

# INTERNATIONAL PLUMBING CODE

## P2-09/10, Part I

202

### Proposed Change as Submitted

**Proponent:** James Anjam, Arlington County, Virginia Plumbing and Mechanical Inspectors Association (VPMIA)

#### PART I - IPC

**Revise as follows:**

**PLUMBING FIXTURE.** A receptacle or device that is ~~either permanently or temporarily~~ directly or indirectly connected to the ~~water distribution system~~ building drainage system. Such receptacles or devices typically, but do not always require a connection to a supply of water, ~~of the premises and demands a supply of water therefrom; discharges wastewater, liquid-borne waste materials or sewage either directly or indirectly to the drainage system of the premises; or requires both a water supply connection and a discharge to the drainage system of the premises.~~

**Reason:** The current plumbing fixture definition is confusing and out of date. According to the current code, waterless urinals and floor drains are not considered to be plumbing fixtures. This proposal updates and simplifies the code.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: ANJAM-P1-202

### Public Hearing Results

#### PART I- IPC

**Committee Action:**

**Disapproved**

**Committee Reason:** Testimony of opponent indicated that ASME A112.19.2 has a better definition.

**Assembly Action:**

**None**

### Individual Consideration Agenda

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Richard Grace, Fairfax County, representing Virginia Plumbing and Mechanical Inspectors Association (VPMIA), Virginia Building Code Officials Association (VBCOA), ICC Region VII requests Approval as Modified by this Public Comment:**

**Replace the proposal as follows:**

~~PLUMBING FIXTURE. A receptacle or device that is either permanently or temporarily connected to the water distribution system of the premises and demands a supply of water there from; discharges wastewater, liquid-borne waste materials or sewage either directly or indirectly to the drainage system of the premises; or requires both water supply connection and a discharge to the drainage system of the premises.~~

PLUMBING FIXTURE. A receptacle or device that is connected to a water supply system or discharges to a drainage system or both. Such receptacles or devices require a supply of water; or discharge liquid waste or liquid-borne solid waste; or require a supply of water and discharge waste to a drainage system.

**Commenter's Reason:** The current IPC definition lacks the inclusion of code approved waterless type urinals, floor drains, stand pipes, and waste receptors. The original public comment submission failed to include hose connections or eyewash fixtures with a water supply only. The as modified language includes all fixtures whether they are water supplied or waste discharge only or both.

Final Action: AS AM AMPC\_\_\_ D

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## P2-09/10, Part II IRC 202

### Proposed Change as Submitted

**Proponent:** James Anjam, Arlington County, Virginia Plumbing and Mechanical Inspectors Association (VPMIA)

#### PART II – IRC

**Delete and substitute as follows:**

~~**PLUMBING FIXTURE.** A receptor or device that requires both a water supply connection and a discharge to the drainage system, such as water closets, lavatories, bathtubs and sinks. Plumbing appliances as a special class of fixture are further defined.~~

**PLUMBING FIXTURE.** A receptacle or device that is directly or indirectly connected to the building drainage system. Such receptacles or devices typically, but do not always require a connection to a supply of water.

**Reason:** The current plumbing fixture definition is confusing and out of date. According to the current code, waterless urinals and floor drains are not considered to be plumbing fixtures. This proposal updates and simplifies the code.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: ANJAM-P1-202

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### Public Hearing Results

#### PART II- IRC

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Agreed with proponent's reason statement that the definition is out of date and doesn't include waterless urinals.

**Assembly Action:**

**Disapproved**

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### Individual Consideration Agenda

This item is on the agenda for individual consideration because an assembly action was successful and a public comment was submitted.

*Public Comment:*

Richard Grace, Fairfax County, representing Virginia Plumbing and Mechanical Inspectors Association (VPMIA), Virginia Building Code Officials Association (VBCOA), ICC Region VII, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

~~PLUMBING FIXTURE. A receptor or device that requires both a water supply connection and a discharge to the drainage system, such as water closets, lavatories, bathtubs and sinks. Plumbing appliances as a special class of fixture are further defined.~~

**PLUMBING FIXTURE.** A receptacle or device that is connected to a water supply system or discharges to a drainage system or both. Such receptacles or devices require a supply of water; or discharge liquid waste or liquid-borne solid waste; or require a supply of water and discharge waste to a drainage system.

