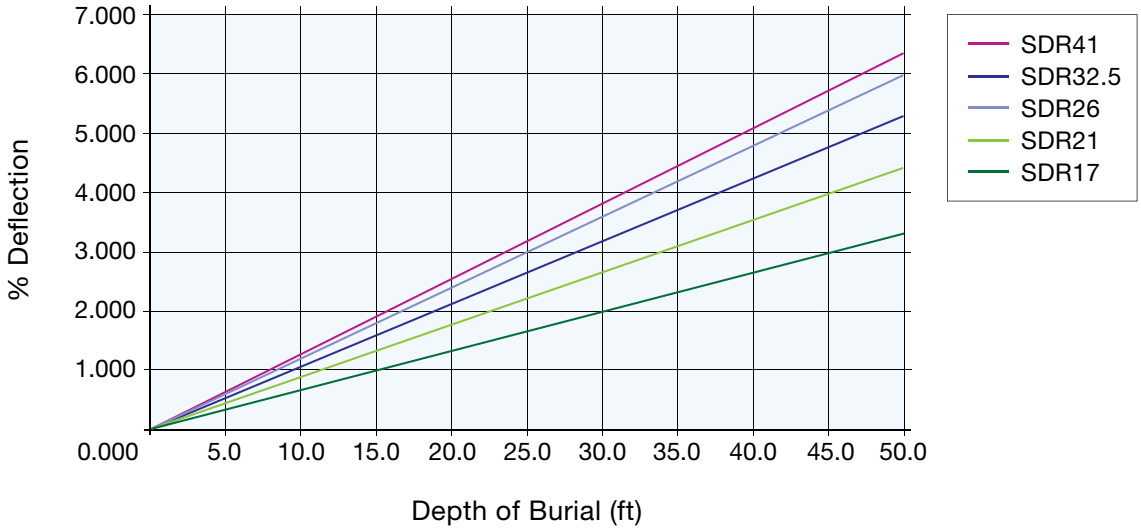
FLOW (GAL/ MIN)	SDR 64 (63 psi)		SDR 41 (100 psi)		SDR 32.5 (125 psi)		SDR 26 (160 psi)		SDR 21 (200 psi)		SDR 17 (250 psi)	
	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT	VELOCITY FT/S	PRESSURE DROP psi/100 FT
300	0.807	0.008	0.839	0.009	0.863	0.010	0.894	0.010	0.933	0.012	0.985	0.013
400	1.076	0.014	1.119	0.015	1.151	0.016	1.192	0.018	1.244	0.020	1.313	0.022
500	1.345	0.021	1.398	0.023	1.439	0.025	1.491	0.027	1.555	0.030	1.641	0.034
600	1.614	0.030	1.678	0.032	1.727	0.035	1.789	0.038	1.866	0.042	1.970	0.048
700	1.882	0.040	1.958	0.043	2.015	0.046	2.087	0.050	2.177	0.055	2.298	0.063
800	2.151	0.051	2.238	0.055	2.302	0.059	2.385	0.064	2.488	0.071	2.626	0.081
900	2.420	0.063	2.517	0.068	2.590	0.073	2.683	0.080	2.799	0.088	2.955	0.101
1000	2.689	0.077	2.797	0.083	2.878	0.089	2.981	0.097	3.110	0.107	3.283	0.123
1100	2.958	0.091	3.077	0.099	3.166	0.106	3.279	0.116	3.421	0.128	3.611	0.146
1200	3.227	0.107	3.356	0.116	3.454	0.125	3.577	0.136	3.732	0.151	3.939	0.172
1300	3.496	0.124	3.636	0.135	3.741	0.145	3.875	0.157	4.043	0.175	4.268	0.199
1400	3.765	0.143	3.916	0.155	4.029	0.166	4.174	0.181	4.354	0.200	4.596	0.228
1500	4.034	0.162	4.195	0.176	4.317	0.188	4.472	0.205	4.666	0.228	4.924	0.259
2000	5.378	0.276	5.594	0.299	5.756	0.321	5.962	0.350	6.221	0.388	6.566	0.442
2500	6.723	0.418	6.992	0.453	7.195	0.485	7.453	0.529	7.776	0.586	8.207	0.668
3000	8.068	0.586	8.391	0.635	8.634	0.680	8.943	0.741	9.331	0.822	9.849	0.935
3500	9.412	0.779	9.789	0.844	10.073	0.905	10.434	0.986	10.886	1.093	11.490	1.244
4000	10.757	0.998	11.188	1.081	11.512	1.159	11.924	1.262	12.441	1.400	13.131	1.593

Based on calculation methods and design tables set forth by the Uni-Bell® PVC Pipe Association, “Handbook of PVC Pipe Design and Construction.”

