

**From:** [Alma Ramos](#)  
**To:** ["upctc@kavi.iapmo.org"](mailto:upctc@kavi.iapmo.org)  
**Subject:** REVISED 2018 UPC TC MEETING MONOGRAPH  
**Date:** Wednesday, April 18, 2018 8:46:00 AM  
**Importance:** High

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Dear Technical Committee Members,

Due to some technical issues, it was determined that there were some submitted public proposals that were not included as part of the original monograph submitted on Friday April 13, 2018. The UPC had a total of 22 proposals that were missing from the UPC monograph.

**The 22 UPC missing proposals are as follows:**

**Item # 015, Item # 023, Item # 027, Item # 030, Item # 040, Item # 044, Item # 057, Item # 071, Item # 074, Item # 078, Item # 082, Item # 084, Item # 087, Item # 094, Item # 097, Item # 101, Item # 104, Item # 117, Item # 120, Item # 124, Item # 144, and Item # 230**

Our IT dept is currently looking into this issue as to why it occurred and why the system did not catch all the proposals submitted. Our IT department has also verified with their database to ensure that all proposals submitted were included in the revised monograph.

The monograph has been updated to include the missing proposals as shown above and can be obtained using the following link:

<http://codes.iapmo.org/docs/2018%20UPC%20TC%20Meeting%20Monograph.pdf>

We apologize for the inconvenience that this may have caused. Please call us if you have any questions or concerns.

Thank you

**Enrique Gonzalez**

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# CODES ADMINISTRATION

Item #: 015

UPC 2021 Section: 313.2, Table 1701.1

SUBMITTER: Tim Collings  
Self

RECOMMENDATION:  
Revise text

### 313.0 Hangers and Supports.

**313.2 Material.** Hangers and anchors shall be of sufficient strength to support the weight of the pipe and its contents. Piping shall be isolated from incompatible materials. Steel hangers for supply and DWV piping up to 6 inches (150 mm) shall comply with IAPMO PS 95.

TABLE 1701.1  
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<del>IAPMO PS 95-2018</del>	<del>Pipe Support Hangers and Hooks</del>	<del>Miscellaneous</del>	<del>313.2</del>

(portions of table not shown remain unchanged)

TABLE 1701.2  
STANDARDS, PUBLICATIONS, PRACTICES, AND GUIDES

DOCUMENT NUMBER	DOCUMENT TITLE	APPLICATION
<del>IAPMO PS 95-2001</del>	<del>Drain, Waste, and Vent Hangers and Plastic Pipe Support Hooks</del>	<del>DWV Components</del>

(portion of table not shown remain unchanged)

Note: IAPMO PS 95 meets the requirements for a mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

**SUBSTANTIATION:**

This proposal will update this section to reference the applicable standard for steel hangers for supply and DWV pipe. The scope of IAPMO PS 95-2018 covers steel hangers for pipe up to 6 in.



# CODES ADMINISTRATION

Item #: 023

UPC 2021 Section: 407.1, Table 1701.1

SUBMITTER: Tim Collings  
Self

RECOMMENDATION:  
Revise text

407.0 Lavatories.

407.1 Application. Lavatories shall comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4, ASME A112.19.12, CSA B45.5/IAPMO Z124, CSA B45.8/IAPMO Z403, CSA B45.11/IAPMO Z401, ~~or~~ CSA B45.12/IAPMO Z402 or IAPMO IGC 127.

TABLE 1701.1  
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<u>IAPMO IGC 127-2018</u>	<u>Combined Hand-Washing Systems</u>	<u>Fixtures</u>	<u>407.1</u>

(portion of table not shown remains unchanged)

Note: IAPMO IGC 127 meets the requirements for a mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

**SUBSTANTIATION:**

There is no standard referenced for compliance of combination systems. The scope of IGC 127 covers combination systems comprised of electronically actuated soap dispensers, faucets, and hand air-dryers. The products covered by IGC 127 are required to comply with a lifecycle test for the system in addition to compliance with the appropriate standards that address the individual aspects of the lavatories such as CSA B45.5/IAPMO Z124 for plastic lavatories and ASME A112.18.1/CSA B125.1 for supply fittings.



# CODES ADMINISTRATION

Item #: 027

UPC 2021 Section: 408.1, Table 1701.1

SUBMITTER: April Trafton  
Donald F. Dickerson Associates

RECOMMENDATION:  
Revise text

**408.0 Showers.**

**408.1 Application.** Manufactured shower receptors and shower bases shall comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSAB45.4, CSA B45.12/IAPMO Z402, or CSA B45.5/IAPMO Z124. Manufactured shower receptors and shower bases with enclosures, shall comply with IAPMO IGC 154.

**TABLE 1701.1  
REFERENCED STANDARDS**

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<u>IAPMO IGC 154-2016</u>	<u>Shower and Tub/Shower Enclosures, Bathtubs with Glass Pressure- Sealed Doors, and Shower/Steam Panels</u>	<u>Fixtures</u>	<u>408.1</u>

(portion of table not shown remains unchanged)

Note: IAPMO IGC 154 meets the requirements for a mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

**SUBSTANTIATION:**

IAPMO IGC 154 establishes minimum requirements for manufactured shower receptors with operating controls panel that are part of enclosures. There are currently over 20 manufacturers which have been tested to IGC 154 and it should be included among the referenced standards for manufactured shower receptors in this section to ensure the health and safety of the public.