**Commenter's Reason:** The current IRC definition lacks the inclusion of floor drains, stand pipes, and waste receptors. The original public comment submission failed to include hose connections with a water supply only. The as modified language includes all fixtures whether they are water supplied or waste discharge only or both.

Final Action: AS AM AMPC\_\_\_ D

**P7-09/10, Part I**  
**303.1, 303.4, Table 303.4**

**NOTE: PART II DID NOT RECEIVE A PUBLIC COMMENT AND IS ON THE CONSENT AGENDA, PART II IS REPRODUCED ONLY FOR INFORMATION PURPOSES FOLLOWING ALL OF PART I**

**Proposed Change as Submitted**

**Proponent:** Becky Baker, Jefferson County Colorado, representing the Colorado Association of Plumbing Mechanical Officials

**PART I - IPC**

**1. Revise as follows:**

**303.1 Identification.** Each length of pipe and each pipe fitting, trap, fixture, material and device utilized in a plumbing system shall bear the identification of the manufacturer and any markings required by the applicable referenced standards.

**303.4 Third-party testing and certification.** All plumbing products and materials shall comply be listed by a third-party certification agency as complying with the referenced standards, specifications and performance criteria of this code, and shall be identified in accordance with Section 303.1. When required by Table 303.4, plumbing products and materials shall either be tested by an approved third-party testing agency or certified by an approved third-party certification agency. Products and materials shall be identified in accordance with Section 303.1.

**2. Delete table without substitution:**

**TABLE 303.4**  
**PRODUCTS AND MATERIALS REQUIRING THIRD-PARTY TESTING AND THIRD-PARTY CERTIFICATION**

PRODUCT OR MATERIAL	THIRD-PARTY CERTIFIED	THIRD-PARTY TESTED
Potable water supply system components and potable water fixture fittings	Required	-
Sanitary drainage and vent system components	Plastic pipe, fittings and pipe-related components	All others
Waste fixture fittings	Plastic pipe, fittings and pipe-related components	All others
Storm drainage system components	Plastic pipe, fittings and pipe-related components	All others
Plumbing fixtures	-	Required
Plumbing appliances	Required	-
Backflow prevention devices	Required	-
Water distribution system safety devices	Required	-
Special waste system components	-	Required
Subsoil drainage system components	-	Required

**Reason:** The revision to IPC Section 303.1 (IRC Section P2608.1)

- To make it clear that the code intends that the identification requirements in any referenced standard(s) be met.
- To require that the mark of the third-party certification agencies be applied to listed products. This is needed so that the inspector knows that the product has been certified by a third party agency.

The revision to IPC Section 303.4 (IRC Section P22608.4) and the deletion of IPC Table 303.4 (IRC Table P2608.1)

1. To make the job of the easier since inspectors don't have time to review test reports and
2. To create a more uniform means to enforce code requirements among the various products governed by the code.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: BAKER-P1-303.1

### **Public Hearing Results**

**PART I- IPC**

**Committee Action:**

**Disapproved**

**Committee Reason:** Requires testing of items that really don't need to be tested.

**Assembly Action:**

**None**

### **Individual Consideration Agenda**

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Becky Baker, Jefferson County, Colorado representing the Colorado Association of Plumbing and Mechanical Officials, requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**303.1 Identification.** Each length of pipe and each pipe fitting, trap, fixture, material and device utilized in a plumbing system shall bear the identification of the manufacturer and any markings required by the applicable referenced standards.

**303.4 Third-party certification.** All plumbing products and materials shall be listed by a third-party certification agency as complying with the referenced standards, ~~specifications and performance criteria of this code.~~ Products and materials shall be identified in accordance with Section 303.1.

