PVC PRESSURE PIPE SCH-80 ASTM D 1785

Outside Diameter, Wall Thickness & Tolerance for PVC Pipe Schedule 80

Product Code	Nominal Size	Outside Diameter (mm)		SCH-80 Dimensions			
				Min wall thikness		Max. W.P	Weight / mtr
		Inch	mm	Inch	mm	PSI	
KEP1/4GS8	1/4	0.540	13.716	0.119	3.023	1130	—
KEP3/8GS8	3/8"	0.675	17.145	0.126	3.200	920	0.211
KEP ½GS8	1/2"	0.840	21.336	0.147	3.734	850	0.309
KEP3/4GS8	3/4"	1.050	26.670	0.154	3.912	690	0.419
KEP1GS8	1"	1.315	33.401	0.179	4.547	630	0.615
KEP11/4GS8	1-1/4"	1.660	42.164	0.191	4.851	520	0.850
KEP11/2GS8	1-1/2"	1.900	48.260	0.2	5.080	470	1.032
KEP2GS8	2'	2.375	60.325	0.218	5.537	400	1.428
KEP21/2GS8	2-1/2"	2.875	73.025	0.276	7.010	420	2.177
KEP3GS8	3"	3.500	88.900	0.3	7.620	370	2.916
KEP4GS8	4"	4.500	114.300	0.337	8.560	320	4.264
KEP5GS8	5"	5.563	141.300	0.375	9.525	290	5.915
KEP6GS8	6"	6.625	168.275	0.432	10.973	280	8.139
KEP8GS8	8"	8.625	219.075	0.5	12.700	250	12.364
KEP10GS8	10"	10.750	273.050	0.593	15.062	230	18.362
KEP12GS8	12"	12.750	323.850	0.687	17.450	230	25.223
KEP14GS8	14"	14.000	355.600	0.75	19.050	220	30.260
KEP16GS8	16"	16.000	406.400	0.843	21.412	220	38.902
KEP18GS8	18"	18.000	457.200	0.937	23.800	220	50.026
KEP20GS8	20"	20.000	508.000	1.031	26.187	220	61.216
KEP24GS8	24"	24.000	609.600	1.218	30.937	210	86.847

*Meets All Requirements of ASTM D 1784, ASTM D 1785,

NOTE: A

Testing with or use of compressed air or gas in PVC pipe or fittings can result in explosive failures and cause severe injury or death.
Never test with or transport / store compressed air or gas in PVC pipe or fittings with compressed air or gas, or air over water boosters.

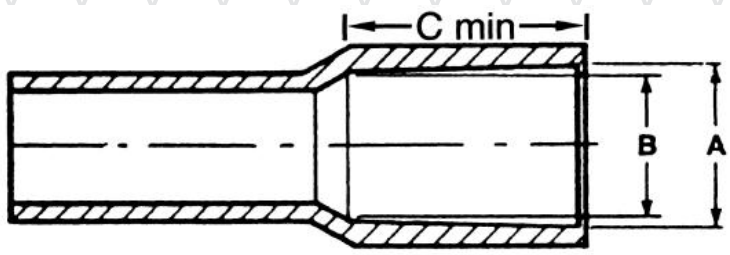
Only use PVC pipe for water or approved chemicals.

Refer to warnings in PPFA User bulletin 4-80 and ASTM D 1785.

Socket Dimension for Belled-End Pipe

NOM. Pipe Size	ASTM Standard	SOCKET ENTRANCE (A)		SOCKET BOTTOM (B)		SOCKET LENGTH (C)
		I.D Min	I.D Max.	I.D Min	I.D Max.	Schedule 40
½	D 2672	.844	0.852	0.832	0.840	2.000
¾	D 2672	1.054	1.062	1.042	1.050	2.250
1	D 2672	1.320	1.330	1.305	1.315	2.500
1¼	D 2672	1.665	1.675	1.650	1.660	2.750
1½	D 2672	1.906	1.918	1.888	1.900	3.000
2	D 2672	2.381	2.393	2.357	2.369	-----
2	F 480	2.380	2.392	2.357	2.369	4.000
2½	D 2672	2.882	2.896	2.854	2.868	-----
2½	F 480	2.880	2.894	2.854	2.868	4.000
3	D 2672	3.508	3.524	3.476	3.492	-----
3	F 480	3.506	3.522	3.476	3.492	4.000
4	D 2672	4.509	4.527	4.473	4.491	-----
4	F 480	4.508	4.526	4.473	4.491	5.000
6	D 2672	6.636	6.658	6.592	6.614	-----
6	F 480	6.637	6.659	6.592	6.614	6.500
8	D 2672	8.640	8.670	8.583	8.613	-----
8	F 480	8.634	8.664	8.583	8.613	7.000
10	D 2672	10.761	10.791	10.707	10.737	9.000
12	D 2672	12.763	12.793	12.706	12.736	10.000
14	D 2672	14.020	14.050	13.970	14.000	10.000
16	D 2672	16.030	16.060	15.965	15.995	10.000