# CODES ADMINISTRATION

Item #: 030

UPC 2021 Section: 408.5

SUBMITTER: Angel Guzman  
The American Society of Mechanical Engineers (ASME)

RECOMMENDATION:  
Revise text

**408.5 Finished Curb or Threshold.** Where a shower receptor has a finished dam, curb, or threshold, it shall be not less than 1 inch (25.4 mm) lower than the sides and back of such receptor. In no case, shall a dam or threshold be less than 2 inches (51 mm) or exceeding 9 inches (229 mm) in depth where measured from the top of the dam or threshold to the top of the drain. Each such receptor shall be provided with an ~~an integral~~ nailing flange to be located where the receptor meets the vertical surface of the finished interior of the shower compartment. The flange shall be watertight and extend vertically not less than 1 inch (25.4 mm) above the top of the sides of the receptor. The finished floor of the receptor shall slope uniformly from the sides towards the drain not less than  $\frac{1}{8}$  inch per foot (10.4 mm/m), nor more than  $\frac{1}{2}$  inch per foot (41.6 mm/m).

Thresholds shall be of sufficient width to accommodate a minimum 22 inch (559 mm) door. Shower doors shall open so as to maintain not less than a 22 inch (559 mm) unobstructed opening for egress. The immediate adjoining space to showers without thresholds shall be considered a wet location and shall comply with the requirements of the building, residential, and electrical codes.

Exceptions:

- (1) Showers in accordance with Section 403.2.
- (2) A cast-iron shower receptor flange shall be not less than 0.3 of an inch (7.62 mm) in height.
- (3) For flanges not used as a means of securing, the sealing flange shall be not less than 0.3 of an inch (7.62 mm) in height.

SUBSTANTIATION:

All the harmonized ASME/CSA standards for plumbing fixtures (ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4) allow for field installed flanges. The IAPMO Z124/CSA B45.5 standard includes a specific test for verifying that no water leaks through the flange and fixture joint. By requiring that the nailing flange be integral to the fixture, this would restrict many products which are fully allowed and compliant with the national recognized performance standards currently referenced in this 2018 UPC.



# CODES ADMINISTRATION

Item #: 040

UPC 2021 Section: 420.0, 420.1, Table 1701.1

SUBMITTER: Tim Collings  
Self

RECOMMENDATION:  
Revise text

420.0 Sinks.

420.1 Application . Sinks shall comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4, CSA B45.5/IAPMO Z124, CSA B45.8/IAPMO Z403, or CSA B45.12/IAPMO Z402 or IAPMO IGC 127. Moveable sink systems shall comply with ASME A112.19.12.

TABLE 1701.1  
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<a href="#">IAPMO IGC 127-2018</a>	<a href="#">Combined Hand-Washing Systems</a>	<a href="#">Fixtures</a>	<a href="#">420.1</a>

(portion of table not shown remains unchanged)

Note: IAPMO IGC 127 meets the requirements for a mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

**SUBSTANTIATION:**

There is no standard referenced for compliance of combined washing systems. The scope of IGC 127 covers combined hand-washing systems. The products covered by IGC 127 are required to comply with a lifecycle test for the system in addition to compliance with the standards that address individual aspects of the product such as ASME A112.19.2/CSA B45.1 for ceramic plumbing fixtures and ASME A112.18.2/CSA B125.2 for waste fittings.



# CODES ADMINISTRATION

Item #: 044

UPC 2021 Section: 504.1

SUBMITTER: Christopher Jensen  
UL LLC  
UL LLC

RECOMMENDATION:  
Revise text

504.0 Water Heater Requirements.

504.1 Location. Water heater installations in bedrooms and bathrooms shall comply with one of the following [NFPA 54:10.27.1]:

- (1) Fuel-burning water heaters shall be permitted to be installed in a closet located in the bedroom or bathroom provided the closet is equipped with a listed, gasketed door assembly and a listed self-closing device. The selfclosing door assembly shall meet the requirements of Section 504.1.1. The door assembly shall be installed with a threshold and bottom door seal and shall meet the requirements of Section 504.1.2. Combustion air for such installations shall be obtained from the outdoors in accordance with Section 506.4. The closet shall be for the exclusive use of the water heater.
- (2) Water heater shall be of the direct vent type. [NFPA 54:10.27.1(2)]

[\(3\) Household electric storage tank water heaters listed and labeled to UL174 and installed in accordance with the manufacturers installation instructions.](#)

TABLE 1701.1  
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
UL 174-2004	Household Electric Storage Tank Water Heaters (with revisions through April 10, 2015)	Appliances	<a href="#"><u>504.1(3)</u></a> , Table 501.1(1)

(portion of table not shown remains unchanged)

Note: UL 174 meet the requirements for a mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

**SUBSTANTIATION:**

Electric water heaters do not produce products of combustion nor do they require combustion air. The location limitations found in Section 504.1 address installation of fuel-burning appliances and the need for proper combustion air and removal of products of combustion. This change acknowledges that a listed electric water heater installed in accordance with its listing and manufacturers installation instructions need not be installed in a space meeting Section 504.1(1).



