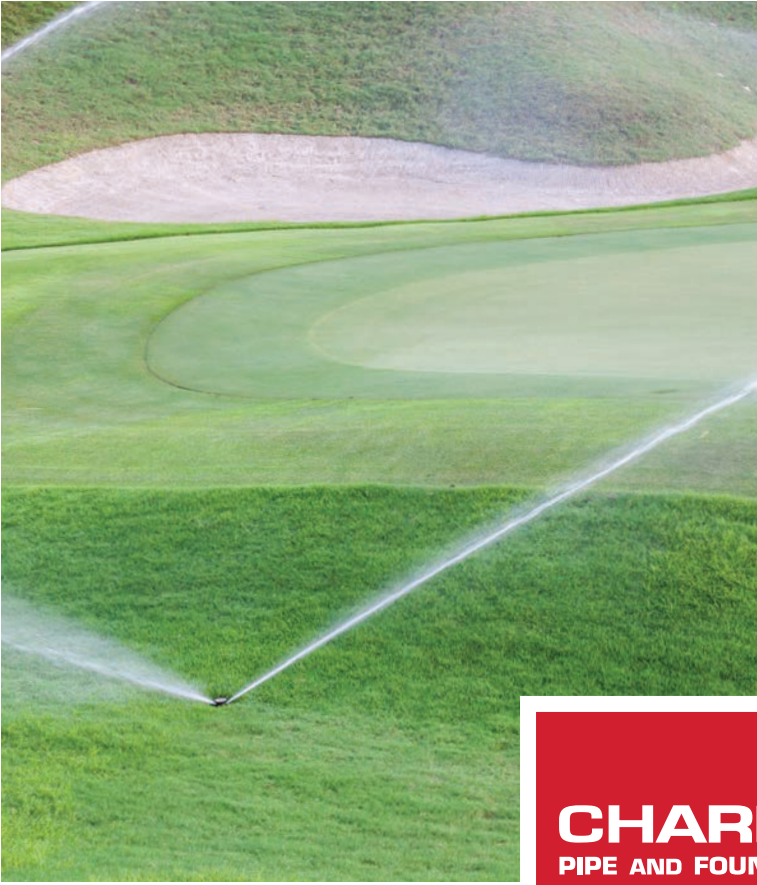


IRRIGATION TECHNICAL GUIDE



CHARLOTTE
PIPE AND FOUNDRY COMPANY
I R R I G A T I O N



Family-Owned Since 1901— Trust Charlotte Pipe® for All Your Irrigation Product Needs.



Charlotte Pipe has a proud heritage of family ownership that goes back four generations, and it still operates on the philosophy of founder Willis Frank Dowd — provide the best service for the customer and produce the best product possible.

The company offers a complete line of irrigation piping — all proudly made in the USA to the highest quality standards.

- > **PVC PIP PR 50/SDR 81 THROUGH PR 200/SDR 21**
- > **PVC PR 100/SDR 41 THROUGH PR 315/SDR 13.5**
- > **PVC D3034/SDR 35 SEWER**
- > **PVC SCH 40 AND SCH 80**
- > **PVC SOLVENT WELD, GASKET, PURPLE RECLAIMED**



Get What You Need, When You Need It.

Charlotte Pipe's packaging and shipping systems allow quick delivery of large or small quantities. Our pallet configurations and bundles are designed for easy storage in your yard and to simplify picking and delivery.



We offer many options, including:

- > Job site delivery — product shipments to your specific project location*
- > Flexible freight — partial-truck and mixed-truckload, and non-peak orders.
- > LTL, less-than-truckload drops at multiple locations*
- > Regional stock — Charlotte Pipe's irrigation pipe is manufactured and stocked in six plants throughout the United States.

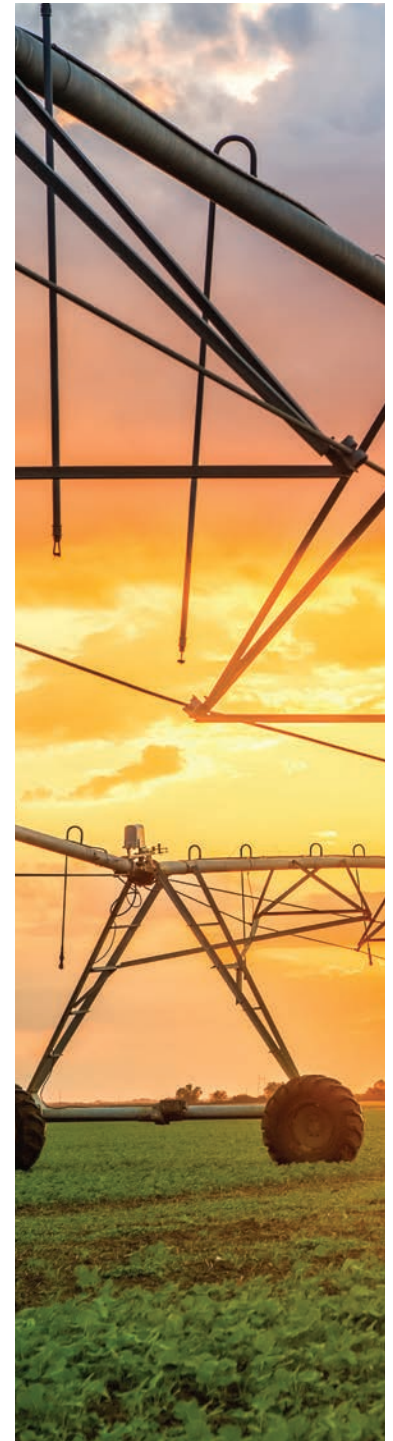
*based on minimum pallet quantities

World-Class Customer Service.

Our experienced customer service associates provide unmatched service, offering a wealth of information on products, orders and processes. We take a team approach to serving your business with flexibility and reliability you can count on.

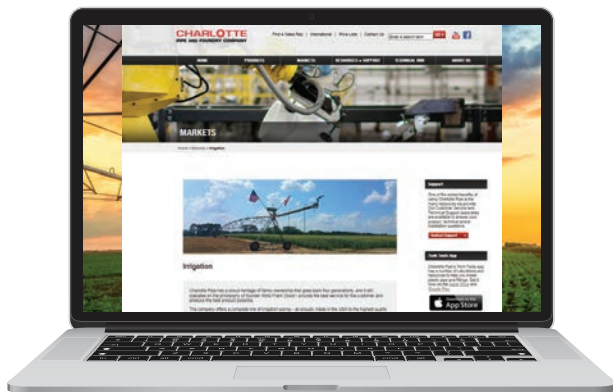
Multiple Locations to Serve You.

Charlotte Pipe has manufacturing facilities across the U.S.



Resources for You.

charlottepipe.com/techtoolsapp. Download it now at the App Store and Google Play or scan our QR code for tools such as our easy friction loss and flow velocity calculator for pressure systems, and more.



Get more information on our products, technical specs and much more at charlottepipe.com/irrigation

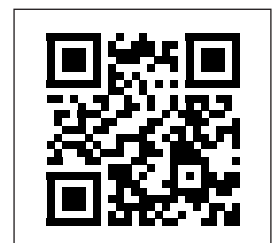


TABLE OF CONTENTS

PIPE REFERENCE GUIDE..... 5

DIMENSIONS.....6-8

LOADING CHARTS9-15

FRICITION LOSS AND FLOW CHARTS16-26

GASKETED PIPE ASSEMBLY 27



PIPE REFERENCE GUIDE																	
SIZES AVAILABLE																	
PRODUCT	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	15	16
PVC SCH. 40 BELL END	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PVC SCH. 40 PLAIN END	*	*	*	*	*	*	*	*	*		*	*	*	*	*		*
PVC SCH. 80 BELL END	*	*	*	*	*	*	*	*	*		*	*	*	*			
PVC SCH. 80 PLAIN END	*	*	*	*	*	*	*	*	*	*	*	*	*	*			
PVC RECLAIMED WATER PIPE SDR 21 (PR 200) BELL END		*	*	*	*	*	*	*	*		*						
PVC RECLAIMED WATER PIPE SDR 21 (PR 200) GASKETED						*	*	*	*		*	*	*	*			
PVC RECLAIMED WATER PIPE SDR 13.5 (PR 315) BELL END	*																
PVC RECLAIMED WATER PIPE SCH 40 BELL END		*	*	*	*	*	*	*	*								
PVC SDR 41 (PR 100) BELL END								*	*	*	*	*	*	*			
PVC SDR 41 (PR 100) GASKETED											*	*	*	*			
PVC SDR 32.5 (PR 125) BELL END							*	*	*	*	*	*	*	*			
PVC SDR 32.5 (PR 125) GASKETED											*	*	*	*			
PVC SDR 26 (PR 160) BELL END				*	*	*	*	*	*		*						
PVC SDR 26 (PR 160) GASKETED								*	*		*	*	*				
PVC SDR 21 (PR 200) BELL END		*	*	*	*	*	*	*	*		*						
PVC SDR 21 (PR 200) GASKETED							*	*	*		*	*	*	*			
PVC PIP SDR 81 (PR50) GASKETED											*	*	*	*		*	
PVC PIP SDR 51 (PR 80) GASKETED											*	*	*	*		*	
PVC PIP SDR 41 (PR 100) GASKETED											*	*	*	*		*	
PVC PIP SDR 32.5 (PR 125) GASKETED											*	*	*	*		*	
PVC PIP SDR 26 (PR 160) GASKETED																*	
PVC PIP SDR 21 (PR 200) GASKETED																*	
PVC SDR 35 SEWER PIPE BELL END									*		*						
PVC SDR 35 SEWER PIPE GASKETED									*		*	*					
PVC 2729 SEWER/DRAIN PIPE BELL END (SOLID WALL)								*	*		*						
PVC 2729 SEWER/DRAIN PIPE BELL END (PERFORATED)								*	*								

