



**Summary of Substantive Changes  
between the 1991 (R2017) edition of ASME A112.36.2,  
2008 (R2018) edition of CSA B79.2 and the  
2022 edition of ASME A112.36.2/CSA B79.2 “Cleanouts”  
(New Harmonized Standard)**

**Presented to the IAPMO Standards Review Committee on January 9, 2023**

**General:** The changes to this standard might have an impact on currently listed products. The substantive changes are:

- Addition of ASTM material requirements for applicable plastics.
- Addition of connection types and requirements, Section 5.
- Increase load requirements for load floor testing, Section 6.

**Revised from ASME**

**1 Scope**

**1.1 ~~Scope~~ Inclusions**

**~~ASME 1.1.1 This Standard addresses:~~**

- ~~(a) definitions;~~
- ~~(b) nomenclature;~~
- ~~(c) connection and closure types;~~
- ~~(d) covers and frames;~~
- ~~(e) materials and finishes;~~
- ~~(f) variations and accessories.~~

**1.5 Alternatives**

*The requirements of this Standard are not intended to prevent the use of alternative designs, materials, or methods of construction, provided such alternatives meet the intent and requirements of the Standard.*

**Deleted from CSA**

**~~1 Scope~~**

**~~1.1~~**

~~*This Standard specifies requirements for commercial and residential*~~

- ~~(a) area drains;~~
- ~~(b) balcony drains;~~
- ~~(c) deck drains;~~
- ~~(d) floor drains;~~
- ~~(e) roof drains;~~
- ~~(f) shower drains;~~
- ~~(g) trench drains; and~~
- ~~(h) cleanouts.~~

**~~1.2~~**

~~*This Standard covers the following subjects:*~~

- ~~(a) materials;~~



- ~~(b) design requirements for~~
- ~~(i) connections;~~
- ~~(ii) fasteners;~~
- ~~(iii) grates;~~
- ~~(iv) cleanout covers;~~
- ~~(v) backwater valves; and~~
- ~~(vi) integral traps;~~
- ~~(c) tests for~~
- ~~(i) loading;~~
- ~~(ii) backwater valve tightness;~~
- ~~(iii) sealing; and~~
- ~~(iv) corrosion; and~~
- ~~(d) markings~~

**2 Reference publications:** Publications referenced in this standard will be to the editions listed in Section 2.

#### Revised from CSA

##### **CSA 4.6 4.2.1 Aluminum**

Aluminum sand castings shall comply with ASTM 826. Aluminum die castings shall comply with ASTM B85. Aluminum sheet and plate shall comply with ASTM B209. Aluminum extruded bars, rods, wire, profiles, and tubes shall comply with ASTM B221.

##### **CSA 4.3 4.2.4 Ductile iron**

Ductile iron shall comply with the requirements of Grade 60-40-18, Grade 60-42-10, Grade 60-45-12, or Grade 80-55-06, as specified in ASTM A536.

##### **CSA 4.7 ~~Plastics~~ 4.3 Polymeric compounds**

~~Plastics shall be the following types and comply with the applicable requirements:~~

- ~~(a) Acrylonitrile-butadiene-styrene (ABS) compounds shall comply with CAN/CSA-B181.1.~~
- ~~(b) Polyvinyl chloride (PVC) compounds shall comply with CAN/CSA-B181.2 except for colour.~~
- ~~(c) Polyethylene (PE) compounds shall comply with ASTM-D 3350.~~

##### **4.3.1 Acrylonitrile-butadiene-styrene (ABS)**

ABS shall meet or exceed the requirements of cell classification 32222, as specified in ASTM D3965.

##### **4.3.2 Polyethylene (PE)**

PE shall comply with the requirements of ASTM 03350.

##### **4.3.3 Polypropylene (PP)**

PP shall comply with the requirements of ASTM D4101.

##### **4.3.4 Polyvinylchloride (PVC)**

PVC shall meet or exceed the requirements of cell classification 12454 or 14333, as specified in ASTM D1784.

##### **4.3.5 Polyvinylidene fluoride (PVDF)**

PVDF shall comply with the requirements of ASTM D3222 or ASTM D5575.

##### **CSA 5.2 4.4 Fastener materials**

##### **CSA 5.2.14.4.1 Steel fasteners**

Materials used for studs, nuts, bolts, cap screws, and other steel fasteners shall comply with or exceed the mechanical requirements of Grade A steel, as specified in ASTM A307 or ASTM A563.



