Ohio EPA Pipe Specification List

Modified as of July 19, 2023

The following is a list of pipe specifications that the Ohio EPA Division of Surface Water has reviewed and deemed acceptable for installation for various wastewater treatment system applications.

1. Acceptable Gravity Sewer Pipe Specifications

Material	Size	Pipe Specs	Joint Spec	Installation	Comments
ABS / PVC	6" - 15"	ASTM D2680	Varies	ASTM D2680	(2)(4)(5)(12)
ABS	Varies	ASTM D2661	ASTM D3212	ASTM D2321	(1)(5)
ABS-DWV	4" - 6"	ASTM D2661	ASTM D2235	ASTM D2321	(1)(5)
ABS-DWV	4" - 6"	ASTM F628	ASTM D2235	ASTM D2321	(3)(5)
Clay	4" - 30"	ASTM C4	ASTM C425	ASTM C12	(3)
Clay	4" - 42"	ASTM C700	ASTM C425	ASTM C12	(3)
Clay	Varies	ASTM C1208	ASTM C425	ASTM C12	(3)
Concrete	4" - 36"	ASTM C14	ASTM C443	ASTM C12	(3)
Concrete	12"-144"	ASTM C76	ASTM C443	ASTM C12	(3)
Concrete	36"-144"	ASTM C478	ASTM C443	ASTM C12	(3) Manholes
Concrete	60"-144"	ASTM C655	ASTM C443	ASTM C12	(3)
Concrete	Varies	AWWA C300	ASTM C443	ASTM C12	(3)
Concrete	Varies	AWWA C301	ASTM C443	ASTM C12	(3)
Concrete	Varies	AWWA C302	ASTM C443	ASTM C12	(3)
DI	3”-64”	ASTM A746	AWWA C111	AWWA C600	(3)(5)
DI	14”-64”	ASTM A716	AWWA C111	AWWA C600	(3)(5)
Fiberglass	Varies	AWWA C950	ASTM D4161	ASTM D3839	(1)
Fiberglass	8"-144"	ASTM D3262	ASTM D4161	ASTM D3839	(1)
HDPP	3”-30”	ASTM F3219	ASTM D3212	ASTM D2321	(1)(5)
HDPP	30”-60”	ASTM F2764	ASTM D3212	ASTM D2321	(1)(5)
PE	18"-120"	ASTM F894	ASTM D3212	ASTM D2321	(1)(5)(12)
PE	½”-24”	ASTM D3035	ASTM D3212	ASTM D2321	(1)(5)(12)
PVC	8"-15"	ASTM D2680	Varies	ASTM D2680	(2)(4)(5)(7)(12)
PVC-DWV	Varies	ASTM D2665	ASTM D2564	ASTM D2321	(1)(5)(12)
PVC	4"-6"	ASTM D2729	ASTM D2564	ASTM D2321	(1)(5)(7)(12)
PVC	4"-15"	ASTM D3034	ASTM D3212 ASTM D2672	ASTM D2321	(1)(5)(7)(12)

PVC	18"-36"	ASTM F679	ASTM D3212	ASTM D2321	(1)(5)(7)(12)
PVC	4"-36"	ASTM F949	ASTM D3212	ASTM D2321	(1)(5)(7)(12)
PVC	4"-48"	ASTM F794	ASTM D3212	ASTM D2321	(1)(5)(7)(12)
PVC	18"-60"	ASTM F1803	ASTM D3212	ASTM D2321	(1)(5)(7)(12)
PRC	6"-144"	ASTM D6783	ASTM D4161	Micro-tunneling	(1)(9)
RTR	8"-144"	ASTM D3262	ASTM D4161	ASTM D2321	(1)(5)
SRTRP	24”-120”	ASTM F2562	ASTM D3122	ASTM D2321	(1)(5)

2. <u>Acceptable Leaching Tile/Pipe Specifications</u>

Material	Size	Pipe Specs	Joint Spec	Installation	Comments
Clay	4"-30"	ASTM C4	ASTM C425	ASTM C12	(3)
Clay	4"-42"	ASTM C700	ASTM C425	ASTM C12	(3)
PE	4"-6"	ASTM F667	ASTM D3212	ASTM D2321	(1)(5)
PE	4"-6"	ASTM F810	ASTM D3212	ASTM D2321	(1)(5)
PVC	4"-6"	ASTM D2729	ASTM D3212	ASTM D2321	(1)(5)