DIMENSIONS

PVC SCH 40				
PIPE SIZE	AVG. OD.	MIN. WALL	AVG. ID	MAX PSI
½"	0.840	0.109	0.622	600 PSI
¾"	1.050	0.113	0.824	480 PSI
1"	1.315	0.133	1.049	450 PSI
1¼"	1.660	0.140	1.380	370 PSI
1½"	1.900	0.145	1.610	330 PSI
2"	2.375	0.154	2.067	280 PSI
2½"	2.875	0.203	2.469	300 PSI
3"	3.500	0.216	3.068	260 PSI
4"	4.500	0.237	4.026	220 PSI
5"	5.563	0.258	5.047	190 PSI
6"	6.625	0.280	6.065	180 PSI
8"	8.625	0.322	7.981	160 PSI
10"	10.750	0.365	10.020	140 PSI
12"	12.750	0.406	11.938	130 PSI
14"	14.000	0.437	13.126	130 PSI
16"	16.000	0.500	15.000	130 PSI

PVC SCH 80				
PIPE SIZE	AVG. OD.	MIN. WALL	AVG. ID	MAX PSI
½"	0.840	0.147	0.546	850 PSI
¾"	1.050	0.154	0.742	690 PSI
1"	1.315	0.179	0.957	630 PSI
1¼"	1.660	0.191	1.278	520 PSI
1½"	1.900	0.200	1.500	470 PSI
2"	2.375	0.218	1.939	400 PSI
2½"	2.875	0.276	2.323	420 PSI
3"	3.500	0.300	2.900	370 PSI
4"	4.500	0.337	3.826	320 PSI
5"	5.563	0.375	4.813	290 PSI
6"	6.625	0.432	5.761	280 PSI
8"	8.625	0.500	7.625	250 PSI
10"	10.750	0.593	9.564	230 PSI
12"	12.750	0.687	11.376	230 PSI
14"	14.000	0.750	12.500	220 PSI
16"	16.000	0.843	14.314	220 PSI

PVC SDR 41 (100 PSI)				
PIPE SIZE	AVG. OD.	MIN. WALL	AVG. ID	
3"	3.500	0.085	3.330	
4"	4.500	0.110	4.280	
5"	5.563	0.136	5.290	
6"	6.625	0.162	6.300	
8"	8.625	0.210	8.200	
10"	10.750	0.262	10.230	
12"	12.750	0.311	12.130	

DIMENSIONS

PVC SDR 32.5 (125 PSI)			
PIPE SIZE	AVG. OD.	MIN. WALL	AVG. ID
2½"	2.875	0.088	2.700
3"	3.500	0.108	3.280
4"	4.500	0.138	4.224
5"	5.630	0.171	5.221
6"	6.625	0.204	6.217
8"	8.625	0.265	8.095
10"	10.750	0.311	10.088
12"	12.750	0.392	11.966

PVC SDR 26 (160 PSI)			
PIPE SIZE	AVG. OD.	MIN. WALL	AVG. ID
1¼"	1.660	0.064	1.532
1½"	1.900	0.073	1.754
2"	2.375	0.091	2.193
2½"	2.875	0.110	2.655
3"	3.500	0.135	3.230
4"	4.500	0.173	4.154
5"	5.563	0.214	5.135
6"	6.625	0.255	6.115
8"	8.625	0.332	7.961
10"	10.750	0.413	9.924
12"	12.750	0.490	11.770

PVC SDR 21 (200 PSI)			
PIPE SIZE	AVG. OD.	MIN. WALL	AVG. ID
¾"	1.050	0.060	0.930
1"	1.315	0.063	1.189
1¼"	1.660	0.079	1.502
1½"	1.900	0.090	1.720
2"	2.375	0.113	2.149
2½"	2.875	0.137	2.601
3"	3.500	0.167	3.166
4"	4.500	0.214	4.072
5"	5.563	0.265	5.033
6"	6.625	0.316	5.993
8"	8.625	0.410	7.805
10"	10.750	0.511	9.728
12"	12.750	0.606	11.538

DIMENSIONS**PVC PIP SDR 81 (50 PSI)**

PIPE SIZE	AVG. OD.	MIN. WALL	AVG. ID
6"	6.140	0.076	5.988
8"	8.160	0.101	7.958
10"	10.200	0.126	9.948
12"	12.240	0.151	11.938
15"	15.300	0.189	14.922

PVC PIP SDR 51 (80 PSI)

PIPE SIZE	AVG. OD.	MIN. WALL	AVG. ID
6"	6.140	0.150	5.840
8"	8.160	0.160	7.840
10"	10.200	0.200	9.800
12"	12.240	0.240	11.760
15"	15.300	0.300	14.700

PVC PIP SDR 41 (100 PSI)

PIPE SIZE	AVG. OD.	MIN. WALL	AVG. ID
6"	6.140	0.150	5.840
8"	8.160	0.199	7.762
10"	10.200	0.249	9.702
12"	12.240	0.299	11.642
15"	15.300	0.373	14.554

PVC PIP SDR 32.5 (125 PSI)

PIPE SIZE	AVG. OD.	MIN. WALL	AVG. ID
6"	6.140	0.189	5.762
8"	8.160	0.251	7.658
10"	10.200	0.314	9.572
12"	12.240	0.377	11.486
15"	15.300	0.471	14.358

PVC PIP SDR 26 (160 PSI)

PIPE SIZE	AVG. OD.	MIN. WALL	AVG. ID
15"	15.300	0.588	14.124

PVC PIP SDR 21 (200 PSI)

PIPE SIZE	AVG. OD.	MIN. WALL	AVG. ID
15"	15.300	0.728	13.844

LOADING CHART

PVC PIP SDR PIPE (WHITE)

PIP SDR 81 (PR 50 PSI) GASKETED						
44' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
6"	1,452'	46"	34"	1363 LB	6	16.67%
8"	528'	49"	20"	876 LB	10	10%
10"	440*/352'	44*/44"	24"	1,140*/912 LB	8	13.9*/11.2%
12"	352'	49"	27.5"	1,313 LB	6	16.67%
22' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
15"	132'	49"	33.5"	786 LB	12	8.33%
* "FIVE-WIDE" SKID DATA (MUST BE PURCHASED TOGETHER)						

PIP SDR 51 (PR 80 PSI) GASKETED						
44' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
6"	1,452'	46"	34"	2,133 LB	6	16.67%
8"	528'	49"	20"	1,375 LB	10	10%
10"	440*/352'	51*/44"	24"	1,793*/1,435 LB	8	13.9*/11.2%
22' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
6"	726'	46"	34"	1,081 LB	12	8.33%
8"	264'	49"	20"	698 LB	20	5%
10"	220*/176'	51*/44"	24"	911*/729 LB	16	7*/5.75%
12"	176'	49"	27.5"	1,052 LB	12	8.33%
15"	132'	49"	33.5"	1,239 LB	12	8.33%
* "FIVE-WIDE" SKID DATA (MUST BE PURCHASED TOGETHER)						

PIP SDR 41 (PR 100 PSI) GASKETED						
44' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
6"	1,452'	46"	34"	2,651 LB	6	16.67%
8"	528'	49"	20"	1,701 LB	10	10%
10"	440*/352'	51*/44"	24"	2,220*/1,776 LB	8	13.9*/11.2%
22' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
6"	726'	46"	34"	1,343 LB	12	8.33%
8"	264'	49"	20"	863 LB	20	5%
10"	220*/176'	44"	24"	1,128*/902 LB	16	7*/5.75%
12"	176'	49"	40"	1,303 LB	12	8.33%
15"	132'	49"	33.5"	1,527 LB	12	8.33%
* "FIVE-WIDE" SKID DATA (MUST BE PURCHASED TOGETHER)						

PIP SDR 32.5 (PR 125 PSI) GASKETED						
22' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
6"	726'	46"	34"	1,680 LB	12	8.33%
8"	264'	49"	20"	1,081 LB	20	5%
10"	220*/176'	51*/44"	24"	1,412*/1,129 LB	16	7*/5.75%
12"	176'	49"	27.5"	1,631 LB	12	8.33%
15"	132'	49"	33.5"	1,913 LB	12	8.33%
* "FIVE-WIDE" SKID DATA (MUST BE PURCHASED TOGETHER)						

PIP SDR 26 (PR 160 PSI) GASKETED						
22' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
15"	132'	49"	33.5"	2,369 LB	12	8.33%

PIP SDR 21 (PR 200 PSI) GASKETED						
22' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
15"	132'	49"	33.5"	2,904 LB	12	8.33%

LOADING CHART

PVC RECLAIMED WATER PIPE (PURPLE)

SDR 21 (PR 200 PSI) BELL END (RW)

20' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
¾"	7,000'	42.5"	11"	889 LB	36	2.77%
1"	6,000'	43.25"	15"	1,014 LB	24	4.16%
1¼"	4,000'	46.5"	14.5"	1,020 LB	28	3.57%
1½"	3,300'	49"	14"	1,069 LB	28	3.57%
2"	2,200'	48.5"	14.25"	1,128 LB	28	3.57%
2½"	1,460'	48.5"	14.5"	1,105 LB	28	3.57%
3"	1,000'	47"	14.5"	1,124 LB	28	3.57%
4"	1,340'	49"	29.5"	2,482 LB	12	8.33%
6"	660'	51"	33"	2,657 LB	12	8.33%