**Commenter's Reason:** This modification will accomplish the intent of the original proposal and maintain consistency between the IPC and IRC.

*Public Comment 2:*

**Julius Ballanco, PE, JB Engineering and Code Consulting, representing self, requests Approval as Modified by this public comment.**

**Modify the proposal as follows:**

**303.1 Identification.** Each length of pipe and each pipe fitting, trap, fixture, material and device utilized in a plumbing system shall bear the identification of the manufacturer and any markings required by the applicable referenced standards.

**303.4 Third-party certification.** All plumbing products and materials shall be listed by a third-party certification agency as complying with the referenced standards, ~~specifications and performance criteria of this code.~~ Products and materials shall be identified in accordance with Section 303.1.

**Commenter's Reason:** This change was a good attempt by the Colorado Association of Plumbing and Mechanical Officials. Just a slight modification is necessary. The third party certification is to the referenced standard. It is unnecessary to add a statement regarding "specifications and performance criteria of this code".

The standard practice in the industry is for products to be tested and listed to the appropriate standard. The code lists the standards that are applicable for each application.

Final Action:        AS            AM            AMPC \_\_\_\_        D

**NOTE: PART II REPRODUCED FOR INFORMATIONAL PURPOSES ONLY – SEE ABOVE**

**P7-09/10, PART II - IRC**

**1. Revise as follows:**

**P2608.1 Identification.** Each length of pipe and each pipe fitting, trap, fixture, material and device utilized in a plumbing system shall bear the identification of the manufacturer and any markings required by the applicable referenced standards.

**P2608.4 Third-party testing and certification.** All plumbing products and materials shall ~~comply be listed by a third-party certification agency as complying with the referenced standards, specifications and performance criteria of this code, and shall be identified in accordance with Section P2608.1. When required by Table P2608.4, plumbing products and materials shall either be tested by an approved third party testing agency or certified by an approved third party certification agency. Products and materials shall be identified in accordance with Section P2608.1.~~

2. Delete table without substitution:

**TABLE P2608.4  
PRODUCTS AND MATERIALS REQUIRING THIRD-PARTY TESTING AND THIRD-PARTY CERTIFICATION**

PRODUCT OR MATERIAL	THIRD-PARTY CERTIFIED	THIRD-PARTY TESTED
Potable water supply system components and potable water fixture fittings	Required	-
Sanitary drainage and vent system components	Plastic pipe, fittings and pipe-related components	All others
Waste fixture fittings	Plastic pipe, fittings and pipe-related components	All others
Storm drainage system components	Plastic pipe, fittings and pipe-related components	All others
Plumbing fixtures	-	Required
Plumbing appliances	Required	-
Backflow prevention devices	Required	-
Water distribution system safety devices	Required	-
Special waste system components	-	Required
Subsoil drainage system components	-	Required

**Reason:** The revision to IPC Section 303.1 (IRC Section P2608.1)

- To make it clear that the code intends that the identification requirements in any referenced standard(s) be met.
- To require that the mark of the third-party certification agencies be applied to listed products. This is needed so that the inspector knows that the product has been certified by a third party agency.

The revision to IPC Section 303.4 (IRC Section P22608.4) and the deletion of IPC Table 303.4 (IRC Table P2608.1)

- To make the job of the easier since inspectors don't have time to review test reports and
- To create a more uniform means to enforce code requirements among the various products governed by the code.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**PART II- IRC-P**

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**P2608.4 Third-party certification.** All plumbing products and materials shall be listed by a third-party certification agency as complying with the referenced standards ~~specifications and performance criteria of this code.~~ Products and materials shall be identified in accordance with Section P2608.1.

**Committee Reason:** Modification made to clarify that products must be certified to referenced standards. Provides for a more uniform method to enforce code requirements and reduces the number of test reports required to be reviewed by code officials.