06

DEFLECTION CHART

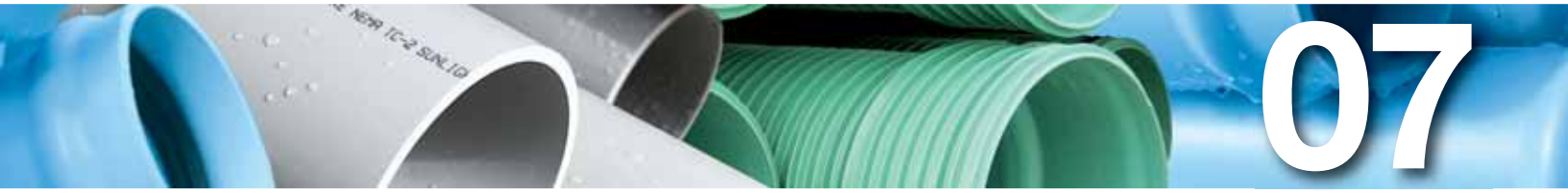
IPS Deflection By Depth of Burial : : †



: : Deflections computed using a unit weight of backfill at 120 lbs/cft and assume no internal pressure or live load.

: : Pipe embedment used in calculations is Class 1, 2, 3, or 4, as defined in ASTM D2321 with appropriate compaction to achieve an E'=1000 psi.

† Based on calculation methods and design tables set forth by the Uni-Bell® PVC Pipe Association, “Handbook of PVC Pipe Design and Construction.”



SHORT FORM INSTALLATION GUIDE/ WARNING

This information is furnished in order to provide a brief review of the installation requirements for JM Eagle™ I.P.S. PVC pipe. It is not intended to serve as or replace the function of the FULL VERSION product installation guide available upon request.

1. Check to see that the Rieber® gasket is properly seated in the bell groove, and that the bell and spigot are clean before assembly.
2. Apply the approved lubricant supplied with the pipe to the spigot end of the pipe, paying particular attention to the bevel. The coating should be equivalent to a brush coat of enamel paint.
3. Assemble the joint only to the reference mark provided on the spigot end.
4. If undue resistance to insertion of the spigot is encountered, or the reference mark does not reach the flush position, disassemble the joint and check the position of the rubber gasket, and remove any debris.
5. Curvature of the pipe shall be accomplished through longitudinal bending of the pipe barrel in accordance with the following table. Deflection of the joint is not allowed and may cause leakage.

PIPE SIZE (IN)	RADIUS (FT)	PIPE SIZE (IN)	RADIUS (FT)	PIPE SIZE (IN)	RADIUS (FT)
1.5	38	3	75	8	200
2	50	4	100	10	250
2.5	63	6	150	12	300

6. Prior to backfilling, check to see that the reference mark is flush with the end of the bell.
7. All taps performed on JM Eagle's pressure products, shall be in accordance with Uni-Bell® Publication UNI-PUB-08-07, "Tapping Guide for PVC Pressure Pipe."

Note: JM Eagle™ does not recommend direct tapping of IPS Pressure Pipe.

⚠ WARNING : RUPTURE HAZARD

IMPROPER INSTALLATION OR MISUSE OF TAPPING TOOLS MAY CAUSE PIPES UNDER HIGH PRESSURE TO RUPTURE AND RESULT IN HIGH VELOCITY AIRBORNE FRAGMENTATION LEADING TO SERIOUS INJURIES AND/OR DEATH.