# CODES ADMINISTRATION

Item #: 057

UPC 2021 Section: 601.3, 601.3.1, 601.3.2, 601.3.3, 601.3.4, 601.3.5, Table 601.3.2,

SUBMITTER: Michael Cudahy  
Plastic Pipe and Fittings Association (PPFA)

RECOMMENDATION:  
Revise text

601.0 General.

601.3 Identification of a Potable and Nonpotable Water System. In buildings where potable water and nonpotable water systems are installed, each system shall be clearly identified in accordance with Section 601.3.1 through Section 601.3.5.

601.3.1 Potable Water. Green background with white lettering with the words, "POTABLE WATER."

601.3.2 Color and Information. Each system shall be identified with a colored pipe or band and coded with paints, wraps, and materials compatible with the piping.

Except as required by Section 601.3.3, nonpotable water systems shall have a yellow background with black uppercase lettering, with the words "CAUTION: NONPOTABLE WATER, DO NOT DRINK." Each nonpotable system shall be identified to designate the liquid being conveyed, and the direction of normal flow shall be clearly shown. The minimum size of the letters and length of the color field shall comply with Table 601.3.2.

The background color and required information shall be indicated every 20 feet (6096 mm) but not less than once per room, and shall be visible from the floor level.

601.3.3 Alternate Water Sources. Alternate non-potable water source systems such as gray water, reclaimed water, rainwater, or on site treated, shall have a purple (Pantone color No. 512, 522C, or equivalent) background with uppercase lettering and shall be field or factory marked as follows:

~~(1) Gray water systems shall be marked in accordance with this section with the words "CAUTION: NONPOTABLE GRAY WATER, DO NOT DRINK" in black letters.~~

~~(2) Reclaimed (recycled) water systems shall be marked in accordance with this section with the words: "CAUTION: NONPOTABLE RECLAIMED (RECYCLED) WATER, DO NOT DRINK" in black letters.~~

~~(3) On-site treated water systems shall be marked in accordance with this section with the words: "CAUTION: ON-SITE TREATED NONPOTABLE WATER, DO NOT DRINK" in black letters.~~

~~(4) Rainwater catchment systems shall be marked in accordance with this section with the words: "CAUTION: NONPOTABLE RAINWATER WATER, DO NOT DRINK" in black letters.~~

601.3.4 Fixtures. Where vacuum breakers or backflow preventers are installed with fixtures listed in Table 1701.1, identification of the discharge side shall be permitted to be omitted.

601.3.5 Outlets. Each outlet on the nonpotable water line that is used for special purposes shall be posted with black uppercase lettering as follows: "CAUTION: NONPOTABLE WATER, DO NOT DRINK."

603.5.11 Nonpotable Water Piping. In cases where it is impractical to correct individual cross-connections on the domestic waterline, the line supplying such outlets shall be considered a nonpotable water line. No drinking or domestic water outlets shall be connected to the nonpotable waterline. Where possible, portions of the nonpotable waterline shall be exposed, and exposed portions shall be properly identified as required in section 601.3 and in a manner satisfactory to the Authority Having Jurisdiction. Each outlet on the nonpotable waterline that is permitted to be used for drinking or domestic purposes shall be posted: "CAUTION: NONPOTABLE WATER, DO NOT DRINK."

SUBSTANTIATION:

This section is overly complicated with marking requirements. One warning is all that is needed for ANY non-potable water, and it is "CAUTION: NONPOTABLE WATER, DO NOT DRINK." Each of the currently listed sources could be of any quality, depending on the system, so there is no need to identify them specifically. Since a cistern is the most expensive



component, multiple sources of non-potable water would likely be comingled, and then what do you do? The purpose of the marking is a warning to prevent cross contamination of the potable water system, not to identify the system. With one required marking, warehouses can maintain one factory product or label instead of five. Requiring green pipe really isn't necessary, especially in residential buildings and the white marking is not actually specified. If it is marked, it should at least be consistent. 603.5.11 should refer back to 601.3.



# CODES ADMINISTRATION

Item #: 071

UPC 2021 Section: Table 604.1

SUBMITTER: Michael Cudahy  
Plastic Pipe and Fittings Association (PPFA)

RECOMMENDATION:  
Revise text

TABLE 604.1  
MATERIALS FOR BUILDING SUPPLY AND WATER DISTRIBUTION PIPING AND FITTINGS

MATERIAL	BUILDING SUPPLY PIPE AND FITTINGS	WATER DISTRIBUTION PIPE AND FITTINGS	REFERENCED STANDARD(S) PIPE	REFERENCED STANDARD(S) FITTINGS
PEX	X	X	ASTM F876, <del>ASTM F877</del> , CSA B137.5, AWWA C904 <sub>i</sub>	ASSE 1061, ASTM F877, ASTM F1807, ASTM F1960, ASTM F1961, ASTM F2080, ASTM F2159, ASTM F2735, CSA B137.5

(portion of table not shown remains unchanged)

SUBSTANTIATION:  
Delete ASTM F877 from the REFERENCED STANDARD(S) PIPE column. The REQUIREMENTS for piping have been removed from ASTM F877, and this is the only table in the model codes it currently remains. It is still a fittings standard.