Note: All dimensions are in inches.



ZEENAT
PVC PIPE

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ASTM D 1785

Maximum Sustain and Burst Pressure Test conditions for water at 23 C for PVC Pipe

Sustain Pressure / Burst Pressure

Nominal Pipe Size	Pressure Required for Test PSI			Pressure Required for Test PSI		
	Schedule 40	Schedule 80	Schedule 120	Schedule 40	Schedule 80	Schedule 120
½	1250	1780	2130	1910	2720	3250
3/4	1010	1440	1620	1540	2200	2470
1	950	1320	1510	1440	2120	2300
1 ½	690	990	1130	1060	1510	1720
2	580	850	990	890	1290	1510
3″	590	790	930	840	1200	1420
4″	470	680	900	710	1040	1380
6″	370	590	780	560	890	1190
8″	330	520	760	500	790	1160
10″	300	490	770	450	750	1170
12	280	480	710	420	730	1090

ASTM D2665

Minimum Hydrosratic Burst Pressure at 73°F (23°)

Minimum Hydrostatic Burst Pressure (1 PSI = 6.89 kpa)		
Size	**PSI**	**KPI**
1 ¼	1180	8140
1 ½	1060	7310
2	890	6140
3	840	5790
4	710	4900
6	560	3680
8	500	3450
10	450	3100
12	420	2890
14	410	2830
16	410	2830
18	410	2830
20	390	2690
24	380	2620

* These burst pressure are calculated using a hoop stress of 6400 psi (44.1 MPA)

Temperature De-Rating For Schedule 40 & 80 PVC

The operator pressure of PVC pipe will be reduced as the operating temperature increases above 73°F. To calculate this reduction, multiply the operating pressures pages by the correction factors shown below.

Operating Temperature (°F)	Correction PVC
73	1.00
80	.88
90	.75
100	.62
110	.50
120	.40
130	.30
140	.22
150	NR
160	NR
170	NR
180	NR
200	NR

Product Specifications

System: **PVC SDR Pressure Pipe and Fitting System**

Scope: This specification covers PVC Standard Dimensional Ratio (SDR) pipe and fittings for pressure applications. This system is intended for pressure applications where the operating temperature will not exceed 140°F.

Specification: Pipe and fittings shall be manufactured from virgin rigid PVC (polyvinyl chloride) vinyl compounds with a Call Class of 12454 as identified in ASTMD D 1784.

PVC SDR pipe shall be iron Pipe Size (IPS) conforming to ASTM D 2241 for plain end pipe and ASTM D 2672 for belled-end pipe. PVC Schedule 40 (IPS) fittings shall conform to ASTM D 2466. Pipe and fittings shall be manufactured as a system.

Installation shall comply with the latest installation instructions published by Zeenat Pipe and shall conform to all applicable plumbing, building, and fire code requirements. Buried pipe shall be installed in accordance with ASTM F 1668 and ASTM D 2774. Solvent cement joints shall be made in a two-step process with primer conforming to ASTM F 656 and solvent cement conforming to ASTM D 2564. The system shall be protected from chemical agents, fire stopping materials, thread sealant, plasticized vinyl products, or other aggressive chemical agents not compatible with PVC compounds. System shall by hydrostatically test after installation.

WARNING! Never test with or transport/store compressed air or gas in PVC pipe or fittings.

