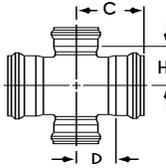
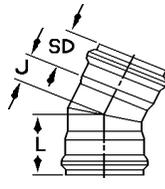
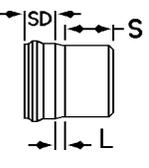
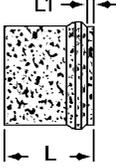




# 4" - 24" GASKETED HEAVY WALL SEWER FITTINGS

SDR 26 fittings are manufactured to ASTM F1336 specifications.

 FULL & REDUCING CROSS GxGxGxG	SIZE	PART NUMBER	LB/100	(C)	(H)	(D)	 11 1/4 DEGREE EL GxG	SIZE	PART NUMBER	LB/100	(J)	(L)	(SD)
	18x18	926-1818	17200	21.87	15.12	14.62			4	959-0004	140	1.62	4.37
21x4	926-0214	10700	17.00	13.75	8.50		6	959-0006	345	1.62	5.37	3.75	
21x6	926-0216	11600	18.00	13.75	9.50		8	959-0008	680	1.75	6.12	4.37	
21x8	926-0218	12500	19.00	14.62	10.50		10	959-0010	1180	2.25	7.25	5.00	
21x10	926-2110	13700	20.00	15.00	11.50		12	959-0012	1800	3.00	8.00	5.00	
21x12	926-2112	14900	21.00	15.50	12.50		15	959-0015	4150	7.25	12.50	5.25	
21x15	926-2115	17400	22.50	17.25	14.00		18	959-0018	8900	7.00	14.00	7.00	
21x18	926-2118	21600	24.00	16.75	15.50		21	959-0021	13600	9.00	17.50	8.50	
21x21	926-2121	27000	27.00	19.50	18.50		24	959-0024	20700	11.50	23.00	9.00	
24x4	926-0244	16200	20.50	15.12	11.50								
24x6	926-0246	17100	21.50	15.12	12.50						(J)	(L)	(SD)
24x8	926-0248	18300	22.50	16.00	13.50		4	960-0004	108	.87	4.12	2.75	
24x10	926-2410	19400	23.50	16.50	14.50		6	960-0006	298	1.25	5.50	3.75	
24x12	926-2412	20900	24.50	17.00	15.50		8	960-0008	587	1.75	6.00	4.37	
24x15	926-2415	23600	26.00	18.75	17.00		10	960-0010	1048	2.25	7.00	5.00	
24x18	926-2418	28100	27.50	18.25	18.50		12	960-0012	2320	3.00	7.50	5.00	
24x21	926-2421	32800	29.00	21.00	20.00		15	960.0015	4000	7.25	13.00	5.25	
24x24	926-2424						18	960-0018	8600	7.00	14.00	7.00	
							21	960-0021	12400	9.00	17.00	8.50	
							24	960-0024	17900	11.50	18.00	9.00	
				(L)	(S)	(SD)							
 ADAPTER SxG	4	925-0004	110	.75	4.50	2.75					(J)	(L)	(SD)
	6	925-0006	240	1.00	3.75	3.75		4*	917-0004	103	.68	3.01	2.33
	8	925-0008	540	1.63	4.50	4.38		6*	917-0006	314	1.10	5.10	4.00
	10	925-0010	940	1.75	5.25	5.00		8	917-0008	820	3.13	7.50	4.37
	12	925-0012	1440	2.00	6.25	5.00		10	917-0010	1410	3.63	8.63	5.00
	15	925-0015	2540	2.75	8.00	5.25		12	917-0012	2340	5.50	10.50	5.00
	18	925-0018	4400	3.00	9.00	7.00		15	917-0015	4150	7.50	12.75	5.25
	21	925-0021	7500	5.75	10.25	8.50		18	917-0018	9300	8.00	15.00	7.00
24	925-0024	11700	8.00	13.50	9.00		21	917-0021	14200	12.50	21.00	8.50	
							24	917-0024	21600	16.75	25.75	9.00	
				(L)	(L1)								
 MANHOLE ADAPTER G	4	916-0004	180	8.00	.75						(J)	(L)	(SD)
	6	916-0006	330	8.00	1.00		4*	918-0004	90	.68	3.12	2.33	
	8	916-0008	490	8.00	1.00		6*	918-0006	287	1.10	5.20	4.00	
	10	916-0010	770	8.00	1.25		8	918-0008	760	3.13	8.00	4.37	
	12	916-0012	990	8.00	1.25		10	918-0010	1340	3.63	9.13	5.00	
	15	916-0015	1550	8.00	1.25		12	918-0012	2260	5.50	11.00	5.00	
	18	916-0018	2200	8.00	1.50		15	918-0015	4040	7.50	13.25	5.25	
	21	916-0021	4300	8.00	2.00		18	918-0018	9000	8.00	15.00	7.00	
	24	916-0024	5500	8.00	2.00		21	918-0021	13000	12.50	20.50	8.50	
						24	918-0024	18800	16.75	23.75	9.00		