# CODES ADMINISTRATION

Item #: 074

UPC 2021 Section: Table 604.1, Table 1701.1

SUBMITTER: Tim Collins  
Self

RECOMMENDATION:  
Revise text

TABLE 604.1  
MATERIALS FOR BUILDING SUPPLY AND WATER DISTRIBUTION PIPING AND FITTINGS

MATERIAL	BUILDING SUPPLY PIPE AND FITTINGS	WATER DISTRIBUTION PIPE AND FITTINGS	REFERENCED STANDARD(S) PIPE	REFERENCED STANDARD(S) FITTINGS
CPVC	X	X	ASTM D2846, ASTM F441, ASTM F442, CSA B137.6, <a href="#">IAPMO IGC 287</a>	ASSE 1061, ASTM D2846, ASTM F437, ASTM F438, ASTM F439, ASTM F1970, CSA B137.6, <a href="#">IAPMO IGC 287</a>

(portion of table not shown remains unchanged)

TABLE 1701.1  
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<a href="#">IAPMO IGC 287-2012<sup>e1</sup></a>	<a href="#">Chlorinated Polyvinylchloride (CPVC) Pipe, Tubing, and Fittings for Hot and Cold Water Distribution Systems</a>	<a href="#">Fittings</a>	<a href="#">Table 604.1</a>

(portion of table not shown remains unchanged)

Note: IAPMO IGC 287 meets the requirements for a mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

**SUBSTANTIATION:**

IAPMO IGC 287 should be among those standards cited for CPVC Pipe or CPVC Fittings as indicated in the proposal for change. The scope of IAPMO IGC 287 covers SDR 11 (standard dimension ratio 11) chlorinated polyvinylchloride (CPVC) pipe, tubing, and fittings for use in hot and cold water distribution systems that operate at a maximum working pressure of 690 kPa (100 psi) and a maximum temperature of 82.2 °C (180°F). The fittings covered in this Standard comprise socket fittings, street fittings, and plastic-to-metal transition fittings. In addition to the standard requirements, a pullout test and quality evaluation for compliance is applied to adhesive joints made between pipe and the fittings covered in IGC 287 in accordance with ASTM F493 to ensure the integrity of joint.



# CODES ADMINISTRATION

Item #: 078

UPC 2021 Section: 605.2.2

SUBMITTER: Michael Cudahy  
Plastic Pipe and Fittings Association (PPFA)

RECOMMENDATION:  
Revise text

## 605.2 CPVC Plastic Pipe and Joints. (remaining text unchanged)

605.2.2 Solvent Cement Joints. Solvent cement joints for CPVC pipe and fittings shall be clean from dirt and moisture. Solvent cements shall comply with ASTM F493, those requiring the use of a primer shall be orange in color. The primer shall be colored and shall comply with ASTM F656. A two-step method of joining pipe and fittings shall be made in accordance with ASTM D2855.

Listed solvent cement yellow or red in color that complies with ASTM F493 and that does not require the use of primers, ~~yellow or red in color~~, shall be permitted for pipe and fittings that comply with ASTM D2846, 1/2 of an inch (15 mm) through 2 inches (50 mm) in diameter or ASTM F442, 1/2 of an inch (15 mm) through 3 inches (80 mm) in diameter. Apply primer where required inside the fitting and to the depth of the fitting on pipe. Apply liberal coat of cement to the outside surface of pipe to depth of fitting and inside of fitting. Place pipe inside fitting to forcefully bottom the pipe in the socket and hold together until joint is set.

TABLE 1701.1  
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<del>ASTM D2855-2015</del>	<u>Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets</u>	<u>Joints</u>	<u>705.6.2</u>

(portion of table not shown remain unchanged)

TABLE 1701.2  
STANDARDS, PUBLICATIONS, PRACTICES, AND GUIDES

DOCUMENT NUMBER	DOCUMENT TITLE	APPLICATION
<del>ASTM D2855-2015</del>	<u>Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets</u>	<u>Joints</u>

(portion of table not shown remain unchanged)

Note: ASTM D2855 meets the requirements for a mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

### SUBSTANTIATION:

ASTM D2855 now includes CPVC two step installation practice. The language could also be cleaned up a bit in the section. ASTM D2855 is Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets ASTM D2855 is already in the plumbing code.