**CSA 4.9 Elastomers**

*Elastomeric components shall comply with the applicable requirements of CAN/CSA-B602.*

**CSA 4.10 Adhesives**

*Adhesives used to secure elastomeric components in place shall be water resistant.*

**CSA 4.11.2 4.5.2 Non-organic finishes**

**CSA 4.11.2.1 4.5.2.1 Preparation**

Parts to be coated with non-organic finishes shall be prepared as specified in Items a) to e), as appropriate:

a) through d) remain the same

e) Parts to be hot-dip galvanized shall be coated in accordance with ASTM A153/A153M or ASTM A123/A123M.

**4.11.2.2 Corrosion resistance**

*Non-organic finishes shall comply with the requirements specified in Clause 6.5.*

**4.12 Plastic siphonic roof drains**

*Information on the materials for plastic siphonic roof drains is provided in Annex A.*

Revised from CSA and ASME

**5 Design Requirements**

**ASME 4.1.3 Spigot.** *All spigot outlet connections shall conform to the spigot end dimensions shown in American National Standard for Cast Iron Soil Pipe and Fittings, ANSI A112.5.1, and Cast Iron Soil Pipe Institute Standard No. 301, Cast Iron Soil Pipe and Fittings for Hubless Cast Iron Sanitary System.*

**CSA 5.1.5 Cross-sectional area**

*The minimum cross-sectional area of the drain body shall be not less than the cross-sectional area of the pipe to which the drain body is connected.*

**5.1.5 Spigot (no hub or mechanical joint) outlet connections**

Outlet end of spigot (no hub or mechanical joint) connections shall comply with the outside diameter and minimum wall thickness specified in ASTM A53, ASTM A74, ASTM A312/312M, ASTM A888, ASTM 02661, ASTM 02665, or CISPI 301.

**5.1.7 O-ring, gasketed, and rubber coupling outlet connections**

O-ring or gasketed outlet connections and rubber couplings for gasketed outlet connections shall comply with the applicable requirements of ASME A112.3.1, ASTM C564, ASTM C1440, or CSA B602.

**5.1.8 Butt welded outlet connections**

Outlet connections intended for butt welding shall comply with the requirements of ASME B16.25.

**5.2.4 Alternate closure types**

Alternate closure types shall comply with the sealing test prescribed in Clause 6.2. Elastomeric components shall meet the following minimum requirements:

<b>Test name</b>	<b>ASTM method</b>	<b>Minimum</b>
<u>Tensile</u>	<u>D412</u>	<u>6895 kPa (1000 psi)</u>
<u>Accelerated aging</u>	<u>D573</u>	<u>15% max tensile change, 20% max elongation change</u>
<u>Compression set</u>	<u>D395 method B</u>	<u>25% max after 22 h at 70 °C (158 °F)</u>
<u>Oil immersion</u>	<u>D471</u>	<u>80% max volume change tested at 40 °C (104 °F)</u>
<u>Ozone cracking</u>	<u>D1149</u>	<u>No cracks after 100 h at 1 ppm 38 °C (100 °F)</u>
<u>Tear strength</u>	<u>D624</u>	<u>Die C, 2-68 kg/mm (150 lb per inch) of thickness</u>
<u>Water absorption</u>	<u>D471 20%</u>	<u>max by weight after 7 days at 70 °C (158 °F)</u>



Note: An alternate closure type is a closure other than a straight thread gasket closure or a tapered thread closure.

**5.3 Grates and cleanout covers**

**CSA 5.3.1**

~~Grates shall be assembled to the drain in such a manner that the minimum cross-sectional area of the drain shall be not less than the cross-sectional area of the pipe to which the drain is connected. Any horizontal ledge that is formed below the grate seat shall have a minimum 4° slope downward toward the interior of the drain.~~

**6.1.1 Load testing for floor cleanout covers**

<b>Load classification</b>	<b>Design load, kN (lbf)</b>	<b>Test load, kN (lbf)</b>
<i>Light duty (L): foot traffic only</i>	<i>1.96 (440.6)</i>	<i>3.92 (881.3)</i>
<i>Medium duty (M): light vehicular traffic, e.g., automobiles</i>	<i>8.83 (1 985.1)</i>	<i>17.65 (3 967.9)</i>
<i>Heavy duty (H): light trucks</i>	<i>16.18 (3 637.4)</i>	<i>32.37 (7 277.1)</i>
<i>Extra-heavy duty (X): heavy trucks</i>	<i>33.84 (7 607.5)</i>	<i>67.68 (15 215.1)</i>

~~Note: The test load is the load at failure determined in accordance with Clause 6.1.4.2. The design load is half the load at failure (see Clause 6.1.5). The design load is also called the maximum safe live load because it is the maximum load to be applied safely on the cover, grate, or top rim of the drain.~~