**Assembly Action:**

**None**

**P11-09/10  
308.9 (New)**

**Proposed Change as Submitted**

**Proponent:** Gregory A. Farmer, PE representing ASPE Legislative Committee, ASPE

**Revise as follows:**

**308.9 Parallel water distribution systems.** Piping bundles for manifold systems shall be supported in accordance with Table 308.5. Support at changes in direction shall be in accordance with the manufacturer's installation instructions. ~~Hot and e~~Cold water and uninsulated hot water piping shall not be grouped in the same bundle.

**Reason:** The purpose of separation between the hot water and cold water piping is to prevent heat transfer. Insulation on the hot water piping accomplishes the same objective. Allowing the insulated piping to be in the same pipe bundle will reduce labor and material costs.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: FARMER-P1-308.9

## **Public Hearing Results**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** It is logical not to want hot water piping transferring heat to cold water piping in a piping bundle.

**Assembly Action:**

**None**

## **Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Gary Klein, Affiliated International Management, LLC., representing self, requests Approval as Modified by this Public Comment.**

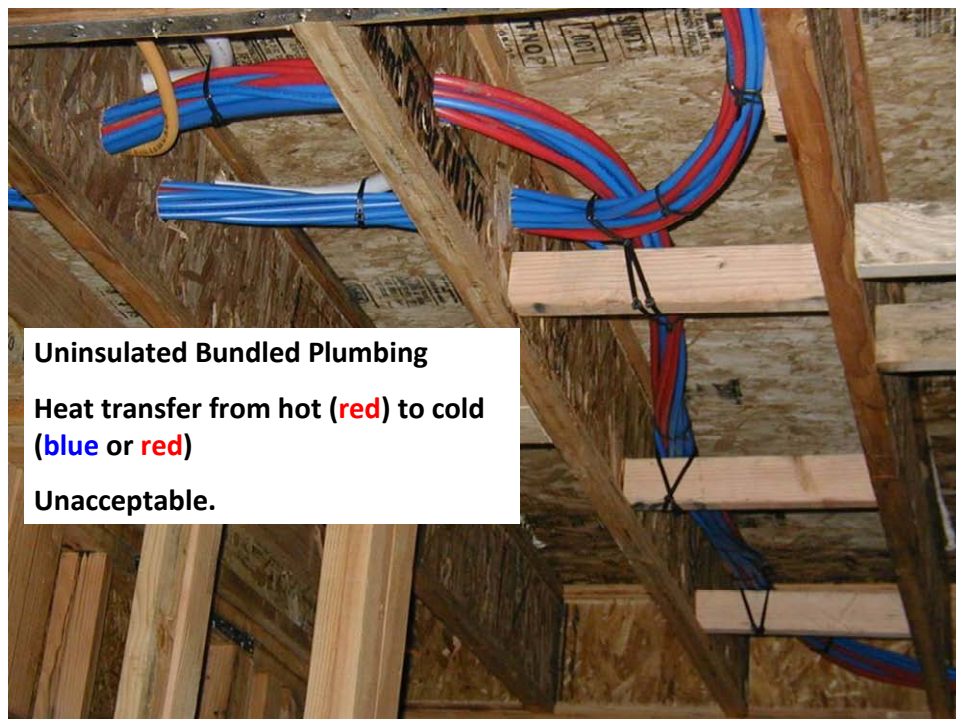
**Modify the proposal as follows:**

**308.9 Parallel water distribution systems.** Piping bundles for manifold systems shall be supported in accordance with Table 308.5. Support at changes in direction shall be in accordance with the manufacturer's installation instructions. ~~Cold water and uninsulated hot water piping shall not be grouped in the same bundle.~~ Where hot water piping is bundled with cold or hot water piping, each hot water pipe shall be insulated.

**Commenter's Reason:** The proposal that was approved was good, but there is another problem that the proposal does not appear to clearly address. What about a bundle that includes only "hot water" piping. In the majority of instances only one of the hot water pipes in a parallel water distribution system actually has hot water running through it at any given time. The other "hot water" pipes have cold water sitting in them and there will be heat transfer between the hot pipe being used and the other "not-hot" pipes in the bundle. The hot water piping should not be grouped into a bundle either, whether or not this bundle is insulated. Each hot water pipe needs to be insulated separately.

