**SECTION 702 MATERIALS

702.1 Above-ground sanitary drainage and vent pipe.**
Above-ground soil, waste and vent pipe shall conform to one of the standards listed in Table 702.1.  **TABLE 702.1 ABOVE-GROUND DRAINAGE AND VENT PIPE**

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| **MATERIAL**  | **STANDARD**  |
| Acrylonitrile butadiene styrene | ASTM D 2661; ASTM F 628;ASTM F 1488; CSA B181.1 |
|  | (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall |
| Brass pipe | ASTM B 43 |
| Cast-iron pipe | ASTM A 74; ASTM A 888;CISPI 301 |
| Copper or copper-alloy pipe | ASTM B 42; ASTM B 302 |
| Copper or copper-alloy tubing | ASTM B 75; ASTM B 88;ASTM B 251; ASTM B 306 |
|  | (Type K, L, M or DWV) |
| Galvanized steel pipe | ASTM A 53 |
| Glass pipe | ASTM C 1053 |
| Polyolefin pipe | ASTM F 1412;CAN/CSA B181.3 |
| Polyvinyl chloride (PVC) | ASTM D 2665; ASTM F 891;ASTM F 1488; CSA B181.2 |
|  | plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200), and DR 24 (PS 140); with a solid, cellular core or composite wall |
| Polyvinyl chloride (PVC) | ASTM D 2949, ASTM F 1488 |
|  | plastic pipe with a 3.25-inchO.D. and a solid, cellularcore or composite wall |
| Polyvinylidene fluoride(PVDF) plastic pipe | ASTM F 1673; CAN/CSAB181.3 |
| Stainless steel drainagesystems, Types 304 and 316L | ASME A112.3.1 |

 **702.2 Underground building sanitary drainage and vent pipe.**
Underground building sanitary drainage and vent pipe shall conform to one of the standards listed in Table 702.2.  **TABLE 702.2 UNDERGROUND BUILDING DRAINAGE AND VENT PIPE**

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| **MATERIAL**  | **STANDARD**  |
| Acrylonitrile butadiene styrene(ABS) plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core, or composite wall | ASTM D 2661; ASTM F 628; ASTM F 1488; CSA B181.1 |
| Asbestos-cement pipe | ASTM C 428 |
| Cast-iron pipe | ASTM A 74; ASTM A 888; CISPI 301 |
| Copper or copper-alloy tubing(Type K, L, M or DWV) | ASTM B 75; ASTM B 88; ASTM B 251; ASTM B 306 |
| Polyolefin pipe | ASTM F 1412;CSA B181.3 |
| Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core, or composite wall | ASTM D 2665; ASTM F 891; ASTM F 1488; CSA B181.2 |
| Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid, cellular core, or composite wall | ASTM D 2949, ASTM F 1488 |
| Polyvinylidene fluoride (PVDF) plastic pipe | ASTM F 1673;CSA B181.3 |
| Stainless steel drainage systems, Type 316L | ASME A 112.3.1 |

 **702.3 Building sewer pipe.**  *Building sewer* pipe shall conform to one of the standards listed in Table 702.3.  **TABLE 702.3 BUILDING SEWER PIPE**

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| **MATERIAL**  | **STANDARD**  |
| Acrylonitrile butadiene styrene(ABS) plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall | ASTM D 2661; ASTM F 628;ASTM F 1488; CSA B181.1 |
| Acrylonitrile butadiene styrene(ABS) plastic pipe in sewer and drain diameters, including SDR 42 (PS 20), PS 35, SDR 35 (PS 45), PS 50, PS 100, PS 140, SDR 23.5 (PS 150) and PS 200; with a solid, cellular core or composite wall | ASTM F 1488; ASTM D 2751 |
| Asbestos-cement pipe | ASTM C 428 |
| Cast-iron pipe | ASTM A 74; ASTM A 888;CISPI 301 |
| Concrete pipe | ASTM C14; ASTM C76;CSA A257.1M;CSA A257.2M |
| Copper or copper-alloy tubing(Type K or L) | ASTM B 75; ASTM B 88;ASTM B 251 |
| Polyethylene (PE) plastic pipe(SDR-PR) | ASTM F 714 |
| Polyvinyl chloride (PVC)plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall | ASTM D 2665; ASTM F 891;ASTM F 1488 |
| Polyvinyl chloride (PVC)plastic pipe in sewer and drain diameters, including PS 25, SDR 41 (PS 28), PS 35, SDR 35 (PS 46), PS 50, PS 100, SDR 26 (PS 115), PS 140 and PS 200; with a solid, cellular core or composite wall | ASTM F 891; ASTM F 1488;ASTM D 3034; CSA B182.2;CSA B182.4 |
| Polyvinyl chloride (PVC)plastic pipe with a 3.25-inch O.D. and a solid, cellular core or composite wall. | ASTM D 2949, ASTM F 1488 |
| Polyvinylidene fluoride(PVDF) plastic pipe | ASTM F 1673;CSA B181.3 |
| Stainless steel drainagesystems, Types 304 and 316L | ASME A112.3.1 |
| Vitrified clay pipe | ASTM C 4; ASTM C 700 |

 **702.4 Fittings.**
Pipe fittings shall be *approved* for installation with the piping material installed and shall comply with the applicable standards listed in Table 702.4.  **TABLE 702.4 PIPE FITTINGS**

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| **MATERIAL**  | **STANDARD**  |
| Acrylonitrile butadienestyrene (ABS) plastic pipe in IPS diameters | ASTM D 2661; ASTM F 628;CSA B181.1 |
| Acrylonotrile butadienestyrene (ABS) plastic pipe in sewer and drain diameters | ASTM D 2751 |
| Asbestos cement | ASTM C 428 |
| Cast iron | ASME B 16.4; ASME B 16.12;ASTM A 74; ASTM A 888;CISPI 301 |
| Copper or copper alloy | ASME B 16.15; ASME B 16.18;ASME B 16.22; ASME B 16.23;ASME B 16.26; ASME B 16.29 |
| Glass | ASTM C 1053 |
| Gray iron and ductile iron | AWWA C 110/A21.10 |
| Malleable iron | ASME B 16.3 |
| Polyolefin | ASTM F 1412;CSA B181.3 |
| Polyvinyl chloride (PVC)plastic in IPS diameters | ASTM D 2665; ASTM F 1866 |
| Polyvinyl chloride (PVC)plastic pipe in sewer and drain diameters | ASTM D 3034 |
| Polyvinyl chloride (PVC)plastic pipe with a 3.25-inch O.D. | ASTM D 2949 |
| Polyvinylidene fluoride(PVDF) plastic pipe | ASTM F 1673;CSA B181.3 |
| Stainless steel drainagesystems, Types 304 and 316L | ASME A 112.3.1 |
| Steel | ASME B 16.9; ASME B 16.11;ASME B 16.28 |
| Vitrified clay | ASTM C 700 |

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| For SI: 1 inch = 25.4 mm, 1 inch per foot = 83.3 mm/m. |

 **702.5 Chemical waste system.**
A chemical waste system shall be completely separated from the sanitary drainage system. The chemical waste shall be treated in accordance with Section 803.2 before discharging to the sanitary drainage system. Separate drainage systems for chemical wastes and vent pipes shall be of an *approved* material that is resistant to corrosion and degradation for the concentrations of chemicals involved.  **702.6 Lead bends and traps.**
Lead bends and traps shall not be less than 1/8 inch (3.2 mm) wall thickness.