# CODES ADMINISTRATION

Item #: 082

UPC 2021 Section: 605.12.2

SUBMITTER: Michael Cudahy  
Plastic Pipe and Fittings Association (PPFA)

RECOMMENDATION:  
Revise text

605.12.2 Solvent Cement Joints. A two-step method of joining pipe and fittings shall be made in accordance with ASTM D2855. Solvent cement joints for PVC pipe and fittings shall be clean from dirt and moisture. Pipe shall be cut square and pipe shall be deburred. Where surfaces to be joined are cleaned and free of dirt, moisture, oil, and other foreign material, apply primer purple in color that complies with ASTM F656. Primer shall be applied to the surface of the pipe and fitting is softened. Solvent cement that complies with ASTM D2564 shall be applied to all joint surfaces. Joints shall be made while both the inside socket surface and outside surface of pipe are wet with solvent cement. Hold joint in place and undisturbed for 1 minute after assembly.

TABLE 1701.1  
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<del>ASTM D2855-2015</del>	<u>Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets</u>	<u>Joints</u>	<u>705.6.2</u>

(portion of table not shown remain unchanged)

TABLE 1701.2  
STANDARDS, PUBLICATIONS, PRACTICES, AND GUIDES

DOCUMENT NUMBER	DOCUMENT TITLE	APPLICATION
<del>ASTM D2855-2015</del>	<u>Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets</u>	<u>Joints</u>

(portion of table not shown remain unchanged)

Note: ASTM D2855 meets the requirements for a mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

**SUBSTANTIATION:**

ASTM D2855 is Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets ASTM D2855 is already in the plumbing code.



# CODES ADMINISTRATION

Item #: 084

UPC 2021 Section: 606.8, Table 1701.1

SUBMITTER: Tim Collings  
Self

RECOMMENDATION:  
Revise text

### 606.0 Valves

606.8 Leak Detection Devices. Leak detection devices for water supply and distribution shall comply with IAPMO IGC 115 or IAPMO IGC 349. Leak detection devices shall not be installed on fire protection systems.

TABLE 1701.1  
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<u>IAPMO IGC 115-2013e1</u>	<u>Automatic Water Leak Detection Devices</u>	<u>Miscellaneous</u>	<u>606.8</u>
<u>IAPMO IGC 349-2018</u>	<u>Electronic Plumbing Supply System Integrity Protection Devices</u>	<u>Miscellaneous</u>	<u>606.8</u>

(portion of table not shown remains unchanged)

Note: IAPMO IGC 115 and IAPMO IGC 349 meet the requirements for mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

#### SUBSTANTIATION:

Leak detection systems and devices compliant with IGC 115 have been tested and in use for over 10 years. With the development of "Smart" leak detection devices covered by IGC 349 the range of applications for these systems and the number of installations continues to grow. This proposal will definitively limit application of these devices and assists the end user in selection of an approved device for installation and ensure the health and safety of the public through code enforcement.



# CODES ADMINISTRATION

Item #: 087

UPC 2021 Section: 608.3, Table 1701.1

SUBMITTER: April Trafton  
Donald F. Dickerson Associates

RECOMMENDATION:  
Revise text

### 608.0 Water Pressure, Pressure Regulators, Pressure Relief Valves, and Vacuum Relief Valves.

**608.3 Expansion Tanks, and Combination Temperature and Pressure-Relief Valves.** A water system provided with a check valve, backflow preventer, or other normally closed device that prevents dissipation of building pressure back into the water main, independent of the type of water heater used, shall be provided with an approved, listed, and adequately sized expansion tank or other approved device having a similar function to control thermal expansion. Pre-pressurized water expansion tanks shall comply with IAPMO Z1088. Such expansion tank or other approved device shall be installed on the building side of the check valve, backflow preventer, or other device and shall be sized and installed in accordance with the manufacturer's installation instructions.

A water system containing storage water heating equipment shall be provided with an approved, listed, adequately sized combination temperature and pressure-relief valve, except for listed nonstorage instantaneous heaters having an inside diameter of not more than 3 inches (80 mm). Each such approved combination temperature and pressure-relief valve shall be installed on the water-heating device in an approved location based on its listing requirements and the manufacturer's installation instructions. Each such combination temperature and pressure-relief valve shall be provided with a drain in accordance with Section 608.5.

TABLE 1701.1  
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<u>IAPMO Z1088-2013</u>	<u>Pre-Pressurized Water Expansion Tanks</u>	<u>Miscellaneous</u>	<u>608.3</u>

(portion of table not shown remains unchanged)

Note: IAPMO Z1088 meets the requirements for a mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

#### SUBSTANTIATION:

IAPMO Z1088 establishes minimum requirements for pre-pressurized water expansion tanks intended for use in potable and nonpotable water systems. There are more than 10 manufacturers which have been tested and listed to Z1088 and it should be included as the referenced standard for this product to clearly inform the end user of the code that these devices are approved and to ensure the health and safety of the public through code enforcement.



# CODES ADMINISTRATION

Item #: 094

UPC 2021 Section: 609.10, Table 1701.1

SUBMITTER: Tim Collings  
Self

RECOMMENDATION:  
Revise text

609.0 Installation, Testing, Unions, and Location.

609.10 Water Hammer . Building water supply systems where quick-acting valves are installed shall be provided with water hammer arrester(s) to absorb high pressures resulting from the quick closing of these valves. Water hammer arresters shall be approved mechanical devices that comply with ASSE 1010, [IAPMO IGC 168](#), or PDI-WH 201 and shall be installed as close as possible to quick-acting valves.