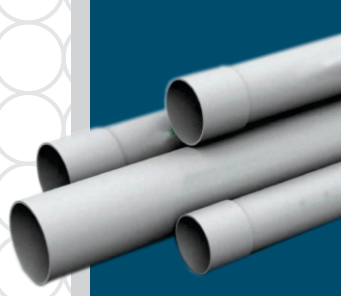
Referenced Standards:

ASTM D 1784	Rigid Vinyl Compounds
ASTM D 2241	PVC Pressure Rated Pipe (SDR Series)
ASTM D 2672	Joints for IPS PVC Pipe Using Solvent Cement
ASTM D 2466	PVC Plastic Fittings, Schedule 40
ASTM D 2564	Solvent Cements for PVC pipe and Fittings
ASTM D 2774	Underground Installation of Thermoplastic Pressure Piping
ASTM F 656	Primers for PVC Pipe and Fittings
ASTM F 1668	Procedures for Buried Plastic Pipe

Note: Latest revision of each standard applies.

Short Specification:

Pipe and fittings shall be manufactured from PVC compound with a cell class of 12454 per ASTM D 1784 and conform with International standards 14 and 61. Pipe shall be iron pipe size (IPS) conforming to ASTM D 2241 for plain-end pipe and ASTM D 2672 for belled-end pipe. PVC Schedule 40 fittings shall conform to ASTM D 2466. All pipe and fittings shall be produced by a single manufacturer and shall be installed in accordance with manufacturer's recommendations and applicable code requirements. Buried pipe shall be installed in accordance with ASTM F 1668 and ASTM D 2774. Solvent cements shall conform to ASTM D 2564. Primer shall conform to ASTM F 656. The system is to be manufactured by Zeenat pipe Company and is intended for pressure applications where the temperature will not exceed 140°F.



ASTM D 2241 (SDR Series)

Outside diameters & Minimum Wall Thickness

DIA	Nominal DIA	SDR 64	SDR 41	SDR 32.5	SDR 26	SDR 21	SDR 17	SDR 13.5
		Wall Thickness	Wall Thickness	Wall Thickness	Wall Thickness	Wall Thickness	Wall Thickness	Wall Thickness
	Value mm	Min.	Min.	Min.	Min.	Min.	Min.	Min.
½"	21.34	–	–	–	–	–	–	1.57
3/4"	26.67	--	--	--	--	1.52	1.57	1.98
1"	33.4	--	--	--	1.52	1.6	1.96	2.46
11/4"	42.16	--	--	1.52	1.63	2.01	2.49	3.12
11/2"	48.26	--	--	1.52	1.85	2.29	2.84	3.58
2"	60.32	--	--	1.85	2.31	2.87	3.56	4.47
21/2"	73.02	--	--	2.24	2.79	3.48	4.29	5.41
3"	88.9	--	2.16	2.74	3.43	4.24	5.23	6.58
4"	114.3	1.78	2.79	3.51	4.39	5.44	6.73	8.46
5"	141.3	2.64	3.45	4.34	5.43	6.73	8.3	10.1
6"	168.28	2.64	4.11	5.18	6.48	8.03	9.91	12.47
8"	219.08	3.43	5.33	6.73	8.43	10.41	12.9	--
10"	273	--	6.65	8.41	10.5	12.98	--	--
12"	323.9	--	7.9	9.96	12.5	15.39	--	--
14"	355.6	--	8.95	--	13.7	--	--	--
16"	406.4	--	10.1	--	15.6	--	--	--
18"	457.2	--	11.2	--	17.6	--	--	--
20"	508	--	12.4	--	19.5	--	--	--
24"	609	--	14.9	--	23.4	--	--	--

ZEENAT
PVC PIPE

Product Specifications

System: **PVC SDR 35 Sewer Pipe**

Scope: This specification cover PVC Standard Dimension Ratio (SDR) 35 PSM pipe for gravity sewer and surface water applications with a pipe stiffness of 46. This product is intended for gravity applications where the operating temperature will not exceed 140°F.

Specification: Pipe shall be manufactured from virgin rigid PVC (polyvinyl chloride) vinyl compounds with a cell class of 12364 as identified in ASTM D 1784. The requirements of this specification are intended to provide pipe suitable for non-pressure drainage and surface water.

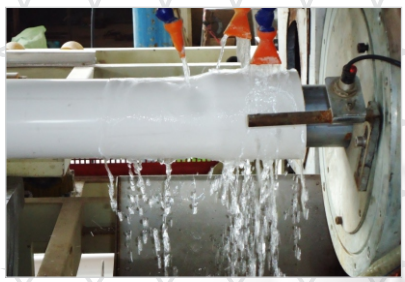
PVC SDR 35 PSM pipe shall conform to ASTM D 3034 for gasket or solvent weld pipe with a minimum pipe stiffness of 46. Gaskets shall conform to ASTM F 477. The term "PSM" is not an acronym, but rather an arbitrary designation for a product having certain dimensions.

