

**INTERNATIONAL ASSOCIATION OF PLUMBING
AND MECHANICAL OFFICIALS**

**IAPMO GUIDE CRITERIA
FOR**

**SHOWER DRAINS WITH INTEGRATED
BONDING FLANGES**

IGC 195-2011e1

1. PURPOSE

- 1.1** The purpose of this standard is to establish a generally acceptable standard for drains with integrated bonding flanges for shower pans. Its purpose is to serve as a guide for producers, distributors, architects, engineers, contractors, installers, inspectors and users; and to promote understanding regarding materials, manufacture and installation.
- 1.2** The provisions of this standard are not intended to prevent the use of any alternate material or method of construction provided that any such alternate meets the intent of this standard.

2. SCOPE

- 2.1** This standard covers physical requirements and tests for types of materials, thickness, threads, dimensions and other significant properties in addition to general description of materials used. Certain features of construction and finish of the final product are also given, together with the methods of marking and identification.
- 2.2** The drains, covered by this standard, are intended for use in normal installations of showers when installed in compliance with Section 412.1 of the Uniform Plumbing Code

3. REFERENCE STANDARDS

- 3.1** All standards referenced herein shall be the current edition of that standard.

ASME A112.18.2/CSA B125.2
ASTM A240

ASTM B221

ASTM D1784

Plumbing Fixture Waste Fittings
Chromium and Chromium-Nickel Stainless
Steel Plate, Sheet, and Strip for Pressure
Vessels and for General Applications
Aluminum and Aluminum-Alloy Extruded
Bars, Rods, Wire, Profiles, and Tubes
Rigid Poly (Vinyl Chloride)(PVC)
Compounds and Chlorinated Poly (Vinyl
Chloride)(CPVC) Compounds

ASTM D3965

Rigid Acrylonitrile-Butadiene-Styrene (ABS)
Materials for Piping and Fittings
Polypropylene Injection and Extrusion
Materials

ASTM D4101

4. GENERAL REQUIREMENTS

- 4.1** Drain bodies shall be of PVC with a cell classification of 14333 or 12454 complying with ASTM D1784, ABS with a cell classification of 32222 complying with ASTM D3965 or stainless steel 300 series complying with ASTM A240 or unreinforced PP having a cell class of PP0110B55140 in ASTM D 4101 or a cell class 55230 or 75250 from Table B in ASTM D4101 or reinforced PP with a cell class PP0105G20A33350 in ASTM D4101.
- 4.2** Strainers shall be of Stainless Steel 300 series complying with ASTM A240 or Anodized Aluminum Alloy 6061 with AA-A20 series grade anodized coating (Film Thickness 0.0001-0.0004) material complying with Table 1 of ASTM B 221 and shall have means for securing to body of drain such as but not limited to snap-on type or screw fastened.
- 4.2.1** The minimum water way area of strainers shall be equal to the cross sectional area of the connecting pipe.
- 4.2.2** Strainers shall comply with the load test as specified in Section 5.
- 4.3** Dimensions, thread requirements, radii and other physical details shall be as indicated in the attached drawings. For detail measurements of the ABS and PVC drains See Plate I for 2" pipe or Plate II for 3" pipe, for detail measurements of the stainless steel drain see Plate III for 2" pipe or Plate IV for 3" pipe or Plate V for trench type.
- 4.3.1** All tolerances, except as otherwise noted, shall be $\pm 1/32"$ for fractions and ± 0.005 for decimals.
- 4.4** Minimum wall thickness of PVC and ABS drain bodies shall be 0.156" (3.96 mm). Minimum wall thickness of stainless steel drain bodies shall be 0.027" (0.635 mm).
- 4.5** Tapers and fillets shall be allowed to facilitate normal manufacturing processes.
- 4.6** Screws, bolts and inserts shall be stainless steel or copper alloys with a minimum copper content of 56% by weight.
- 4.7** Weep holes are not required for drains with integrated bonding flanges that are used with top-mounted, bonded waterproof membranes.
- 4.7.1** When provided, membranes shall comply with the applicable requirements in ANSI A118.10.
- 4.8 Outlet Types and Connections**
- 4.8.1** Outlet types and connections shall comply with the requirements of the Uniform Plumbing Code.

- 4.8.2** The size and slope of the integrated bonding flange shall provide a bonding surface for a waterproofing membrane.

5. TESTING REQUIREMENTS

5.1 Strainer Load Test

- 5.1.1** Shower drain strainers shall be tested in accordance with section 5.5.2 of ASME A112.18.2/CSA B125.2.

- 5.1.2 Performance Requirements.** When tested in accordance with the shower drain strainer load test of section 5.5.1 of ASME A112.18.2/CSA B125.2, the strainer shall comply with the requirements of that section.

- 5.2 Seal Test.** When drain body has factory installed membrane attached to flange, the sample shall be installed in accordance with manufacturer's instructions prior to tiling. Seal the outlet of the drain to allow a ¼" body of water to stand along the seam where flange and membrane are adhered for 24 hrs. The sample shall show no signs of leakage under the drain body at the location of adhesion between flange and membrane.

- 5.3 Gasket and Seals.** When the drainage envelope parts of a drain body are assembled by means of a gasket and/or seal shall be subjected to the hydrostatic pressure of 5 psi of water at 50 ± 10°F for 5 min. There shall be no signs of leakage, cracking, or permanent deformation of the drain body.

6. MARKINGS & IDENTIFICATION

- 6.1** The manufacturer's name or trademark shall appear on the upper portion of the clamping ring or body and the strainer.

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