<u>Load classification</u>	<u>Safe live load (minimum design load), kg (lb)</u>	<u>Test load, kg (lb)</u>
<u>LO light duty</u>	<u>200 (441)</u>	<u>400 (882)</u>
<u>MD medium duty</u>	<u>900 (1984)</u>	<u>1800 (3968)</u>
<u>HD heavy duty</u>	<u>1650 (3638)</u>	<u>3300 (7276)</u>
<u>XHD extra Heavy duty</u>	<u>3402 (7500)</u>	<u>6804 (15 000)</u>
<u>SD special duty</u>	<u>4536 (10 000)</u>	<u>9072 (20 000)</u>

**CSA 6.1.2 Test Equipment, ASME 6.2.2 Platen Size, 6.1.4 Test platen**

The platen shall ~~be~~ have a diameter of

- ~~a) 90 mm (3.5 in), in diameter for drains of grates and covers 125 114 mm (4.5 in) or larger in diameter, or in width for rectangular grids grates; and or~~
- ~~b) 50 mm (2 in), in diameter for grates and covers smaller drains than 114 mm (4.5 in).~~

**CSA 6.1.5 6.1.6 Safe live load**

~~The maximum safe live load shall be calculated by dividing the load at failure by two.~~

The safe live load shall be

- ~~a) calculated by dividing by two the test load or the load at failure determined in Clause 6.1.5, whichever is smaller; and~~
- ~~b) used to determine the load classification, in accordance with Clause 6.1.1.~~

**6.2 Sealing test for alternate closures and water-tight cleanout covers**

**CSA 6.3.1 6.2.1 Test method**

**CSA 6.3.1.1 6.2.1.1 Assembly and pressurization**

~~The cleanout cover shall be assembled in accordance with the manufacturer's instructions. The assembly shall be pressurized with 30 kPa (4.35 psi) internal pressure, isolated from the pressure source, and allowed to stand for 15 min. The assembly shall be checked for any sign of leakage or pressure drop.~~

~~Note: Air should be purged before disassembly.~~

The cleanout cover and/or closures shall be assembled in accordance with the manufacturer's instructions. The assembly shall be pressurized with water head pressure of 3.048 m ± 51 mm (10 ft ± 2



in). The water head pressure shall be measured from the highest point of the sealing surface as illustrated in Figure g, and allowed to stand for 15 min. The assembly shall be checked for any sign of leakage. Alternative test apparatus that achieve the same pressure and tolerances are acceptable. Note: Verify the air has been purged from test assembly before testing.

#### **6.4 Joint seal test**

##### **6.4.1 Test method**

~~Drains shall be subjected to an internal hydrostatic water pressure of 5 kPa (500 mm water column) [36 psi (74 in Hg)] and allowed to stand for 15 min.~~

##### **6.4.2 Pass/fail criteria**

~~No leakage shall be permitted (i.e., drop in water column). Any leakage at the joint shall be cause for rejection.~~

#### **7 Markings**

##### **7.1 Residential drains**

###### **7.1.1 Permanent Mark**

~~Residential drains and cleanouts shall be permanently marked with the following:~~

- ~~(a) the manufacturer's name or trademark; and~~
- ~~(b) the load classification (see Clause 6.1.1).~~

Cleanouts shall be permanently marked with the manufacturer's name or trademark or, in the case of private labelling, the name, trademark, or other mark of the customer for whom the cleanout was manufactured.

##### **7.2 Commercial drains**

~~Commercial drains and cleanouts shall be permanently marked in accordance with the following standards, as applicable:~~

- ~~(a) floor and trench drains — ASME A112.3.1 or ASME A112.6.3;~~
- ~~(b) roof, deck, and balcony drains — ASME A112.6.4;~~
- ~~(c) siphonic roof drains — ASME A112.6.9;~~
- ~~(d) vacuum and storm drains — ASME A112.3.1; and~~
- ~~(e) cleanouts — with ASME A112.36.2M.~~

##### **7.3 Elastomeric components**

~~Elastomeric components of push-on compression joints shall be permanently marked with the manufacturer's name or trademark.~~

##### **7.3 Permanent markings**

Acceptable means of applying permanent markings shall include, but not be limited to, firing on, etching, sand blasting, mechanical stamping, stamping with a permanent (non-water soluble) ink, and casting in. Adhesive labels that comply with CSA C22.2 No. 0.15 or UL 969 shall also be considered permanent when placed on a surface that is not normally submerged in water. The exposure conditions specified in Clause 7.1 of UL 969 shall apply.