3. <u>Acceptable Force Main Pipe Specifications</u>

Material	Size	Pressure	Pipe Specs	Joint Spec	Installation	Comments
Concrete	12"-108"	125 psi	ASTM C361	ASTM D3139	ASTM C12	(3)
DI	3"-54"	Varies	AWWA C151	AWWA C111	AWWA C600	(1)(5)
HDPE	½”- 3”	Varies	ASTM D3035	ASTM F2620	ASTM D2321 ASTM F1962	(1)(5)
HDPE	4” – 63”	Varies	AWWA C906	ASTM F2620 ASTM F1290	ASTM D2321 ASTM F1962	(1)(5)
HDPE	½”- 2”	Varies	ASTM D2737	ASTM D2657	ASTM D2321 ASTM F1962	(1)(5)
HDPE	1-1/4"--63"	Varies	ASTM F714	ASTM F2620 ASTM F1290	ASTM D2321 ASTM F1962	(1)(5)
PE	18"-120"	10.8 psi	ASTM F894	ASTM F2620 ASTM F1290	ASTM D2321	(1)(5)
PVC	1½ “ - 2”	Varies	ASTM D1785	ASTM D2672 ASTM D3139	ASTM D2321	(1)(8)
PVC	1/8"-36"	Varies	ASTM D2241	ASTM D2672 ASTM D3139	ASTM D2321	(1)(8)
RTR	8"-144"	250 psi	ASTM D3517	ASTM D4161	ASTM D2321	(1)(5)
RTR	8"-144"	250 psi	ASTM D3754	ASTM D4161	ASTM D2321	(1)(5)
PVCO	6"-12"	Varies	ASTM F1483	ASTM D3139	ASTM D2321	(1)(5)

PVCO	4"-12"	150 psi	AWWA C900	ASTM D3139	ASTM D2321	(1)(5)
PVCO	6"-12"	150 psi	AWWA C909	ASTM D3139	ASTM D2321	(1)(5)
PCCP	16"-60"	Varies	AWWA C304	ASTM C443	AWWA C12	(3)(5)

4. Acceptable Manholes

Material	Manhole Design	Construction	Testing	Comments
Concrete	ASTM C478	ASTM C443	-	(10)
HDPE	ASTM F1759	ASTM D 3350	ASTM C1244	(10)
PRC	ASTM D6783	-	-	(10) (11)

5. Discontinued Specifications

Material	Pipe Spec	Year Discontinued	Comments
PVC	ASTM D 3033	1987	-
PB	ASTM F809	2021	-
SR	ASTM D2852	2022	-
PE	ASTM F405	2015	Replaced by ASTM F667
Clay	ASTM C498	2017	-
AC	ASTM C428	2022	-
ABS	ASTM D2751	2014	-
HDPP	ASTM F2736	2018	Replaced by ASTM F3219
PVC	ASTM F789	2017	-
RTR	ASTM D 4160	1991	Replaced by ASTM D3840
BF	ASTM D 2313	1992	-
Clay	ASTM C 498	2001	-
SR	ASTM D 3298	1987	-

1) Class I, II (85% Standard Proctor), or III (90% Standard Proctor) only. All bedding materials pass 3/4" - 1" sieves.
2) Class I, II, or III only. All bedding materials pass 3/4" – 1" sieves.
3) Class A, B, or C only. All bedding materials pass 3/4" – 1" sieves.
4) Joints that connect two different pipe materials together should meet the following specifications.
    a. ABS to ABS, ASTM D 2235
    b. ABS to PVC, ASTM D 3138
    c. PVC to PVC, ASTM D 2564
    d. PVC to PVC Gasketed, ASTM D 3212
5) Definition of pipe material.
    a. ABS = Acrylonitrile butadine-styrene

b. AC = Asbestos Cement
c. BF = Bitumized Fiber
d. PB = Polybutylene
e. PE = Polyethylene
f. PVC = Polyvinyl Chloride
g. PVC-PSP =
h. PVC-PSM =
i. RTR = Reinforced thermosetting resin
j. SR = Styrene-rubber
k. DI = Ductile Iron
l. PVCO = Oriented Polyvinyl Chloride
m. PCCP = Pre-stressed Concrete Cylinder Pipe
n. PRC = Polymer Reinforced Concrete Pipe
o. DWV = Drain, Waste, & Vent
p. HDPE = High Density Polyethylene Pipe
q. HDPP = High Density Polypropylene Pipe
r. SRTRP = Steel Reinforced Thermoplastic Ribbed Pipe

6) Acceptable gravity sewer and force main pipe may be approved on a case-by-case basis for septic tank leach beds if perforated with two rows of 3/8" to 3/4" diameter holes, located 5 inches center to center, and 120^{o} apart. The bedding for a leach line should be 3/4" to 1 ½" clean gravel. The bedding classification shown under the installation column should be used for the lines from the tank to the fields. Pipes should be laid in sections of 10 lineal feet or less. Rolled PE pipe will not be accepted.
7) PVC gravity sewer pipe must meet or exceed SDR 35 (the lower the SDR the thicker the pipe wall thickness).
8) PVC force main must meet or exceed SDR 21, unless the diameter is 4 inches or less, then it must meet or exceed SDR 26.
9) Pipe primarily installed by direct burial and pipe jacking.
10) Acceptable material for manholes.
11) No pipe corrosion, recommended use in Hydrogen Sulfide problem manholes.
12) ASTM D2657 may be used as the joint spec for any polyolefin pipe and fittings. (e.g., polyethylene to polyethylene or polypropylene to polypropylene)
13) Double walled pipe only.