BEFORE AND DURING INSTALLATION, ALWAYS:

- Consult and follow the FULL VERSION of the product installation guide
- Closely follow job specifications
- Use protective gear and equipment

BEFORE AND DURING TAPPING, ALWAYS:

- Consult and follow Uni-Bell® Publication UNI-PUB-08-07, "Tapping Guide for PVC Pressure Pipe."
- Use the correct tapping tools
- Bleed air from pipes at high spot before tapping
- Use protective gear and equipment

Please contact JM Eagle™ Product Assurance at (800) 621-4404 to obtain FULL VERSION of the appropriate installation guide or for further assistance.

08 WARRANTY

JM EAGLE™ PRODUCTS LIMITED WARRANTY

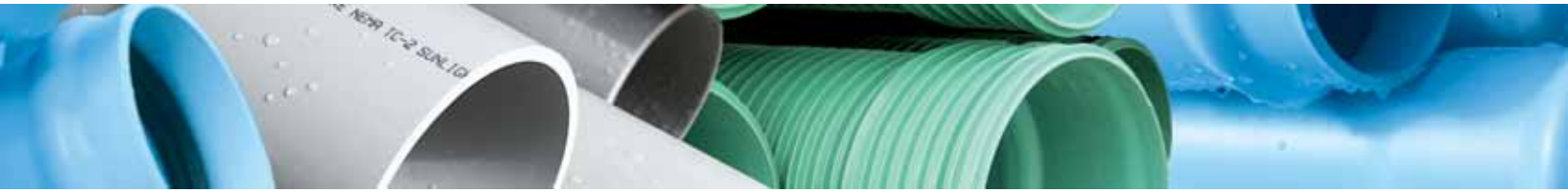
J-M Manufacturing Co., Inc. (JM Eagle™) warrants that its standard polyvinyl chloride (PVC), polyethylene (PE), conduit/plumbing/solvent weld and Acrylonitrile-Butadiene-Styrene (ABS) pipe Products ("Products") are manufactured in accordance with applicable industry specifications referenced on the Product and are free from defects in workmanship and materials. Every claim under this warranty shall be void unless in writing and received by JM Eagle™ within thirty (30) days of the date the defect was discovered, and within one (1) year of the date of shipment from the JM Eagle™ plant. Claims for Product appearance defects, such as sun-bleached pipe etc., however, must be made within thirty (30) days of the date of the shipment from the JM Eagle™ plant. This warranty specifically excludes any Products allowed to become sun-bleached after shipment from the JM Eagle™ plant. Proof of purchase with the date thereof must be presented to the satisfaction of JM Eagle™, with any claim made pursuant to this warranty. JM Eagle™ must first be given an opportunity to inspect the alleged defective Products in order to determine if it meets applicable industry standards, if the handling and installation have been satisfactorily performed in accordance with JM Eagle™ recommended practices and if operating conditions are within standards. Written permission and/or a Return Goods Authorization (RGA) must be obtained along with instructions for return shipment to JM Eagle™ of any Products claimed to be defective.

The limited and exclusive remedy for breach of this Limited Warranty shall be, at JM Eagle's sole discretion, the replacement of the same type, size and like quantity of non-defective Product, or credits, offsets, or combination of thereof, for the wholesale purchase price of the defective unit.

This Limited Warranty does not apply for any Product failures caused by user's flawed designs or specifications, unsatisfactory applications, improper installations, use in conjunction with incompatible materials, contact with aggressive chemical agents, freezing or overheating of liquids in the product and any other misuse causes not listed here. This Limited Warranty also excludes failure or damage caused by fire stopping materials, thread sealants, plasticized vinyl Products or damage caused by the fault or negligence of anyone other than JM Eagle™, or any other act or event beyond the control of JM Eagle™.

JM Eagle's liability shall not, at any time, exceed the actual wholesale purchase price of the Product. The warranties in this document are the only warranties applicable to the Product and there are no other warranties, expressed or implied. This Limited Warranty specifically excludes any liability for general damages, consequential or incidental damages, including without limitation, costs incurred from removal, reinstallation, or other expenses resulting from any defect. IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE SPECIFICALLY DISCLAIMED AND JM EAGLE™ SHALL NOT BE LIABLE IN THIS RESPECT NOTWITHSTANDING JM EAGLE'S ACTUAL KNOWLEDGE THE PRODUCT'S INTENDED USE.