SDR 21 (PR 200 PSI) GASKETED (RW)

20' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
2½"	1,460'	48.5"	14.5"	1,096 LB	28	3.57%
3"	1,000'	47"	14.5"	1,138 LB	28	3.57%
4"	1,340'	49"	29.5"	2,522 LB	12	8.33%
6"	660'	51"	33"	2,757 LB	12	8.33%
8"	280'	47"	26.5"	1,351 LB	16	6.25%
10"	160'	43"	23.5"	1,678 LB	16	6.25%
12"	60'	39.25"	14.75"	885 LB	28	3.57%

SDR 13.5 (PR 315 PSI) BELL END (RW)

20' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
½"	9,000'	42.5"	9.25"	900 LB	44	2.27%

SCH 40 BELL END (RW)

20' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
¾"	7,000'	42"	12.5"	1,477 LB	28	3.57%
1"	6,000'	46.5"	15.5"	1,878 LB	24	4.16%
1¼"	4,000'	46.5"	14"	1,696 LB	28	3.57%
1½"	3,300'	49"	14"	1,709 LB	28	3.57%
2"	2,200'	48.5"	14.25"	1,543 LB	28	3.57%
2½"	1,460'	48.5"	14.5"	1,606 LB	28	3.57%
3"	1000'	47"	14.5"	1,442 LB	28	3.57%
4"	1,340'	49"	29.5"	2,822 LB	12	8.33%

LOADING CHART

PVC SDR PRESSURE PIPE (WHITE)

SDR 41 (PR 100 PSI) BELL END

20' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
3"	1,000'	46"	14.25"	581 LB	28	3.57%
4"	1,340'	49"	29.5"	1,294 LB	12	8.33%
5"	760'	47.75"	26"	1,123 LB	12	8.33%
6"	660'	51"	33"	1,383 LB	12	8.33%
8"	280'	47"	26.5"	990	16	6.25%
10"	160'	43"	23.5"	880 LB	16	6.25%
12"	80'	51"	14.75"	619 LB	28	3.57%

SDR 41 (PR 100 PSI) GASKETED

20' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
6"	660'	51"	33"	1,383 LB	12	8.33%
8"	280'	47"	26.5"	990	16	6.25%
10"	160'	43"	23.5"	880 LB	16	6.25%
12"	60'	39.25"	14.75"	465 LB	28	3.57%

SDR 32.5 (PR 125 PSI) BELL END

20' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
2½"	1,460'	48.5"	14.5"	717 LB	28	3.57%
3"	1,000'	46"	14.25"	733 LB	28	3.57%
4"	1,340'	49"	29.5"	1,615 LB	12	8.33%
5"	760'	47.75"	26"	1,402 LB	12	8.33%
6"	660'	51"	33"	1,730 LB	12	8.33%
8"	280'	47"	26.5"	1,241 LB	16	6.25%
10"	160'	43"	23.5"	1,159 LB	16	6.25%
12"	80'	51"	14.75"	776 LB	28	3.57%

SDR 32.5 (PR 125 PSI) GASKETED

20' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
6"	660'	51"	33"	1,730 LB	12	8.33%
8"	280'	47"	26.5"	1,241 LB	16	6.25%
10"	160'	47.75"	26"	1,104 LB	16	6.25%
12"	60'	39.25"	14.75"	582 LB	28	3.57%

LOADING CHART

PVC SDR PRESSURE PIPE (WHITE)

SDR 26 (PR 160 PSI) BELL END

20' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
1¼"	4,000'	46.5"	13.75"	860 LB	28	3.57%
1½"	3,300'	47"	15.5"	891 LB	24	4.16%
2"	2,200'	48.5"	14.25"	919 LB	28	3.57%
2½"	1,460'	48.5"	14.50"	896 LB	28	3.57%
3"	1,000'	47"	14.5"	908 LB	28	3.57%
4"	1,340'	49"	29.5"	2,070 LB	12	8.33%
6"	660'	51"	33"	2,657 LB	12	8.33%

SDR 26 (PR 160 PSI) GASKETED

20' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
3"	1,000'	47"	14.5"	908 LB	28	3.57%
4"	1,340'	49"	29.5"	2,007 LB	12	8.33%
6"	660'	51"	33"	2,657 LB	12	8.33%
8"	280'	47"	26.5"	1,543 LB	16	6.25%
10"	160'	43"	23.5"	1,367 LB	16	6.25%

SDR 21 (PR 200 PSI) BELL END

20' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
¾"	7,000'	42.5"	11"	889 LB	36	2.77%
1"	6,000'	43.25"	15"	1,014 LB	24	4.16%
1¼"	4,000'	43"	14.5"	1,020 LB	28	3.57%
1½"	3,300'	46.5"	15.5"	1,069 LB	24	4.16%
2"	2,220'	48.5"	14.25"	1,128 LB	28	3.57%
2½"	1,460'	48.5"	14.5"	1,105 LB	28	3.57%
3"	1,000'	47"	14.5"	1,124 LB	28	3.57%
4"	1,340'	49"	29.5"	2,482 LB	12	8.33%
6"	660'	43"	28"	1,932 LB	12	8.33%

SDR 21 (PR 200 PSI) GASKETED

20' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
2½"	1,460'	48.5"	14.5"	1,096 LB	28	3.57%
3"	1,000'	47"	14.5"	1,138 LB	28	3.57%
4"	1,340'	49"	29.5"	2,522 LB	12	8.33%
6"	660'	51"	33"	2,757 LB	12	8.33%
8"	280'	47"	26.5"	1,891 LB	16	6.25%
10"	160'	43"	23.5"	1,678 LB	16	6.25%
12"	60'	39.25"	14.75"	885 LB	28	3.57%

LOADING CHART

PVC SCH. 40 PIPE (WHITE)

SCH. 40 BELL END

20' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
½"	9,000'	42"	11"	1,431 LB	36	2.77%
¾"	7,000'	42"	12.5"	1,477 LB	32	3.12%
1"	6,000'	44.5"	15.5"	1,878 LB	24	4.16%
1¼"	4,000'	46.5"	14"	1,696 LB	28	3.57%
1½"	3,300'	49"	14"	1,709 LB	28	3.57%
2"	2,220'	48.5"	14.25"	1,543 LB	28	3.57%
2½"	1,460'	48.5"	14.5"	1,606 LB	28	3.57%
3"	1,000'	49"	14.5"	1,442 LB	28	3.57%
4"	1,340'	49"	29.5"	2,822 LB	12	8.33%
5"	760'	47.75"	26"	2,071 LB	12	8.33%
6"	660'	51"	33"	2,463 LB	12	8.33%
8"	280'	47"	26.5"	1,579 LB	12	8.33%
10"	160'	43"	23.5"	1,250 LB	16	6.25%
12"	80'	51"	14.75"	827 LB	28	3.57%
14"	60'	41.5"	16.5"	733 LB	24	4.16%
16"	60'	49.5"	18"	957 LB	20	5.00%

SCH. 40 BELL END

10' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
¾"	3,500'	43"	11.5"	758 LB	64	1.56%
1"	3,000'	47"	15.75"	939 LB	48	2.08%

SCH. 40 PLAIN END

20' LENGTH						
PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
½"	9,000'	42"	10.5"	1,431 LB	28	3.57%
¾"	7,000'	42"	11.75"	1,484 LB	28	3.57%
1"	6,000'	46"	16"	1,884 LB	24	4.16%
1¼"	4,240'	43.5"	14.5"	1,806 LB	24	4.16%
1½"	3,300'	49"	14.5"	1,680 LB	28	3.57%
2"	2,200'	48.5"	14.25"	1,521 LB	28	3.57%
2½"	1,460'	48.5"	14.75"	1,586 LB	28	3.57%
3"	1,000'	49"	14.5"	1,420 LB	28	3.57%
4"	1,340'	49"	30"	2,711 LB	12	8.33%
6"	660'	51"	33"	2,349 LB	12	8.33%
8"	280'	47"	26.5"	1,579 LB	12	8.33%
10"	220'	46.25"	30.5"	1,683 LB	12	8.33%
12"	80'	51"	14.75"	809 LB	28	3.57%
14"	60'	42"	16"	718 LB	24	4.16%
16"	60'	48.5"	18"	938 LB	20	5.00%

LOADING CHART

PVC SCH. 80 PIPE (GRAY)

SCH. 80 BELL END

20' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
½"	9,000'	42"	11"	1,827 LB	24	4.16%
¾"	7,000'	42"	12.5"	1,925 LB	24	4.16%
1"	3,540'	43"	9"	1,434 LB	44	2.27%
1¼"	4,240'	45"	15.25"	2,379 LB	24	4.16%
1½"	3,300'	49"	13.5"	2,244 LB	28	3.57%
2"	2,220'	48.5"	14.25"	2,087 LB	28	3.57%
2½"	1,460'	48.5"	14.5"	2,094 LB	28	3.57%
3"	1,000'	49"	14.50"	1,942 LB	28	3.57%
4"	1,140'	49"	26.25"	3,184 LB	12	8.33%
6"	520'	51"	26"	2,770 LB	12	8.33%
8"	280'	47"	26.5"	2,278 LB	16	6.25%
10"	160'	47"	26.5"	1,919 LB	16	6.25%
12"	60'	39.25"	14.75"	990 LB	28	3.57%