Installation shall comply with the latest installation instructions published by **Zeenat Pipe** and shall conform to all applicable plumbing, and building requirements. Buried pipe shall be installed in accordance with ASTM D 2321 and ASTM F 1668. Solvent cement joints shall be made in a two-step process with primer conforming to ASTM F 656 and solvent cement conforming to ASTM D 2564. The pipe shall be protected from chemical agents, plasticized vinyl products, or other aggressive chemical agents not compatible with PVC compounds. Systems shall be hydrostatically tested after installation.

WARNING! Never test with or transport/store compressed air or gas in PVC pipe or fittings.

Referenced Standards:

ASTM D 1784	Rigid Vinyl Compounds
ASTM D 3034	PVC Gravity Sewer Pipe (SDR) 35 PS 46
ASTM D 2855	Joints For Sewer Pipe Using Solvent Cement
ASTM D 2564	Solvent Cements for PVC Pipe and Fittings
ASTM D 2321	Underground Installation of Thermoplastic Pipe(non-pressure applications)
ASTM F 477	Elastomeric Seals (Gaskets) For Joining Plastic Pipe
ASTM F 656	Primers for PVC Pipe and Fittings
ASTM F 1668	Procedures for Buried Plastic Pipe



PVC SDR 35 PSM PIPE ASTM D 3034 & ASTM F 477

PVC SDR -35 GASKETED – PS 46						PVC SDR 35 SOLVENT WELD – PS 46					
Part No.	NOM. SIZE	LAYING LENGTH	WT.PER 100 FT. (LBS.)	AVG. OD (IN.)	MIN.WALL (IN.)	Part No.	NOM. SIZE	LAYING LENGTH	WT.PER 100 FT. (LBS.)	AVG. OD (IN.)	MIN.WALL (IN.)
S3D4W4	4"X13'	13' - 0"	110.4	4.215	.120	S3W4W3	4"X10'	10' - 0"	112.0	4.215	.120
S3D4W6	4"X20'	20' - 0"	109.7	4.215	.120	S3W4W6	4"X20'	20' - 0"	109.7	4.215	.120
S3D6W4	6"X13'	13' - 0"	249.6	6.275	.180	S3W6W3	6"X10'	10' - 0"	252.0	6.275	.180
S3D6W6	6"X20'	20' - 0"	247.0	6.275	.180	S3W6W6	6"X20'	20' - 0"	246.0	6.275	.180
S3D8W4	8"X13'	13' 0"	451.0	8.400	.240						

Weight is a approximate and is for shipping purpose only.

Product Specifications

System: **PVC D 2729 Sewer and Drain Pipe**

Scope: This specification covers PVC D 2729 Sewer Pipe for drainage applications. This pipe is intended for drainage applications where the operating temperature will not exceed 140°F

Specification: Pipe shall be manufactured from virgin rigid PVC (polyvinyl chloride) vinyl compounds with a Cell Class of 12454 as identified in ASTM D 1784.

PVC D 2729 Sewer Pipe dimensions and physical properties shall conform to ASTM D 2729. All Pipes are manufactured in Pakistan.

Installation shall comply with the latest installation instructions published by Zeenat Pipe and shall conform to all applicable plumbing, building, and fire code requirements. Buried pipe shall be installed in accordance with ASTM 2321 and ASTM F 1668. Solvent cements joints shall be made in a two-step process with primer conforming to ASTM F 656 and solvent cement conforming to ASTM D 2564. The system shall be protected from chemical agents, fire stopping materials, thread sealant, plasticized vinyl products, or other aggressive chemical agents not compatible with PVC compounds. Systems shall be hydrostatically tested after installation.

WARNING! Never test with or transport/store compressed air or gas in PVC or pipe or fittings.