TABLE 1701.1  
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<a href="#">IAPMO IGC 168-2012<sup>el</sup></a>	<a href="#">Supply Stops with Integral Water Hammer Arresters.</a>	<a href="#">Appliances</a>	<a href="#">609.10</a>

(portion of table not shown remains unchanged)

Note: IAPMO IGC 168 meets the requirements for a mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

**SUBSTANTIATION:**

Currently, there are many water hammer arrestors installed in the field that include an integral supply stop. The current referenced standards, ASSE 1010 and PDI-WH 201, address water hammer arresters without a supply stop. This proposal introduces IGC 168 which covers water hammer arrestors that are integral to supply stops. The supply stop with water hammer arrester is evaluated as a single product under IGC 168.





# CODES ADMINISTRATION

Item #: 097

UPC 2021 Section: 223.0

SUBMITTER: Jay Peters  
Codes and Standards International  
Falcon Waterfree Technologies

RECOMMENDATION:  
Revise text

223.0 – U –

~~Urinal, Hybrid—A urinal that conveys waste into the drainage system without the use of water for flushing, and automatically performs a drain-cleansing action after a predetermined amount of time.~~

Urinal with Drain Cleansing Action —. A non-water urinal that performs a drain cleansing action automatically after a preset unit of time or predetermined amount of usage and is able to extract waste without the drain-cleansing action.

SUBSTANTIATION:

The original text for Hybrid Urinal was based on the IAPMO IGC for Hybrid Urinals. Since then, the technology has been added into the ASME A112.19.19-2016 standard and the IAPMO IGC has been discontinued. This proposal updates the language in the code to correlate with the language in the updated ANSI standard for consistency. NOTE: There is a companion change to update the term into the corresponding WSFU and DFU tables; 610.3 and 702.1, respectively.



# CODES ADMINISTRATION

Item #: 101

UPC 2021 Section: 612.1

SUBMITTER: Michael Cudahy  
Plastic Pipe and Fittings Association (PPFA)

RECOMMENDATION:  
Revise text

## 612.0 Residential Fire Sprinkler Systems.

**612.1 Where Required.** Where residential sprinkler systems are required in one and two-family dwellings or townhouses, the systems shall be installed by personnel, installer, or both, certified in accordance with ASSE Series 7000 or who possess documented manufacturer training in accordance with this section or NFPA 13D. This section shall be considered equivalent to NFPA 13D. Partial residential sprinkler systems shall be permitted to be installed in buildings not required to be equipped with a residential sprinkler system.

**SUBSTANTIATION:**

While this may be less of an issue down the road, there is probably still a shortage of certifications to ASSE 7000 in the marketplace, but there will always be some manufacturer training programs that can help fill in the gap as an alternative and offer specialized knowledge for systems until the gap is closed. We offer this as a way to close the gap.



# CODES ADMINISTRATION

Item #: 104

UPC 2021 Section: 701.2

SUBMITTER: Michael Cudahy  
Plastic Pipe and Fittings Association (PPFA)  
Plastic Pipe and Fittings Association (PPFA)

RECOMMENDATION:  
Revise text

701.0 General.

701.2 Drainage Piping. Materials for drainage piping shall be in accordance with one of the referenced standards in Table 701.2 except that:

- (1) No galvanized wrought-iron or galvanized steel pipe shall be used underground and shall be kept not less than 6 inches (152 mm) aboveground.
- (2) ~~ABS and PVC~~ DWV piping installations shall be installed in accordance with applicable standards referenced in ~~Table 701.2~~ Chapter 17 and Chapter 14 "Firestop Protection." Except for individual single-family dwelling units, DWV combustible piping materials exposed within ducts or plenums shall have a flame-spread index of not more than 25 and a smoke-developed index of not more than 50, where tested in accordance with ASTM E84 or UL 723. ~~These tests shall comply with all requirements of the standards to include the sample size, both for width and length. Plastic pipe shall not be tested filled with water.~~

(remaining text unchanged)

SUBSTANTIATION:

(2) probably shouldn't really be an exception. (2) is also confusing - Table 701.2 is a table for the pipe material. For installation, the standards are in Chapter 17. All piping materials, not just ABS and PVC, should be installed in accordance with applicable standards requirements, but new standard test requirements should not be imposed by the code. There are now multiple tables for standards in Chapter 17 and the materials and installation should meet the requirements found in Table 1701.1 and Table 1701.2. The last section is specific to combustible DWV and that should also be made clear. There are other plenum requirements for other products.