SCH. 80 BELL END

10' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
¾"	2,920'	43"	9"	803 LB	88	1.13%

SCH. 80 PLAIN END

20' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
½"	9,000'	42"	11"	1,827 LB	24	4.16%
¾"	7,000'	42"	12.5"	1,925 LB	24	4.16%
1"	3,540'	43"	9"	1,434 LB	44	2.27%
1¼"	4,240'	45"	15.25"	2,379 LB	24	4.16%
1½"	3,300'	49"	13.5"	2,244 LB	28	3.57%
2"	2,220'	48.5"	14.25"	2,087 LB	28	3.57%
2½"	1,460'	48.5"	14.5"	2,094 LB	28	3.57%
3"	1,000'	49"	14.50"	1,920 LB	28	3.57%
4"	1,140'	49"	26.25"	3,201 LB	12	8.33%
5"	760'	49.5"	28"	2,959 LB	16	6.25%
6"	520'	51"	26"	2,785 LB	12	8.33%
8"	280'	48"	25.25"	2,278 LB	12	8.33%
10"	160'	43"	24"	1,930 LB	16	6.25%
12"	80'	51"	14.75"	1,328 LB	28	3.57%

SCH. 80 PLAIN END

10' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
1"	1,770'	43"	9"	719 LB	88	1.13%

LOADING CHART

PVC SEWER PIPE (NOT FOR PRESSURE) (GREEN)

SDR 35 BELLED END

20' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
4"	1,340'	49"	29.5"	1,365 LB	12	8.33%
6"	660'	51"	33"	1,502 LB	12	8.33%

SDR 35 BELLED END

10' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
4"	670'	49"	29.5"	683 LB	24	4.16%

SDR 35 GASKETED

20' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
4"	1340'	49"	29.5"	1,470 LB	12	8.33%
6"	660'	51"	33"	1,630 LB	12	8.33%

SDR 35 GASKETED

14' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
4"	938'	49"	29.5"	1,036 LB	18	5.56%
6"	462'	51"	33"	1,153 LB	18	5.56%
8"	196'	47"	26.5"	884 LB	18	5.56%

PVC 2729 SEWER & DRAIN PIPE (NOT FOR PRESSURE) (WHITE)

2729 PIPE BELLED END (SOLID WALL)

10' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
3"	1,130'	49"	29"	522 LB	24	4.16%
4"	670'	49"	30"	431 LB	24	4.16%
6"	330'	51"	33"	423 LB	24	4.16%

2729 PIPE BELLED END (PERFORATED)

10' LENGTH

PIPE SIZE	SKID QTY (FT)	WIDTH (IN)	HEIGHT (IN)	GROSS WT (LB)	SKIDS PER TRUCK	TRUCK % PER SKID
3"	1,130'	49"	29"	519 LB	24	4.16%
4"	670'	49"	30"	430 LB	24	4.16%

FRICTION LOSS AND FLOW VELOCITY CHART

FRICTION LOSS AND FLOW VELOCITY FOR PVC SCH. 40 IPS THERMOPLASTIC PIPE
 (Friction head and friction loss are per 100 feet of pipe.) Notice: Flow velocities should not exceed 5 feet per second, velocities exceeding 5 feet per second may result in failure and property damage

Gallons per Minute	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI								
			½"			¾"			1"																							
3	3.170	7.580	3.280	2.230	3.210	1.390	1.110	0.600	0.260																							
4	4.230	12.910	5.600	2.970	5.470	2.370	1.490	1.020	0.440	1¼"																						
6	8.230	51.570	22.360	4.450	11.590	5.030	2.680	3.360	1.460	1.500	0.820	0.360																				
10	10.560	70.450	30.540	7.420	29.860	12.950	3.710	5.540	2.400	2.150	1.460	0.630	1½"																			
13	13.730	114.530	49.650	9.650	48.540	21.050	4.830	9.010	3.900	2.790	2.370	1.030	2.050	1.120	0.490																	
20				14.850	107.800	46.740	7.430	20.000	8.670	4.290	5.270	2.280	3.150	2.490	1.080																	
23							8.540	25.910	11.230	4.940	6.820	2.960	3.630	3.220	1.400																	
30							11.140	42.380	18.370	6.440	11.160	4.840	4.730	5.270	2.290																	
31							6.650	11.860	5.140	4.890	5.600	2.430	2"																			
36							7.730	15.640	6.780	5.680	7.390	3.200	3.440	2.190	0.950																	
40										6.310	8.980	3.890	3.830	2.660	1.150																	
45										7.100	11.170	4.840	4.300	3.310	1.440																	
50													4.780	4.030	1.740	2½"																
52													4.970	4.330	1.880	3.490	1.820	0.790														
60													5.740	5.640	2.450	4.020	2.380	1.030														
65													6.220	6.540	2.840	4.360	2.760	1.190														
70													6.700	7.510	3.250	4.690	3.160	1.370														
74																4.960	3.500	1.520														
82																5.500	4.240	1.840	3"													
85																5.700	4.530	1.960	3.690	1.570	0.680											
90																6.030	5.040	2.180	3.910	1.750	0.760											
95																			4.130	1.930	0.840											
100																			4.340	2.130	0.920											
115	4"																					4.990	2.760	1.190								
130	3.280	0.920	0.400																													
135	3.400	0.990	0.430																													
140	3.530	1.060	0.460																													
150	3.780	1.200	0.520																													
198	4.990	2.010	0.870																													
220	5.550	2.440	1.060	5"																												
225	5.670	2.550	1.100	3.610	0.850	0.370																										
245	6.180	2.980	1.290	3.930	0.990	0.430																										
250				4.010	1.030	0.450																										
275				4.410	1.230	0.530																										
311				4.990	1.540	0.670																										
325				5.210	1.670	0.730	6"																									
340				5.460	1.820	0.790	3.780	0.740	0.320																							
350				5.620	1.920	0.830	3.890	0.790	0.340																							
370							4.110	0.870	0.380																							
400							4.440	1.010	0.440																							
450							5.000	1.250	0.540																							
480							5.330	1.410	0.610																							
500							5.560	1.520	0.660																							
535							5.940	1.720	0.750	8"																						
550										3.530	0.480	0.210																				
600										3.850	0.560	0.240																				
650										4.170	0.650	0.280																				
700										4.490	0.750	0.320																				
779										5.000	0.910	0.390																				
800										5.130	0.960	0.410	10"																			
820										5.260	1.000	0.430	3.340	0.330	0.140																	
850										5.450	1.070	0.460	3.460	0.350	0.150	12"																
900													3.660	0.390	0.170	2.580	0.170	0.070														
1000													4.070	0.480	0.210	2.870	0.200	0.090	14"													
1228													5.000	0.700	0.300	3.520	0.300	0.130	2.910	0.190	0.080											
1500													6.110	1.010	0.440	4.300	0.430	0.190	3.560	0.270	0.120	16"										
1745													7.100	1.340	0.580	5.000	0.570	0.250	4.140	0.360	0.160	3.170	0.190	0.080								
1800													7.330	1.420	0.610	5.160	0.600	0.260	4.270	0.380	0.170	3.270	0.200	0.090								
2100																6.020	0.800	0.350	4.980	0.510	0.220	3.810	0.260	0.110								
2500																7.170	1.110	0.480	5.930	0.700	0.300	4.540	0.370	0.160								
2755																			6.400	0.800	0.350	5.000	0.440	0.190								
3000																			7.120	0.980	0.430	5.450	0.510	0.220								
3500																						6.360	0.680	0.300								
4000																						7.270	0.870	0.380								

FRICTION LOSS AND FLOW VELOCITY CHART

FRICTION LOSS AND FLOW VELOCITY FOR PVC SDR 21 THERMOPLASTIC PIPE
 (Friction head and friction loss are per 100 feet of pipe.) Notice: Flow velocities should not exceed 5 feet per second, velocities exceeding 5 feet per second may result in failure and property damage