Referenced Standards:

ASTM D 1784	Rigid Vinyl Compounds
ASTM D 2729	PVC Sewer Pipe
ASTM D 2564	Solvent Cements for PVC Pipe and Fittings
ASTM F 656	Primer for PVC pipe and Fittings
ASTM D 2321	Underground Installation of Thermoplastic Pipe(non-pressure application)
ASTM F 656	Primers for PVC Pipe and Fittings
ASTM F 1668	Procedures for Buried Plastic Pipe

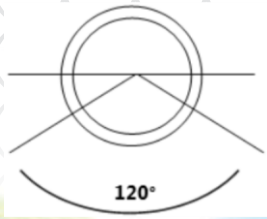
Note: Latest revision of each standard applies

PVC Sewer and Drain ASTM D 2729

Nominal Size	Part No.	UPC Type	O.D. (In.)	Min. Wall (In.)	Ft/Skid	Wt/100' (Lbs.)
3"	KEPP3S D2729	Solid	3.250	0.070	810	52.8
3"	KEPP3SD2729 -1	Perforated	3.250	0.070	810	52.8
4"	KEPP4SD2729	Solid	4.215	0.075	500	70.4
4"	KEPP4SD2729 -1	Perforated	4.215	0.075	500	70.4

Perforation Detail

2-Hole 120 Degree



PVC Sewer and Drain Pipe

PVC ASTM D 2729 Pipe

SOLVENT WELD BELLED END				ASTM D 2729	
Product Code	NOM. SIZE	AVG. OD (IN.)	MIN. WALL (IN.)	BELL DEPTH (IN.)	WT. PER 100 FT. (LBS.)
KEPP3D2729	3"	3.250	0.070	1.50	52.8
KEPP4D2729	4"	4.125	0.075	1.75	70.4

Perforated PVC ASTM D 2729 Pipe

SOLVENT WELD BELLED END				ASTM D 2729	
Product Code	NOM. SIZE	AVG. OD (IN.)	MIN. WALL (IN.)	BELL DEPTH (IN.)	WT. PER 100 FT. (LBS.)
KEPP3D2729P	3"	3.250	0.070	1.50	52.8
KEPP4D2729P	4"	4.125	0.075	1.75	70.4

Perforated pipe is supplied with two rows of ½" diameter holes every five inches. Rows are parallel to the pipe axis and are 120° apart.

Weight is approximate and is for shipping purposes only.

Pipe listed in this section meets or exceeds the requirements of ASTM D 2729

Working Pressure BSS 3505

Maximum sustained working and field test pressure as per BSS 3505

Working Pressure			Field Pressure		
Class	Bar	Kgf/cm²	lbf/in²	Bar	Kgf/cm²	lbf/in²
B	6	6.12	87	9	9.18	130
C	9	9.18	130	14	13.77	195
D	12	12.25	173	18	18.38	259
E	15	15.30	217	23	22.95	325

Class of Pipe		maximum 1h failure pressure
6 bar	Class-B	21.6 bar
9 bar	Class-C	32.4 bar
12 bar	Class-D	43.2 bar
15 bar	Class-E	54.0 bar

Short-term hydrostatic pressure resistance at 20°C maximum 1 hour failure pressure.

NOTICE

NOT FOR PRESSURE

Do not use PVC Sewer pipe for pressure applications. The use of sewer pipe in pressure applications may result in system failure and property damage.

WARNING

Failure to follow safety precautions may result in misapplication or improper installation and testing which can cause severe personal injury and / or property damage.

Primers and cements are extremely flammable and may be explosive. Do not store or use near heat or open flame, or death or serious injury may occur.

Solvent fumes created during the joining process are heavier than air and may be trapped in newly installed piping systems.

Ignition of the solvent vapors caused by spark or flame may result in injury of death from explosion or fire.

Read and obey all manufacturers' warnings and any instructions pertaining to primers and cements.

Provide adequate ventilation to reduce fire hazard and to minimize inhalation of solvent vapors when working with Cements, primers and new piping systems.