# CODES ADMINISTRATION

Item #: 117

UPC 2021 Section: 705.6.2

SUBMITTER: Michael Cudahy  
Plastic Pipe and Fittings Association (PPFA)

RECOMMENDATION:  
Revise text

705.6 PVC and PVC Co-Extruded Plastic Pipe and Joining Methods. (remaining text unchanged)

705.6.2 Solvent Cement Joints. A two-step method of joining pipe and fittings shall be made in accordance with ASTM D2855. Solvent cement joints for PVC pipe and fittings shall be clean from dirt and moisture. Pipe shall be cut square, and pipe shall be deburred. Where surfaces to be joined are cleaned and free of dirt, moisture, oil, and other foreign material, apply primer purple in color that complies with ASTM F656. Primer shall be applied to the surface of the pipe and fitting is softened. Solvent cement that comply with ASTM D2564 shall be applied to all joint surfaces. Joints shall be made while both the inside socket surface and outside surface of pipe are wet with solvent cement. Hold joint in place and undisturbed for 1 minute after assembly.

TABLE 1701.1  
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<del>ASTM D2855-2015</del>	<del>Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets</del>	<del>Joints</del>	<del>705.6.2</del>

(portion of table not shown remain unchanged)

TABLE 1701.2  
STANDARDS, PUBLICATIONS, PRACTICES, AND GUIDES

DOCUMENT NUMBER	DOCUMENT TITLE	APPLICATION
<del>ASTM D2855-2015</del>	<del>Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets</del>	<del>Joints</del>

(portion of table not shown remain unchanged)

Note: ASTM D2855 meets the requirements for a mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

**SUBSTANTIATION:**

ASTM D2855 is Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets ASTM D2855 is already in the plumbing code.



# CODES ADMINISTRATION

Item #: 120

UPC 2021 Section: 707.1, 707.2, Table 1701.1

SUBMITTER: April Trafton  
Donald F. Dickerson Associates

RECOMMENDATION:  
Revise text

**7070 Cleanouts.**

**707.1 General.** Cleanouts shall comply with ASME A112.36.2, CISPI 301, CSA B79, IAPMO IGC 78, IAPMO IGC 224, or IAPMO PS 90.

(renumber remaining sections)

**707.2-707.3 Approved.** Each cleanout fitting and each cleanout plug or cap shall be of an approved type in accordance with the reference standards in Section 707.1.

(renumber remaining sections)

**TABLE 1701.1  
REFERENCED STANDARDS**

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<u>ASME A112.36.2-1991 (R2017)</u>	<u>Cleanouts</u>	<u>DWV Components</u>	<u>707.1</u>
CSA B79-2008 (R2013)	Commercial and Residential Drains and Cleanouts	Fixtures	418.1, <u>707.1</u>
CISPI 301- <del>2012</del> <u>2017</u>	Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications	Piping, Ferrous	301.2.4, <u>707.1</u> , Table 701.2
<u>IAPMO IGC 78-2018</u>	<u>Drain, Waste and Vent (DWV) Internal Cleanout Fittings</u>	<u>DWV Components</u>	<u>707.1</u>
<u>IAPMO IGC 224-2018</u>	<u>ABS, PVC and Cast Iron DWV Test Fitting With Integral Cleanout</u>	<u>DWV Components</u>	<u>707.1</u>
<u>IAPMO PS 90-2014</u>	<u>Elastomeric Test Caps, Cleanout Caps, and Combination Test Caps/Shielded Couplings</u>	<u>DWV Components</u>	<u>707.1</u>

(portion of table not shown remains unchanged)

**TABLE 1701.2  
STANDARDS, PUBLICATIONS, PRACTICES, AND GUIDES**

DOCUMENT NUMBER	DOCUMENT TITLE	APPLICATION
<u>ASME A112.36.2-1991 (R2017)</u>	<u>Cleanouts</u>	<u>DWV Components</u>

(portion of table not shown remains unchanged)

Note: The ASME, CSA, CISPI, and IAPMO standards meet the requirements for mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

**SUBSTANTIATION:**

The existing requirements cleanouts are unclear. This proposal clarifies these requirements for the end user through reference to the applicable standards for cleanouts. The summarized scope of the standards included in this proposal for the compliance of cleanout fittings are: (a) ASME A112.36.24M covers cleanouts including floor and wall types used in concealed piping in and adjacent to commercial, industrial, institutional, and other buildings open to public use (b) CISPI 301 covers pipe and fittings for hubless cast iron sanitary and storm drain, sanitary waste, and vent piping applications (c) CSA B79 covers commercial and residential drains and cleanouts. (d) IGC 78 covers flush-finished cleanout plugs with countersunk rectangular slots. (e) IGC 224 covers ABS, PVC test fittings with integral cleanout fittings with compatible dimensions for use with Cast Iron, ABS and PVC drain waste and vent. (f) IAPMO PS 90 covers elastomeric test caps, cleanout caps, and combination test caps/shielded couplings.



# CODES ADMINISTRATION

Item #: 124

UPC 2021 Section: 710.13, Table 1701.1

SUBMITTER: Tim Collings  
Self

RECOMMENDATION:  
Revise text

### 710.0 Drainage of Fixtures Located Below the Next Upstream Manhole or Below the Main Sewer Level.

**710.13 Macerating Toilet Systems and Pumped Waste Systems.** Fixtures shall be permitted to discharge to a macerating toilet system, or pumped waste system and shall be permitted as an alternate to a sewage pump system where approved by the Authority Having Jurisdiction. Such systems shall comply with ASME A112.3.4/CSA B45.9 and shall be installed in accordance with the manufacturer's installation instructions. Macerating systems, used for bedpan liners, shall comply with IAPMO IGC 290 and shall be installed in accordance with the manufacturer's installation instructions.