Gallons per Minute	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI
¾"			1"			1¼"			1½"			2"			2½"			3"			
5	2.360	2.760	1.200	1.450	0.830	0.360															
10	4.730	9.950	4.310	2.890	3.010	1.310															
15	7.090	21.090	9.140	4.340	6.380	2.770	2.720	2.050	0.890												
17	8.030	26.590	11.530	4.910	8.050	3.490	3.080	2.580	1.120												
20	9.450	35.930	15.580	5.780	10.870	4.710	3.620	3.490	1.510	2.760	1.800	0.780									
25				7.230	16.430	7.120	4.530	5.270	22.900	3.450	2.730	1.180									
27				7.810	18.950	8.220	4.890	6.080	2.640	3.730	3.140	1.360									
30							5.430	7.390	3.200	4.140	3.820	1.660	2.650	1.290	0.560						
35							6.340	9.830	4.260	4.840	5.080	2.200	3.100	1.720	0.750						
36							6.520	10.360	4.490	4.970	5.360	2.320	3.190	1.810	0.790						
40										5.530	6.510	2.820	3.540	2.200	0.960	2.420	0.870	0.380			
45										6.220	8.100	3.510	3.980	2.740	1.190	2.720	1.080	0.470			
50										6.910	9.840	4.270	4.420	3.330	1.440	3.020	1.320	0.570			
56										4.960	4.110	1.780	3.380	1.620	0.700	2.280	0.620	0.270			
60										5.310	4.670	2.020	3.620	1.840	0.800	2.450	0.710	0.310			
65										5.750	5.410	2.350	3.930	2.140	0.930	2.650	0.820	0.360			
70										6.190	6.210	2.690	4.230	2.450	1.060	2.850	0.940	0.410			
75													4.530	2.790	1.210	3.060	1.070	0.460			
82	4"												4.950	3.290	1.430	3.340	1.260	0.550			
85	2.100	0.400	0.170										5.140	3.520	1.520	3.470	1.350	0.590			
90	2.220	0.440	0.190										5.440	3.910	1.690	3.670	1.500	0.650			
95	2.340	0.490	0.210										5.740	4.320	1.870	3.870	1.660	0.720			
100	2.460	0.540	0.230													4.080	1.830	0.790			
122	3.010	0.780	0.340	5"												4.970	2.640	1.140			
130	3.200	0.870	0.380	2.100	0.310	0.130										5.300	2.970	1.290			
135	3.330	0.940	0.410	2.180	0.330	0.140										5.500	3.180	1.380			
140	3.450	1.000	0.430	2.260	0.360	0.150										5.710	3.400	1.480			
150	3.700	1.140	0.490	2.420	0.410	0.180	6"														
203	5.000	1.990	0.860	3.280	0.710	0.310	2.310	0.300	0.130												
220	5.420	2.310	1.000	3.550	0.820	0.360	2.500	0.350	0.150												
225	5.550	2.410	1.040	3.630	0.860	0.370	2.560	0.370	0.160												
245	6.040	2.820	1.220	3.950	1.010	0.440	2.790	0.430	0.190												
250				4.030	1.040	0.450	2.840	0.450	0.190												
275				4.440	1.250	0.540	3.130	0.530	0.230	8"											
310				5.000	1.560	0.670	3.530	0.670	0.290	2.080	0.180	0.080									
325				5.240	1.700	0.740	3.700	0.730	0.310	2.180	0.200	0.090									
340				5.490	1.850	0.800	3.870	0.790	0.340	2.280	0.220	0.090									
350				5.650	1.950	0.840	3.980	0.830	0.360	2.350	0.230	0.100									
370							4.210	0.920	0.400	2.480	0.260	0.110									
400							4.550	1.070	0.460	2.680	0.290	0.130									
439							5.000	1.270	0.550	2.950	0.350	0.150	10"								
480							5.460	1.490	0.650	3.220	0.410	0.180	2.070	0.140	0.060						
500							5.690	1.610	0.700	3.350	0.450	0.190	2.160	0.150	0.070						
535							6.090	1.830	0.790	3.590	0.510	0.220	2.310	0.170	0.080						
550										3.690	0.530	0.230	2.380	0.180	0.080						
600										4.030	0.620	0.270	2.590	0.210	0.090	12"					
650										4.360	0.720	0.310	2.810	0.250	0.110	2.000	0.110	0.050			
700										4.700	0.830	0.360	3.020	0.280	0.120	2.150	0.120	0.050			
745										5.000	0.930	0.400	3.220	0.320	0.140	2.290	0.140	0.060			
800										5.370	1.060	0.460	3.460	0.360	0.160	2.460	0.160	0.070			
820										5.500	1.110	0.480	3.540	0.380	0.170	2.520	0.170	0.070			
850										5.700	1.190	0.520	3.670	0.410	0.180	2.610	0.180	0.080			
900													3.890	0.450	0.200	2.760	0.200	0.090			
1000													4.320	0.550	0.240	3.070	0.240	0.100			
1158													5.000	0.720	0.310	3.560	0.320	0.140			
1500													6.480	1.170	0.510	4.610	0.510	0.220			
1630													6.910	1.320	0.570	5.000	0.590	0.250			
1800													7.770	1.640	0.710	5.530	0.710	0.310			
2000																6.140	0.870	0.380			
2500																7.680	1.310	0.570			

FRICTION LOSS AND FLOW VELOCITY CHART

FRICTION LOSS AND FLOW VELOCITY FOR PVC SDR 26 THERMOPLASTIC PIPE

(Friction head and friction loss are per 100 feet of pipe.) Notice: Flow velocities should not exceed 5 feet per second, velocities exceeding 5 feet per second may result in failure and property damage

Gallons per Minute	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI																								
1 1/4"																																																
20	3.480	3.170	1.370	2.660	1.640	0.710																																										
25	4.350	4.790	2.080	3.320	2.480	1.070	2"																																									
28	4.880	5.910	2.560	3.720	3.060	1.330	2.380	1.030	0.450																																							
30	5.220	6.710	2.910	3.990	3.470	1.510	2.550	1.170	0.510																																							
35	6.090	8.930	3.870	4.650	4.620	2.000	2.970	1.560	0.680	2 1/2"																																						
37	6.440	9.900	4.290	4.920	5.120	2.220	3.140	1.730	0.750	2.150	0.680	0.300																																				
40				5.310	5.920	2.570	3.400	2.000	0.870	2.320	0.790	0.340																																				
45				5.980	7.360	3.190	3.820	2.480	1.080	2.610	0.980	0.420																																				
50				6.640	8.950	3.880	4.250	3.020	1.310	2.900	1.190	0.520	3"																																			
55							4.670	3.600	1.560	3.190	1.420	0.620	2.150	0.550	0.240																																	
60							5.100	4.230	1.830	3.480	1.670	0.720	2.350	0.640	0.280																																	
65							5.520	4.910	2.130	3.770	1.940	0.840	2.550	0.750	0.320																																	
70							5.950	5.630	2.440	4.060	2.220	0.960	2.740	0.860	0.370																																	
75										4.350	2.520	1.090	2.940	0.970	0.420	4"																																
80										4.640	2.840	1.230	3.130	1.100	0.470	1.890	0.320	0.140																														
85										4.930	3.180	1.380	3.330	1.230	0.530	2.010	0.360	0.160																														
90										5.220	3.540	1.530	3.530	1.360	0.590	2.130	0.400	0.170																														
95										5.510	3.910	1.690	3.720	1.510	0.650	2.250	0.440	0.190																														
100										5.800	4.300	1.860	3.920	1.660	0.720	2.370	0.490	0.210	6"																													
125													4.900	2.500	1.090	2.960	0.740	0.320	1.370	0.110	0.050																											
130													5.090	2.690	1.170	3.080	0.790	0.340	1.420	0.120	0.050																											
135													5.290	2.890	1.250	3.200	0.850	0.370	1.480	0.130	0.060																											
140													5.480	3.090	1.340	3.320	0.910	0.390	1.530	0.140	0.060																											
150																3.550	1.030	0.450	1.640	0.160	0.070																											
200																4.740	1.760	0.760	2.190	0.270	0.120	8"																										
215																5.090	2.010	0.870	2.350	0.310	0.130	1.390	0.080	0.040																								
220																5.210	2.100	0.910	2.400	0.320	0.140	1.420	0.090	0.040																								
225																5.330	2.190	0.950	2.460	0.330	0.140	1.450	0.090	0.040																								
245																			2.680	0.390	0.170	1.580	0.110	0.050																								
250																			2.730	0.400	0.180	1.610	0.110	0.050																								
275																			3.010	0.480	0.210	1.770	0.130	0.060																								
300																			3.280	0.570	0.250	1.930	0.160	0.070																								
325																			3.550	0.660	0.290	2.100	0.180	0.080																								
340																			3.720	0.720	0.310	2.190	0.200	0.090																								
350																			3.830	0.760	0.330	2.260	0.210	0.090																								
370																			4.040	0.840	0.360	2.390	0.230	0.100																								
375	10"																		4.100	0.860	0.370	2.420	0.240	0.100																								
400	1.660	0.090	0.040																4.370	0.970	0.420	2.580	0.270	0.120																								
450	1.870	0.110	0.050																4.920	1.200	0.520	2.900	0.330	0.140																								
470	1.950	0.120	0.050																5.140	1.300	0.570	3.030	0.360	0.160																								
480	1.990	0.130	0.060																5.250	1.360	0.590	3.100	0.380	0.160																								
500	2.070	0.140	0.060																5.470	1.460	0.630	3.220	0.400	0.180																								
550	2.280	0.170	0.070	12"															3.550	0.480	0.210																											
600	2.490	0.190	0.080	1.770	0.080	0.040													3.870	0.570	0.250																											
650	2.700	0.230	0.100	1.920	0.100	0.040													4.190	0.660	0.290																											
700	2.900	0.260	0.110	2.070	0.110	0.050													4.510	0.760	0.330																											
750	3.110	0.290	0.130	2.210	0.130	0.060													4.840	0.860	0.370																											
800	3.320	0.330	0.140	2.360	0.140	0.060													5.160	0.970	0.420																											
820	3.400	0.350	0.150	2.420	0.150	0.070													5.290	1.010	0.440																											
850	3.530	0.370	0.160	2.510	0.160	0.070													5.480	1.080	0.470																											
900	3.730	0.410	0.180	2.660	0.180	0.080																																										
1000	4.150	0.500	0.220	2.950	0.220	0.090																																										
1200	4.980	0.700	0.300	3.540	0.310	0.130																																										
1300	5.390	0.810	0.350	3.840	0.350	0.150																																										
1500	6.220	1.060	0.460	4.430	0.460	0.200																																										
1600	6.640	1.190	0.520	4.720	0.520	0.230																																										
1650				4.870	0.550	0.240																																										
1700				5.020	0.580	0.250																																										
1800				5.310	0.650	0.280																																										
2000				5.900	0.790	0.340																																										