PVC SEWERAGE PIPE

BS-5255, 4514, 4660 & 5481

BS 5255 Thermoplastic Waste Pipe

Nominal Size		Outside diameter (mm)		Wall Thickness (mm) Thermoplastic Waste Pipe	
Inch	mm	Min.	Max.	Min.	Max.
1 1/4	32	42.1	42.4	1.8	2.2
1 ½	40	48.1	48.4	1.9	2.3
2	50	60.2	60.5	2.0	2.4

BS 4514 Soil & Ventilating Pipes

Nominal Size		Outside diameter (mm)		Wall Thickness (mm) Soil & Ventilating Pipes	
Inch	mm	Min.	Max.	Min.	Max.
3	82	88.7	89.1	3.2	3.8
4	110	114.1	114.5	3.2	3.8
6	160	168.0	168.5	3.2	3.8

BS 4660 AND 5481 Underground Sewerage

Nominal Size		Outside diameter (mm)		Wall Thickness (mm) Underground Sewerage			
				BS 4660		BS 5481	
Inch	mm	Min.	Max.	Min.	Max.	Min.	Max.
4	110	114.1	114.5	3.2	3.8	-	-
6	160	168.0	168.5	4.1	4.8	-	-
8	200	218.8	219.4	-	-	4.9	5.6
10	250	272.6	273.4	-	-	6.1	7.0
12	315	323.4	324.3	-	-	7.7	8.7
14	355	355.0	356.0	-	-	8.7	9.7
16	400	405.9	407.0	-	-	9.8	11.0
18	450	456.7	457.0	-	-	11.0	12.2
20	500	507.5	508.5	-	-	12.2	13.7

BS-5255, 4514, 4660 & 5481

PVC PRESSURE PIPES BS-3505 & PSI -3051

Nominal Size	Outside Diameter		Wall Thickness									
			Class B, 6.0 bar		Class C, 9.0 bar		Class D, 12.0 bar		Class E, 15.0 bar		Class O	
			Individual Value		Individual Value		Individual Value		Individual Value		Non Pressure	
	min.	max.	min.	KG/M WEIGHT	min.	KG/M WEIGHT	min.	KG/M WEIGHT	min.	KG/M WEIGHT	min.	max.
	mm	mm	mm		mm		mm		mm		mm	mm
3/8"	17.0	17.3	—	—	—	—	—	—	1.5	0.11	—	—
1/2"	21.2	21.5	—	—	—	—	—	—	1.7	0.15	—	—
3/4"	26.6	26.9	—	—	—	—	—	—	1.9	0.22	—	—
1"	33.4	33.7	—	—	—	—	—	—	2.2	0.32	—	—
1-1/4"	42.1	42.4	—	—	—	—	2.2	0.41	2.7	0.50	—	—
1-1/2"	48.1	48.4	—	—	—	—	2.5	0.54	3.1	0.65	1.8	2.2
2'	60.2	60.5	—	—	2.5	0.68	3.1	0.82	3.9	1.03	1.8	2.2
2-1/2"	75.0	75.3	—	—	3.0	1.01	3.9	1.20	4.8	1.31	1.8	2.2
3"	88.7	89.1	2.9	1.17	3.5	1.41	4.6	1.82	5.7	1.58	1.8	2.2
4"	114.1	114.5	3.4	1.78	4.5	2.32	6.0	3.03	7.3	2.22	2.3	2.8
5"	140.0	140.4	3.8	2.44	5.5	3.49	7.3	4.55	9.0	3.65	2.6	3.1
6"	168.0	168.5	4.5	3.46	6.6	5.01	8.8	6.57	10.8	5.51	3.1	3.7
7"	193.5	194.0	5.2	---	7.7	—	10.1	—	12.4	—	3.1	3.7
8"	218.8	219.4	5.3	5.30	7.8	7.72	10.3	10.05	12.6	12.17	3.1	3.7
9"	244.1	244.8	5.9	---	9.7	—	11.5	—	14.1	—	3.1	3.7
10"	272.6	273.4	6.6	8.26	9.7	11.97	12.8	15.59	15.7	18.89	3.1	3.7
12"	323.4	324.3	7.8	11.55	11.5	16.85	15.2	21.91	18.7	26.68	3.1	3.7
14"	355.0	356.0	8.5	13.87	12.6	20.27	16.7	26.49	20.5	32.16	3.6	4.2
16"	405.9	406.9	9.7	17.90	14.5	26.43	19.0	34.15	23.4	46.61	4.1	4.8
18"	456.7	457.7	11.0	22.80	16.3	33.34	21.4	43.33	—	—	4.6	5.3
20"	507.5	508.5	12.2	28.08	18.1	41.16	—	—	—	—	5.1	5.9
22"	558.3	559.3	13.4	34.02	22.9	49.80	—	—	—	—	5.3	6.1
24"	609.1	610.1	14.6	40.41	21.7	59.27	—	---	—	—	5.5	6.3
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