TABLE 1701.1  
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<u>IAPMO IGC 290-2012<sup>sl</sup></u>	<u>Bedpan Liner Macerators</u>	<u>Fixtures</u>	<u>710.13</u>

(portion of table not shown remains unchanged)

Note: IAPMO IGC 290 meets the requirements for a mandatory referenced standards in accordance with Section 3-3.7.1 of IAPMO's Regulations Governing Committee Projects.

**SUBSTANTIATION:**

These macerator types are a permanent fixture connected to the plumbing supply and waste envelope. They are commonly used in hospitals and residences to simplify the disposal of bedpan contents. These systems are not currently regulated and should be included in the code to ensure the health and safety of the public through code enforcement. IAPMO IGC 290 covers bedpan liner macerators and this proposal intends to clarify to the end users that products compliant with IAPMO IGC 290 are approved devices.



# CODES ADMINISTRATION

Item #: 144

UPC 2021 Section: 1101.4

SUBMITTER: Michael Cudahy  
Plastic Pipe and Fittings Association (PPFA)

RECOMMENDATION:  
Revise text

## 1101.0 General.

**1101.4 Material Uses.** Pipe, tube, and fittings conveying rainwater shall be of such materials and design as to perform their intended function to the satisfaction of the Authority Having Jurisdiction. Conductors within a vent or shaft shall be of cast-iron, galvanized steel, wrought iron, copper, copper alloy, lead, Schedule 40 ABS DWV, Schedule 40 PVC DWV, stainless steel 304 or 316L [stainless steel 304 pipe and fittings shall not be installed underground and shall be kept not less than 6 inches (152 mm) aboveground], or other approved materials, and changes in direction shall be in accordance with the requirements of Section 706.0. ~~ABS and PVC~~ DWV piping installations shall be installed in accordance with applicable standards referenced in ~~Table 1701.1~~ [Chapter 17](#) and Chapter 14 "Firestop Protection."

Except for individual single-family dwelling units, [DWV combustible pipe](#) materials exposed within ducts or plenums shall have a flame-spread index of not more than 25 and a smoke-developed index of not more than 50, where tested in accordance with ASTM E84 or UL 723. ~~These tests shall comply with all requirements of the standards to include the sample size, both for width and length. Plastic pipe shall not be tested filled with water.~~

SUBSTANTIATION:  
Language in 1101.4 is better than that found in section 701.2, but for installation, instead of just listing Table 1701.1, better to just list all of Chapter 17. All piping materials, not just ABS and PVC, should be installed in accordance with applicable standards requirements, and fire stopping requirements, but new standard test requirements should not be imposed by the code.



# CODES ADMINISTRATION

Item #: 230

UPC 2021 Section: Table 1701.2

SUBMITTER: April Trafton  
Donald F. Dickerson Associates

RECOMMENDATION:  
Revise text

TABLE 1701.2  
STANDARDS, PUBLICATIONS, PRACTICES, AND GUIDES

DOCUMENT NUMBER	DOCUMENT TITLE	APPLICATION
<a href="#">IAPMO IGC 67-2014<sup>el</sup></a>	<a href="#">Specialized ABS and PVC DWV Fittings</a>	<a href="#">DWV Components</a>
<a href="#">IAPMO IGC 183-2016</a>	<a href="#">Oil/Water Separators and Coalescing Plate Separators</a>	<a href="#">DWV Components</a>
<a href="#">IGC 267-2015<sup>el</sup></a>	<a href="#">Hydrants without Integral Backflow Preventers</a>	<a href="#">Valves</a>
<a href="#">IAPMO IGC 109-2015</a>	<a href="#">Water Distribution Manifolds for SDR 9 PEX Tubing and PE-AL-PE and PEX-AL-PEX Composite Pipe</a>	<a href="#">Valves</a>
<a href="#">IAPMO PS 1-2007</a>	<a href="#">Tank Risers</a>	<a href="#">DWV Components</a>
<a href="#">IAPMO PS 50-2010</a>	<a href="#">Flush Valves with Dual Flush Device for Water Closets or Water Closet Tank with an Integral Flush Valves with a Dual Flush Device</a>	<a href="#">Fixtures</a>
<a href="#">IAPMO PS 90-2014</a>	<a href="#">Elastomeric Test Caps, Cleanout Caps, and Combination Test Caps/Shielded Couplings</a>	<a href="#">DWV Components</a>

(portion of table not shown remains unchanged)

**SUBSTANTIATION:**

The standards proposed for inclusion in Table 1701.2 are used to test and list multiple products that are being installed in the field from over 50 different manufacturers. Inclusion of these standards in Table 1701.2 will assist end users of the code to determining if a product has been evaluated or appropriately listed.