FRICTION LOSS AND FLOW VELOCITY CHART

FRICTION LOSS AND FLOW VELOCITY FOR PVC SDR 32.5 THERMOPLASTIC PIPE
 (Friction head and friction loss are per 100 feet of pipe.) Notice: Flow velocities should not exceed 5 feet per second, velocities exceeding 5 feet per second may result in failure and property damage

Gallons per Minute	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI			
2½"																								
20	1.120	0.200	0.090	3"																				
25	1.400	0.300	0.130	0.950	0.120	0.050																		
30	1.680	0.430	0.180	1.140	0.170	0.070																		
35	1.960	0.570	0.250	1.330	0.220	0.100																		
40	2.240	0.730	0.310	1.520	0.280	0.120																		
45	2.520	0.900	0.390	1.710	0.350	0.150																		
50	2.800	1.100	0.480	1.900	0.430	0.180	4"																	
55	3.080	1.310	0.570	2.090	0.510	0.220	1.260	0.150	0.060															
60	3.360	1.540	0.670	2.280	0.600	0.260	1.370	0.170	0.080															
65	3.640	1.780	0.770	2.470	0.690	0.300	1.490	0.200	0.090															
70	3.920	2.050	0.890	2.660	0.790	0.340	1.600	0.230	0.100															
75	4.200	2.320	1.010	2.850	0.900	0.390	1.720	0.260	0.110															
80	4.490	2.620	1.140	3.040	1.020	0.440	1.830	0.300	0.130	5"														
85	4.770	2.930	1.270	3.230	1.140	0.490	1.950	0.330	0.140	1.270	0.120	0.050												
90	5.050	3.260	1.410	3.420	1.260	0.550	2.060	0.370	0.160	1.350	0.130	0.060												
95	5.330	3.600	1.560	3.610	1.400	0.610	2.180	0.410	0.180	1.420	0.150	0.060												
100	5.610	3.960	1.720	3.800	1.540	0.670	2.290	0.450	0.190	1.500	0.160	0.070												
125				4.750	2.320	1.010	2.860	0.680	0.290	1.870	0.240	0.100												
130				4.940	2.500	1.080	2.980	0.730	0.320	1.950	0.260	0.110	6"											
135				5.130	2.680	1.160	3.090	0.780	0.340	2.020	0.280	0.120	1.430	0.120	0.050									
140				5.320	2.870	1.240	3.210	0.840	0.360	2.100	0.300	0.130	1.480	0.130	0.060									
150				5.700	3.260	1.410	3.440	0.950	0.410	2.250	0.340	0.150	1.590	0.150	0.060									
200							4.580	1.620	0.700	3.000	0.580	0.250	2.110	0.250	0.110									
215							4.920	1.850	0.800	3.220	0.660	0.290	2.270	0.280	0.120									
220							5.040	1.930	0.840	3.300	0.690	0.300	2.330	0.290	0.130									
225							5.150	2.020	0.870	3.370	0.720	0.310	2.380	0.310	0.130	8"								
245							5.610	2.360	1.020	3.670	0.840	0.360	2.590	0.360	0.160	1.530	0.100	0.040						
250										3.750	0.870	0.380	2.640	0.370	0.160	1.560	0.100	0.040						
275										4.120	1.040	0.450	2.910	0.450	0.190	1.720	0.120	0.050						
300										4.500	1.220	0.530	3.170	0.520	0.230	1.870	0.140	0.060						
325										4.870	1.420	0.620	3.440	0.610	0.260	2.030	0.170	0.070						
340										5.100	1.540	0.670	3.600	0.660	0.290	2.120	0.180	0.080	10"					
350										5.250	1.630	0.710	3.700	0.700	0.300	2.180	0.190	0.080	1.410	0.070	0.030			
370										5.550	1.810	0.780	3.910	0.770	0.330	2.310	0.210	0.090	1.490	0.070	0.030			
375													3.970	0.790	0.340	2.340	0.220	0.100	1.510	0.080	0.030			
400													4.230	0.890	0.390	2.490	0.250	0.110	1.610	0.080	0.040			
450													4.760	1.110	0.480	2.810	0.310	0.130	1.810	0.110	0.050			
470													4.970	1.200	0.520	2.930	0.330	0.140	1.890	0.110	0.050	12"		
480													5.080	1.250	0.540	2.990	0.350	0.150	1.930	0.120	0.050	1.370	0.050	0.020
500													5.290	1.350	0.580	3.120	0.370	0.160	2.010	0.130	0.060	1.430	0.060	0.020
535													5.660	1.530	0.660	3.340	0.420	0.180	2.150	0.150	0.060	1.530	0.060	0.030
550																3.430	0.450	0.190	2.210	0.150	0.070	1.570	0.070	0.030
600																3.740	0.520	0.230	2.410	0.180	0.080	1.710	0.080	0.030
650																4.050	0.610	0.260	2.610	0.210	0.090	1.860	0.090	0.040
700																4.370	0.700	0.300	2.810	0.240	0.100	2.000	0.100	0.050
750																4.680	0.790	0.340	3.010	0.270	0.120	2.140	0.120	0.050
800																4.990	0.890	0.390	3.210	0.310	0.130	2.280	0.130	0.060
820																5.110	0.930	0.400	3.290	0.320	0.140	2.340	0.140	0.060
850																5.300	1.000	0.430	3.410	0.340	0.150	2.430	0.150	0.060
900																5.610	1.110	0.480	3.610	0.380	0.160	2.570	0.170	0.070
1000																			4.020	0.460	0.200	2.850	0.200	0.090
1200																			4.820	0.650	0.280	3.430	0.280	0.120
1300																			5.220	0.750	0.330	3.710	0.330	0.140
1500																			6.020	0.980	0.420	4.280	0.430	0.180
1600																			6.430	1.100	0.480	4.570	0.480	0.210
1700																						4.850	0.540	0.230
1800																						5.140	0.600	0.260
2000																						5.710	0.730	0.320
2500																						7.140	1.100	0.480

FRICTION LOSS AND FLOW VELOCITY CHART

FRICTION LOSS AND FLOW VELOCITY FOR PVC SDR 41 THERMOPLASTIC PIPE

(Friction head and friction loss are per 100 feet of pipe.) Notice: Flow velocities should not exceed 5 feet per second, velocities exceeding 5 feet per second may result in failure and property damage

Gallons per Minute	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI
	3"																				
20	0.740	0.070	0.030	4"																	
25	0.920	0.110	0.050	0.560	0.030	0.010															
30	1.110	0.150	0.070	0.670	0.050	0.020															
35	1.290	0.200	0.090	0.780	0.060	0.030															
40	1.470	0.260	0.110	0.890	0.080	0.030															
45	1.660	0.330	0.140	1.000	0.100	0.040															
50	1.840	0.400	0.170	1.120	0.120	0.050	5"														
55	2.030	0.470	0.200	1.230	0.140	0.060	0.800	0.050	0.020												
60	2.210	0.550	0.240	1.340	0.160	0.070	0.880	0.060	0.030												
65	2.400	0.640	0.280	1.450	0.190	0.080	0.950	0.070	0.030												
70	2.580	0.740	0.320	1.560	0.220	0.090	1.020	0.080	0.030												
75	2.760	0.840	0.360	1.670	0.250	0.110	1.100	0.090	0.040												
80	2.950	0.940	0.410	1.780	0.280	0.120	1.170	0.100	0.040	6"											
85	3.130	1.060	0.460	1.900	0.310	0.140	1.240	0.110	0.050	0.880	0.050	0.020									
90	3.320	1.170	0.510	2.010	0.350	0.150	1.310	0.120	0.050	0.930	0.050	0.020									
95	3.500	1.300	0.530	2.120	0.380	0.170	1.390	0.140	0.060	0.980	0.060	0.030									
100	3.690	1.430	0.620	2.230	0.420	0.180	1.460	0.150	0.070	1.030	0.060	0.030									
125	4.610	2.160	0.940	2.790	0.640	0.280	1.830	0.230	0.100	1.290	0.100	0.040									
130	4.790	2.320	1.010	2.900	0.680	0.300	1.900	0.240	0.110	1.340	0.100	0.050	8"								
135	4.980	2.490	1.080	3.010	0.730	0.320	1.970	0.260	0.110	1.390	0.110	0.050	0.820	0.030	0.010						
140	5.160	2.660	1.150	3.120	0.790	0.340	2.040	0.280	0.120	1.440	0.120	0.050	0.850	0.030	0.010						
150	5.530	3.030	1.310	3.350	0.890	0.390	2.190	0.320	0.140	1.540	0.140	0.060	0.910	0.040	0.020						
200	7.370	5.150	2.230	4.460	1.520	0.660	2.920	0.540	0.240	2.060	0.230	0.100	1.220	0.060	0.030						
220				4.910	1.810	0.790	3.210	0.650	0.280	2.270	0.280	0.280	1.340	0.080	0.030						
225				5.020	1.890	0.820	3.290	0.670	0.290	2.320	0.290	0.120	1.370	0.080	0.030	10"					
245				5.470	2.210	0.960	3.580	0.790	0.340	2.520	0.340	0.150	1.490	0.090	0.040	0.960	0.030	0.010			
250				5.580	2.300	1.000	3.650	0.820	0.360	2.570	0.350	0.150	1.520	0.100	0.040	0.980	0.030	0.010			
275							4.020	0.980	0.420	2.830	0.420	0.180	1.670	0.120	0.050	1.070	0.040	0.020			
300							4.380	1.150	0.500	3.090	0.490	0.210	1.820	0.140	0.060	1.170	0.050	0.020			
325							4.750	1.330	0.580	3.350	0.570	0.250	1.980	0.160	0.070	1.270	0.050	0.020			
340							4.970	1.450	0.630	3.500	0.620	0.270	2.070	0.170	0.070	1.330	0.060	0.030	12"		
350							5.110	1.530	0.660	3.600	0.650	0.280	2.130	0.180	0.080	1.370	0.060	0.030	0.970	0.030	0.010
370							5.400	1.690	0.730	3.810	0.720	0.310	2.250	0.200	0.090	1.440	0.070	0.030	1.030	0.030	0.010
375							5.480	1.740	0.750	3.860	0.740	0.320	2.280	0.210	0.090	1.460	0.070	0.030	1.040	0.030	0.010
400										4.120	0.840	0.360	2.430	0.230	0.100	1.560	0.080	0.030	1.110	0.030	0.010
450										4.630	1.040	0.450	2.740	0.290	0.130	1.760	0.100	0.040	1.250	0.040	0.020
480										4.940	1.170	0.510	2.920	0.330	0.140	1.870	0.110	0.050	1.330	0.050	0.020
500										5.150	1.260	0.550	3.040	0.350	0.150	1.950	0.120	0.050	1.390	0.050	0.020
535										5.510	1.430	0.620	3.250	0.400	0.170	2.090	0.140	0.060	1.490	0.060	0.030
550										5.660	1.510	0.650	3.340	0.420	0.180	2.150	0.140	0.060	1.530	0.060	0.030
600													3.650	0.490	0.210	2.340	0.170	0.070	1.670	0.070	0.030
650													3.950	0.570	0.250	2.540	0.190	0.080	1.810	0.080	0.040
700													4.250	0.650	0.280	2.730	0.220	0.100	1.940	0.100	0.040
750													4.560	0.740	0.320	2.930	0.250	0.110	2.080	0.110	0.050
800													4.860	0.840	0.360	3.120	0.290	0.120	2.220	0.120	0.050
820													4.980	0.880	0.380	3.200	0.300	0.130	2.280	0.130	0.060
850													5.170	0.940	0.410	3.320	0.320	0.140	2.360	0.140	0.060
900													5.470	1.040	0.450	3.510	0.360	0.150	2.500	0.150	0.070
1000													6.080	1.270	0.550	3.910	0.430	0.190	2.780	0.190	0.080
1280																5.000	0.680	0.300	3.560	0.300	0.130
1500																5.860	0.910	0.400	4.170	0.400	0.170
1600																6.250	1.030	0.450	4.440	0.450	0.200
1800																7.030	1.280	0.560	5.000	0.560	0.240
2000																			5.560	0.680	0.290
2500																			6.940	1.030	0.450
3000																			8.330	1.440	0.620