\*DENOTES MOLDED FITTING. ALL OTHERS ARE FABRICATED.



## SDR 26 D-3034/PS115 F-679 "HWS" FITTING SPECIFICATIONS

- 1.0 **GPK PVC Heavy Wall Sewer Fittings** shall be manufactured in accordance with ASTM Standards D-3034 and F-1336 and F-679. Heavy Wall Sewer Fittings (HWS) are produced in sizes 4" through 36" diameter.
- 2.0 **The Purpose of GPK Heavy Wall Sewer Fittings** is to convey municipal sanitary and industrial wastes, storm water run-off and many other related applications. They are designed to be used in gravity flow and low pressure applications not to exceed 10.8 psi. Heavy Wall Sewer Fittings are typically used when a higher degree of strength is desired to give an added assurance of product reliability.
- 3.0 **Injection Molded Fittings** are produced in sizes 4" through 8" diameter. **Fabricated Fittings** are produced in sizes 4" through 36" diameter. A fabricated fitting is considered any fitting made from pipe or a combination of pipe and molded components.
- 4.0 **Chemical Resistance.** GPK fittings resist attack from certain alcohols, alkalies, salt solutions, acids and other types of chemicals. Refer to chemical resistance chart for suitability.
- 5.0 **Marking.** GPK fittings shall be marked with company name or logo, applicable size, "PVC", "PSM", the Heavy Wall Sewer designation "HWS" and the ASTM specification number (D-3034/F-1336/F-679). The fittings and/or packaging shall also include the manufacturer's date and shift code.
- 6.0 **Testing.** A test after installation of either low pressure air (Uni-B-6) or a water infiltration-exfiltration test is recommended.
- 7.0 **Backfilling and Tamping.** Backfilling should follow closely after assembly of pipe and fittings.
  - 7.1 **Backfilling** with proper material is important to achieve desired density in haunching area which enables pipe, fittings and soil to work together to meet designed load requirements. This eliminates excess deflection and shear breaks due to heavy loads. Approved material shall be used properly, compacted continuously above and around the pipe and fittings as well as between the fitting and trench wall. A cushion of approved material up to a minimum of 12" over the fittings and between the trench walls shall be done in accordance with the engineers' specifications.
  - 7.2 **Tamping.** This shall be done by hand tamping of the embedment material between the trench wall of the service line fitting and riser connection. Tamping can also be done by mechanical tampers or by using water to consolidate the embedment material. **Extreme unstable ground conditions** may require wider trenches to enable you to compact a larger area around the pipe and fittings to the density consistent of the original ground surface conditions.
- 8.0 **Service Lines.** Normally, service lines from the property line to the collection sewer should be a minimum depth of 3 feet at the property line and should be laid in straight alignment and uniform slope of not less than 1/4" per foot for 4" nominal pipe and 1/8" per foot for 6" pipe. Where collection sewers are deeper than 7 feet a vertical standpipe of stack is permitted but not recommended, consult the project engineer for proper installation details. Deep sewer chimney and risers necessitate extreme care during backfilling. Where surface loading is anticipated the final backfill must be compacted to a density compatible with those surface loads to be encountered.
  - 8.1 **Backfilling around pipe service laterals on slope.** Extra attention should be given on slopes to prevent the newly backfilled trench from becoming a "French Drain." Before backfilling completely there is a tendency for ground and surface water to follow the direction of the looser soil. This flow may wash out soil from under or around pipe and branch line fittings, reducing or eliminating the support needed. To avoid this problem the backfilling should be of greater compaction. Tamping should be done in 4" layers and continued in this manner all the way up to ground or surface line of the trench. Concrete collars or other concrete poured around the fitting to stabilize unwanted movement is recommended to prevent water from undercutting the underside of the pipe and fittings.