JM Eagle's Products should be used in accordance with standards set forth by local plumbing and building laws, codes, or regulations and the applicable standards. Failure to adhere to these standards shall void this Limited Warranty. Products sold by JM Eagle™ that are manufactured by others are warranted only to the extent and limits of the warranty of the manufacturer. No statement, conduct or description by JM Eagle™ or its representative, in addition to or beyond this Limited Warranty, shall constitute a warranty. This Limited Warranty may only be modified in writing signed by an officer of JM Eagle™.



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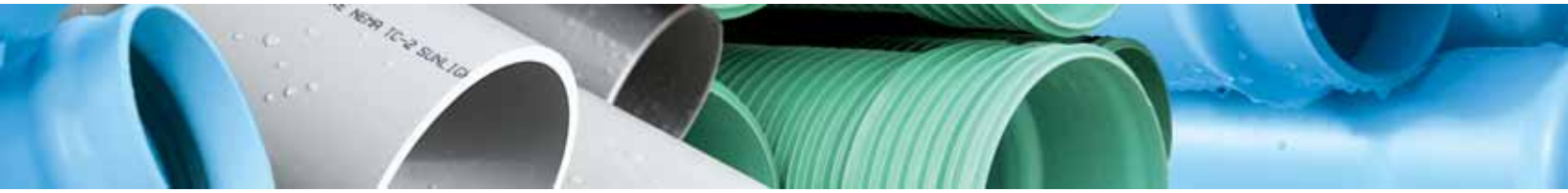

PLANT LOCATIONS

ADEL
2101 J-M Drive
Adel, Georgia 31620

BATCHELOR
2894 Marion Monk Road
Batchelor, Louisiana 70715

BUCKHANNON
Old Drop 33, Mudlick Road
Buckhannon, West Virginia 26201

BUTNER
2602 West Lyon Station Road
Creedmoor, North Carolina 27522

CAMERON PARK
3500 Robin Lane
Cameron Park, California 95682

COLUMBIA
6500 North Brown Station Road
Columbia, Missouri 65202

CONROE
101 East Avenue M
Conroe, Texas 77301

FONTANA
10990 Hemlock Avenue
Fontana, California 92337

HASTINGS
146 North Maple Avenue
Hastings, Nebraska 68901

KINGMAN
4620 Olympic Way
Kingman, Arizona 86401

MAGNOLIA
2220 Duracrete Drive
Magnolia, Arkansas 71753

MCNARY
31240 Roxbury Road
Umatilla, Oregon 97882

MEADVILLE
15661 Delano Road
Cochranton, Pennsylvania 16314

PERRIS
23711 Rider Street
Perris, California 92570

PUEBLO
1742 E. Platteville Boulevard
Pueblo West, Colorado 81007

STOCKTON
1051 Sperry Road
Stockton, California 95206

SUNNYSIDE
1820 South First Street
Sunnyside, Washington 98944

TACOMA
2330 Port of Tacoma Road
Tacoma, Washington 98421

TULSA
4501 West 49th Street
Tulsa, Oklahoma 74107

VISALIA
8875 Avenue 304
Visalia, California 93291

WHARTON
10807 US 59 RD
Wharton, Texas 77488

WILTON
1314 W. Third Street
Wilton, Iowa 52778

MEXICO
PLASTICS TECHNOLOGY
DE MÉXICO S DE R.L. DE S.A.
Av. Montes Urales No. 8 y 10
Parque Industrial Opción, Carretera
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** Our Mexico location is a joint venture between JM Eagle™ and Plastics Technology*

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Los Angeles, California 90045

REGIONAL OFFICE
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Livingston, New Jersey 07039

J-M Manufacturing Co., Inc. and PW Eagle, Inc. are doing business as JM Eagle™.

JM Eagle

- THE LEADER IN PIPE INNOVATION
- THE HIGHEST LEVEL OF QUALITY
- THE LARGEST BREADTH OF PRODUCT
- THE WIDEST CAPACITY
- EXPRESS DELIVERY

PLANT LOCATIONS

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JM Eagle™

Building essentials for a better tomorrow™

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