FRICTION LOSS AND FLOW VELOCITY CHART

FRICTION LOSS AND FLOW VELOCITY FOR PVC PIP SDR 32.5 THERMOPLASTIC PIPE
 (Friction head and friction loss are per 100 feet of pipe.) Notice: Flow velocities should not exceed 5 feet per second, velocities exceeding 5 feet per second may result in failure and property damage

Gallons per Minute	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI
	6"														
175	2.150	0.280	0.120												
200	2.460	0.360	0.160												
250	3.080	0.540	0.230												
300	3.690	0.760	0.330	8"											
350	4.310	1.010	0.440	2.440	0.250	0.110									
405	4.990	1.320	0.570	2.820	0.330	0.140									
415	5.110	1.380	0.600	2.890	0.350	0.150									
470	5.790	1.740	0.750	3.280	0.440	0.190	10"								
500	6.160	1.950	0.850	3.480	0.490	0.210	2.230	0.170	0.070						
550				3.830	0.580	0.250	2.450	0.200	0.090						
600				4.180	0.690	0.300	2.680	0.230	0.100						
650				4.530	0.800	0.340	2.900	0.270	0.120	12"					
700				4.880	0.910	0.400	3.120	0.310	0.130	2.170	0.130	0.060			
718				5.000	0.960	0.410	3.200	0.320	0.140	2.220	0.130	0.060			
800				5.580	1.170	0.510	3.570	0.390	0.170	2.480	0.160	0.070			
820				5.710	1.220	0.530	3.660	0.410	0.180	2.540	0.170	0.070			
850				5.920	1.310	0.570	3.790	0.440	0.190	2.630	0.180	0.080			
900							4.010	0.490	0.210	2.790	0.200	0.090	15"		
1000							4.460	0.600	0.260	3.100	0.250	0.110	1.980	0.080	0.040
1120							5.000	0.740	0.320	3.470	0.300	0.130	2.220	0.100	0.040
1300							5.800	0.970	0.420	4.030	0.400	0.170	2.580	0.130	0.060
1500							6.690	1.260	0.550	4.650	0.520	0.230	2.970	0.180	0.080
1610							7.180	1.440	0.620	4.990	0.590	0.260	3.190	0.200	0.090
1690										5.240	0.650	0.280	3.350	0.220	0.100
1745										5.410	0.690	0.300	3.460	0.230	0.100
1800										5.580	0.730	0.320	3.570	0.250	0.110
2000													3.970	0.300	0.130
2100													4.160	0.330	0.140
2520													5.000	0.460	0.200
3000													5.950	0.630	0.280
3500													6.940	0.840	0.370
4000													7.930	1.080	0.470

FRICTION LOSS AND FLOW VELOCITY CHART

FRICTION LOSS AND FLOW VELOCITY FOR PVC PIP SDR 41 THERMOPLASTIC PIPE															
(Friction head and friction loss are per 100 feet of pipe.) Notice: Flow velocities should not exceed 5 feet per second, velocities exceeding 5 feet per second may result in failure and property damage															
Gallons per Minute	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI
	6"														
175	2.100	0.260	0.110												
200	2.400	0.340	0.150												
250	3.000	0.510	0.220												
300	3.600	0.710	0.310	8"											
350	4.190	0.940	0.410	2.370	0.240	0.100									
400	4.790	1.210	0.520	2.710	0.300	0.130									
416	4.990	1.300	0.560	2.820	0.330	0.140									
470	5.630	1.630	0.710	3.190	0.410	0.180	10"								
500	5.990	1.830	0.790	3.390	0.460	0.200	2.170	0.150	0.070						
550	6.590	2.180	0.950	3.730	0.550	0.240	2.390	0.180	0.080						
600				4.070	0.640	0.280	2.610	0.220	0.090						
650				4.410	0.740	0.320	2.820	0.250	0.110	12"					
700				4.750	0.850	0.370	3.040	0.290	0.130	2.110	0.120	0.050			
735				4.990	0.930	0.410	3.190	0.320	0.140	2.220	0.130	0.060			
800				5.430	1.090	0.470	3.470	0.370	0.160	2.410	0.150	0.070			
820				5.560	1.140	0.500	3.560	0.390	0.170	2.470	0.160	0.070			
850				5.770	1.220	0.530	3.690	0.410	0.180	2.560	0.170	0.070			
900							3.910	0.460	0.200	2.710	0.190	0.080	15"		
1000							4.340	0.560	0.240	3.020	0.230	0.100	1.930	0.080	0.030
1150							4.990	0.720	0.310	3.470	0.300	0.130	2.220	0.100	0.040
1300							5.640	0.910	0.390	3.920	0.370	0.160	2.510	0.130	0.050
1500							6.510	1.180	0.510	4.520	0.490	0.210	2.890	0.160	0.070
1600							6.950	1.330	0.580	4.820	0.550	0.240	3.090	0.190	0.080
1650										4.980	0.580	0.250	3.180	0.200	0.090
1745										5.260	0.650	0.280	3.370	0.220	0.090
1800										5.430	0.680	0.300	3.470	0.230	0.100
2000										6.030	0.830	0.360	3.860	0.280	0.120
2100													4.050	0.310	0.130
2590													5.000	0.450	0.200
3000													5.790	0.590	0.260
3500													6.750	0.790	0.340
4000													7.720	1.010	0.440

FRICTION LOSS AND FLOW VELOCITY CHART

FRICTION LOSS AND FLOW VELOCITY FOR PVC PIP SDR 51 THERMOPLASTIC PIPE (Friction head and friction loss are per 100 feet of pipe.) Notice: Flow velocities should not exceed 5 feet per second, velocities exceeding 5 feet per second may result in failure and property damage															
Gallons per Minute	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI
	6"														
175	2.100	0.260	0.110												
200	2.400	0.340	0.150												
250	3.000	0.510	0.220												
300	3.600	0.710	0.310	8"											
350	4.190	0.940	0.410	2.330	0.230	0.100									
400	4.790	1.210	0.520	2.660	0.290	0.130									
415	4.970	1.290	0.560	2.760	0.310	0.130									
470	5.630	1.630	0.710	3.130	0.390	0.170	10"								
500	5.990	1.830	0.790	3.320	0.440	0.190	2.130	0.150	0.060						
550	6.590	2.180	0.950	3.660	0.520	0.230	2.340	0.180	0.080						
600				3.990	0.610	0.270	2.550	0.210	0.090						
650				4.320	0.710	0.310	2.770	0.240	0.100	12"					
700				4.650	0.810	0.350	2.980	0.270	0.120	2.070	0.110	0.050			
750				4.990	0.920	0.400	3.190	0.310	0.140	2.220	0.130	0.060			
800				5.320	1.040	0.450	3.400	0.350	0.150	2.360	0.140	0.060			
820				5.450	1.090	0.470	3.490	0.370	0.160	2.420	0.150	0.070			
850				5.650	1.170	0.510	3.620	0.390	0.170	2.510	0.160	0.070			
900							3.830	0.440	0.190	2.660	0.180	0.080	15"		
1000							4.260	0.530	0.230	2.960	0.220	0.090	1.890	0.070	0.030
1175							5.000	0.720	0.310	3.470	0.300	0.130	2.220	0.100	0.040
1300							5.530	0.860	0.370	3.840	0.360	0.150	2.460	0.120	0.050
1500							6.380	1.130	0.490	4.430	0.460	0.200	2.840	0.160	0.070
1600							6.810	1.270	0.550	4.730	0.520	0.230	3.030	0.180	0.080
1690										4.990	0.580	0.250	3.200	0.200	0.080
1745										5.160	0.610	0.270	3.300	0.210	0.090
1800										5.320	0.650	0.280	3.400	0.220	0.100
2000										5.910	0.790	0.340	3.780	0.270	0.120
2500													4.730	0.400	0.170
2640													4.990	0.450	0.190
3000													5.670	0.570	0.250
3500													6.620	0.750	0.330
4000													7.570	0.960	0.420