**SUMMARY:** Due to various ground conditions and different situations, installation techniques vary widely. We warranty our products to be free of manufacturer's defects. We will not replace the products that are installed or used incorrectly. The design of the systems that our product is used in is a factor that cannot be overlooked.

# GPK FITTING SUBMITTAL SHEET

**Intro:** GPK manufactures PVC HWS Fittings in accordance with ASTM D-3034 and F-1336 and F-679 to be used in gravity flow or low pressure applications. Fabricated fittings are produced in sizes 4" through 36" diameter. Injection molded fittings produced in sizes 4" through 8" diameter.

**Material:** Fabricated fittings are manufactured from PVC pipe and meeting all the requirements of ASTM D-3034, SDR 26 and F-679 PS115 for workmanship, extrusion quality, stiffness, impact resistance, dimensions and structural performance.

Extruded pipe components are made from PVC material with a minimum cell classification of 12454, 13343 or 12364 as defined in ASTM D-1784.

Injection molded fittings are made from PVC material with a minimum cell classification of 12454 or 13343 as defined in ASTM D1784.

**Extrusion Quality:** Extruded components are tested in accordance with and meet all requirements of ASTM D-2152 for properly fused PVC.

**Impact Resistance:** Extruded components are tested in accordance with ASTM D-2444 using a 20 lb. Tup A and a Flat Plate Holder B. The strength shall equal or exceed the values shown below:

4" - 5"	150 Ft-Lbf
6" - 8"	210 Ft-Lbf
10" - 36"	220 Ft-Lbf

**Impact Resistance:** Injection molded fittings are tested in accordance with ASTM D 2444 using a 20 lb. Tup A and a Flat Plate Holder B. The strength shall equal or exceed the values shown below:

4"	50 Ft-Lbf	6"	75 Ft-Lbf	8"	75 Ft-Lbf
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**Pipe Stiffness:** Extruded components are tested in accordance with ASTM D-2412. The stiffness equals or exceeds the requirements of ASTM D-3034 and F-679.

**Pipe Flattening:** Extruded components are flattened as described in ASTM D-3034 and F-679 until the distance between the plates is 40% of the outside diameter of the pipe. There shall be no splitting, cracking or breaking.

**Pressure/Pressure Deflection:** Gasketed joints are tested in accordance with ASTM D-3212.  
 Pressure: 10 minutes @ 10.8 psi + 10 minutes deflected @ 10.8 psi.  
 Vacuum: 10 minutes @ 22" Hg + 10 minutes deflected @ 22" Hg.

**Branch Bending:** The chemically fused areas around the fabricated branches of tee, wye and tee-wye fittings are tested to ASTM F-1336 to verify their strength and integrity.

**Pipe Stop Support:** Tee and tee-wye fittings are tested to requirements of ASTM F1336 for pipe stop load support. No cracking or splitting shall occur and pipe spigot shall not protrude into waterway of the fitting.

**Joining Methods:** Chemically Fused Solvent Weld Joints  
 Solvent cement is handled and tested in accordance with ASTM D-2564 and D-2855. The Lap Shear Strength shall equal or exceed 900 psi @ 72 hours.

Heat Fusion Welded Joints (Butt Fusion Welds)

Elastomeric Seals (Gaskets)

Must meet all requirements of ASTM F-477 and D-3212.

Epoxy Reinforced Welds.