



# Pipe and Manhole Materials

**Table 3D-1.01: Sanitary Sewer Pipe Materials**

Typical Application	Pipe Material	Size Range	Standard	Thickness Class (min.)	Pipe Stiffness (min.)	Joints
Gravity Flow	Solid Wall PVC	8" to 15"	ASTM D 3034	SDR 26	115 psi	Bell and Spigot
Gravity Flow	Solid Wall PVC	8" to 15"	ASTM D 3034	SDR 35	46 psi	Bell and Spigot
Gravity Flow	Solid Wall PVC	18" to 27"	ASTM F 679	N/A	46 psi	Bell and Spigot
Gravity Flow	Corrugated PVC	8" to 10"	ASTM F 949	N/A	115 psi	Bell and Spigot
Gravity Flow	Corrugated PVC	12" to 36"	ASTM F 949	N/A	46 psi	Bell and Spigot
Gravity Flow	Closed Profile PVC	21" to 36"	ASTM F 1803	N/A	46 psi	Bell and Spigot
Gravity Flow	Truss Type PVC	8" to 15"	ASTM D 2680	N/A	200 psi	Bell and Spigot
Gravity Flow	RCP	18" to 144"	ASTM C 76	Class IV Wall B	4,000 psi	Tongue and Groove
Gravity Flow	Ductile Iron	8" to 54"	AWWA C151	Class 52	300 psi	MJ or Push on
Gravity Flow	VCP	8" to 42"	ASTM C 700	N/A	N/A	Bell and Spigot
Gravity Flow	Double Walled Polypropylene	12" to 30"	ASTM F 2736	N/A	46 psi	Bell and Spigot
Gravity Flow	Triple Walled Polypropylene	30" to 36"	ASTM F 2764	N/A	46 psi	Bell and Spigot
Force Main	Ductile Iron	4" to 64"	AWWA C151	Class 52	300 psi	MJ or Push on
Force Main	PVC	4" to 30"	AWWA C 900	DR 18	150 psi	Bell and Spigot

Gravity mains greater than 42 inches in diameter will be lined reinforced concrete pipe or ductile iron.  
 Force mains greater than 30 inches in diameter will be ductile iron.

Table 3D-1.02: Manhole Types

Figure No. <sup>1</sup>	Type	Description	Depth Restrictions
<a href="#">6010.301</a>	<a href="#">SW-301</a>	Circular Sanitary Sewer Manhole	N/A
<a href="#">6010.302</a>	<a href="#">SW-302</a>	Rectangular Sanitary Sewer Manhole	12' max.
<a href="#">6010.303</a>	<a href="#">SW-303</a>	Sanitary Sewer Manhole Over Existing Sewer	N/A
<a href="#">6010.304</a>	<a href="#">SW-304</a>	Rectangular Base/Circular Top Sanitary Sewer Manhole	12' min. to 22' max.
<a href="#">6010.305</a>	<a href="#">SW-305</a>	Tee-section Sanitary Sewer Manhole	N/A

<sup>1</sup> The figure numbers listed in this table refer to figures from the SUDAS Specifications.

Table 3D-1.03: Manhole Casting Types

	Figure No.	Casting Type	Number of Pieces	Ring/Cover	Bolted Frame	Bolted Cover (Floodable)	Gasket
Sanitary Sewer	<a href="#">6010.601</a>	<a href="#">SW-601</a> , A	2	Fixed	Yes	No	Yes <sup>1</sup>
	<a href="#">6010.601</a>	<a href="#">SW-601</a> , B	3	Adjustable	No	No	Yes <sup>1</sup>
	<a href="#">6010.601</a>	<a href="#">SW-601</a> , C	2	Fixed	Yes	Yes	Yes <sup>1</sup>
	<a href="#">6010.601</a>	<a href="#">SW-601</a> , D	3	Adjustable	No	Yes	Yes <sup>1</sup>
Storm Sewer	<a href="#">6010.602</a>	<a href="#">SW-602</a> , E <sup>2</sup>	2	Fixed	Yes	No	No
	<a href="#">6010.602</a>	<a href="#">SW-602</a> , F <sup>2</sup>	3	Adjustable	No	No	No
	<a href="#">6010.602</a>	<a href="#">SW-602</a> , G <sup>2</sup>	2	Fixed	No	No	No

<sup>1</sup> Machine bearing surfaces required.

<sup>2</sup> Storm sewer casting may include environmental symbols and/or messages such as "DUMP NO WASTE, DRAINS TO RIVER."