FRICTION LOSS AND FLOW VELOCITY CHART

FRICTION LOSS AND FLOW VELOCITY FOR PVC PIP SDR 81 THERMOPLASTIC PIPE															
(Friction head and friction loss are per 100 feet of pipe.) Notice: Flow velocities should not exceed 5 feet per second, velocities exceeding 5 feet per second may result in failure and property damage															
Gallons per Minute	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI
6"															
175	1.990	0.230	0.100												
200	2.280	0.300	0.130												
250	2.850	0.450	0.190												
300	3.420	0.630	0.270	8"											
350	3.990	0.840	0.360	2.260	0.210	0.090									
400	4.560	1.070	0.460	2.580	0.270	0.120									
439	5.000	1.270	0.550	2.830	0.320	0.140									
470	5.360	1.440	0.630	3.030	0.360	0.160	10"								
500	5.700	1.620	0.700	3.230	0.410	0.180	2.060	0.140	0.060						
550	6.270	1.930	0.840	3.550	0.480	0.210	2.270	0.160	0.070						
600				3.870	0.570	0.250	2.480	0.190	0.080						
650				4.190	0.660	0.290	2.680	0.220	0.100	12"					
700				4.520	0.760	0.330	2.890	0.260	0.110	2.010	0.110	0.050			
775				5.000	0.910	0.400	3.200	0.310	0.130	2.220	0.130	0.060			
800				5.160	0.970	0.420	3.300	0.330	0.140	2.290	0.130	0.060			
820				5.290	1.010	0.440	3.390	0.340	0.150	2.350	0.140	0.060			
850				5.490	1.080	0.470	3.510	0.370	0.160	2.440	0.150	0.070			
900							3.720	0.410	0.180	2.580	0.170	0.070	15"		
1000							4.130	0.490	0.210	2.870	0.200	0.090	1.840	0.070	0.030
1210							5.000	0.700	0.310	3.470	0.290	0.130	2.220	0.100	0.040
1300							5.370	0.800	0.350	3.730	0.330	0.140	2.390	0.110	0.050
1500							6.190	1.050	0.450	4.300	0.430	0.190	2.750	0.150	0.060
1600							6.610	1.180	0.510	4.590	0.490	0.210	2.940	0.160	0.070
1700										4.880	0.540	0.240	3.120	0.180	0.080
1745										5.000	0.570	0.250	3.200	0.190	0.080
1800										5.160	0.600	0.260	3.300	0.200	0.090
2000										5.740	0.730	0.320	3.670	0.250	0.110
2500										7.170	1.110	0.480	4.590	0.380	0.160
2720													4.990	0.440	0.190
3000													5.510	0.530	0.230
3500													6.420	0.700	0.300
4000													7.340	0.900	0.390

FRICTION LOSS AND FLOW VELOCITY CHART

FRICTION LOSS AND FLOW VELOCITY FOR PVC PIP SDR 26 THERMOPLASTIC PIPE
(Friction head and friction loss are per 100 feet of pipe.) Notice: Flow velocities should not exceed 5 feet per second, velocities exceeding 5 feet per second may result in failure and property damage

Gallons per Minute	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI
15"			
500	1.020	0.020	0.010
800	1.640	0.060	0.030
1000	2.050	0.090	0.040
1500	3.070	0.190	0.080
2000	4.100	0.320	0.140
2440	5.000	0.470	0.200
2500	5.120	0.490	0.210
3000	6.150	0.690	0.300
3500	7.170	0.910	0.400

FRICTION LOSS AND FLOW VELOCITY FOR PVC PIP SDR 21 THERMOPLASTIC PIPE
(Friction head and friction loss are per 100 feet of pipe.) Notice: Flow velocities should not exceed 5 feet per second, velocities exceeding 5 feet per second may result in failure and property damage

Gallons per Minute	Velocity Feet Per Second	Friction Head Feet	Friction Loss PSI
15"			
500	1.070	0.030	0.010
800	1.710	0.070	0.030
1000	2.130	0.100	0.040
1500	3.200	0.210	0.090
2000	4.270	0.360	0.150
2340	4.990	0.480	0.210
2500	5.330	0.540	0.230
3000	6.400	0.760	0.330
3500	7.460	1.010	0.440

Gasketed Pipe Assembly*

Bar and block is the recommended method of assembly. Small-diameter pipes can be assembled by one worker, while larger diameters may require two people working together.

Besides quicker installation of a pipe line, the major advantage of barring pipe (see Bar & Block illustration below) is that the worker has a feel for the process. This assures proper alignment and assembly.

NOTE: Assembly with power equipment is not recommended.

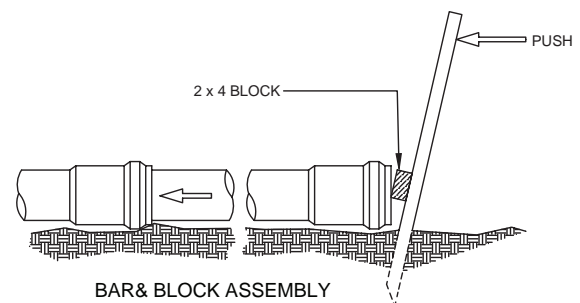
Standard good mechanical assembly practice take alignment into consideration and produces reliable, leak-free pipe lines.

Straight alignment assembly will not dislodge gaskets. Forced, improper alignment insertion produces an insertion curve characterized by the tremendous force necessary to dislodge the gasket from the race, trap it between the bell and spigot surfaces, and stretch it backwards. The insertion force necessary to assemble a joint with dislodged gaskets is so extreme, it can only be accomplished using mechanical equipment without the operator's knowledge of the dislocation.

Joint Insertion Instructions

1. Clean the gasket area. Remove sand, dirt, grease, and debris. Do not remove gaskets from bells.
2. Check the gasket. Make sure it is seated uniformly in the groove by running your finger around the inner edge of the gasket. If the gasket has a plastic retainer ring, make sure it is properly seated into the rubber portion of the gasket.
3. Clean the spigot. Use a rag to wipe the spigot clean.
4. Lower the pipe into the trench carefully to avoid getting dirt onto the bell or spigot.
5. Lubricate. Apply approved pipe lubricant to the bevel of the spigot end and approximately mid-way back to the reference line. A thin layer of lubricant may be applied to the face of the gasket, but be careful not to get lubricant behind or under the gasket.
6. Keep lubricated areas clean. If dirt or sand adheres to lubricated areas, clean and re-lubricate.

7. Assemble pipe. Insert the spigot end into the pipe until it contacts the gasket uniformly or is a short distance from the gasket. Straight alignment is essential. Apply steady pressure by hand or by mechanical means (bar and block, come-along, hydraulic jack) until the spigot slips through the gasket. Insert pipe until the assembly stop line is flush with the bell end.
8. If undue resistance to pipe insertion is encountered or if the pipe cannot be inserted to the reference mark, disassemble the joint and check the position of the gasket. If the gasket is still properly positioned, verify proper positioning of the reference mark. Relocate the mark if it is not correctly positioned. In general, fittings allow less insertion than do pipe bells.
9. If the pipe must be field-cut, mark the entire circumference to ensure a square cut. Bevel the field cut the same as a factory bevel. If being installed into fittings, follow manufacturer's recommendations. Round off any sharp edges on the leading edge of the bevel with a pocket knife or a file. Mark cut end with an insertion line similar to uncut pipe.



*Data and language courtesy of Hultec

NOTICE

All pipe thread sealants must conform to the requirements of IAPMO's PS 36 and with the thread sealant manufacturer to confirm that these sealants are chemically compatible with ABS, PVC, and CPVC. Incompatible pipe thread sealants may result in the degradation of plastic pipe or fittings resulting in product failure and property damage.

- Verify that paints, thread sealants, lubricants, plasticized PVC products, foam insulations, caulks, leak detectors, insecticides, termiticides, antifreeze solutions, pipe sleeve, firestop materials or other materials are chemically compatible with ABS, PVC or CPVC.
- Do not use edible oils such as Crisco® for lubricant.
- Read and follow chemical manufacturer's literature before using with piping materials.
- Confirm compatibility of pipe marking adhesive tape with the manufacturer of the tape to ensure chemical compatibility with CPVC pipe and fittings.

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