An air space around each pipe is better than being in a bundle, but insulation is significantly better. According to research conducted by the California Energy Commission, uninsulated plastic piping performs worse than copper piping. The testing was done with hot water temperatures in the range of 110-140F and air temperatures in the range of 55-75F, typical of those found in hot water systems and the buildings in which they are installed. When insulated, all hot water piping was found to have very similar performance.

The following six pictures describe the various cases that this code change should address. I believe that the proposed revisions address all of these cases. I recommend that you accept this revised proposal. Thank you.



**Back of Water Heater**

**Cold and uninsulated hot piping are bundled (unacceptable)**



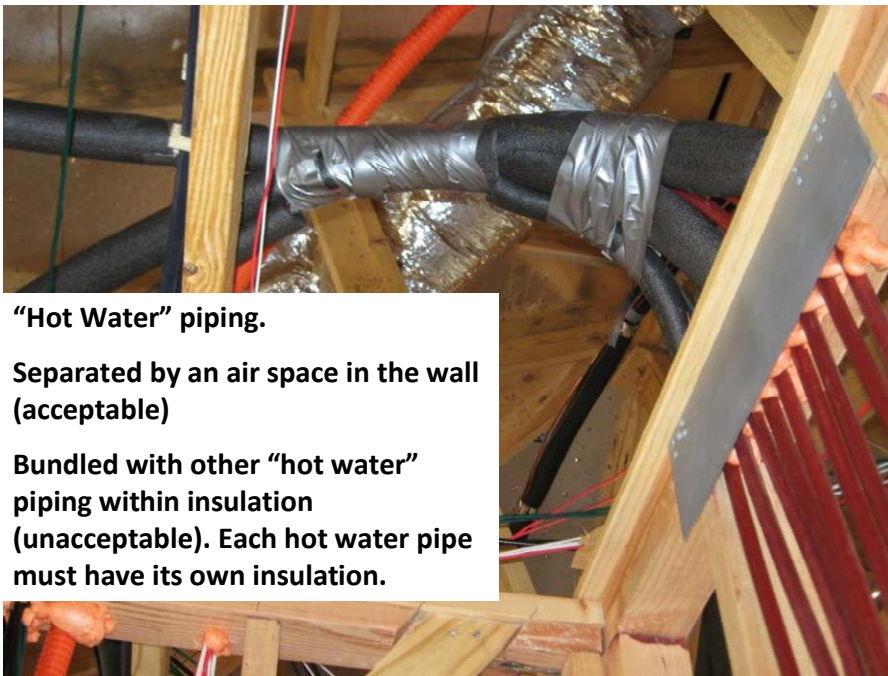
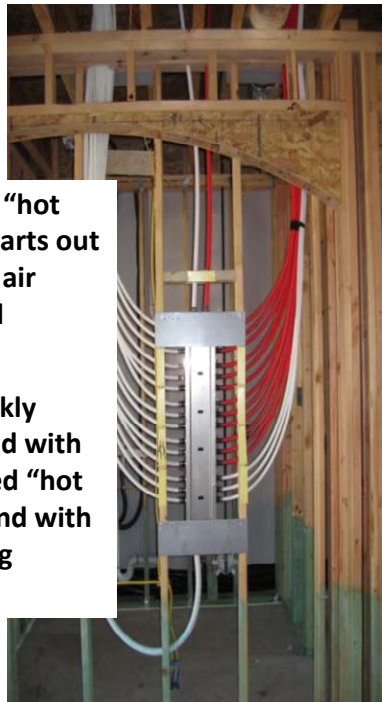
**The uninsulated "hot water" piping starts out separated by an air space (acceptable), then gets bundled with other uninsulated "hot water" piping as it moves into the truss space (unacceptable).**





The uninsulated “hot Water” piping starts out separated by an air space in the wall (acceptable).

However, it quickly becomes bundled with other uninsulated “hot water” piping and with cold water piping (unacceptable).



“Hot Water” piping.

Separated by an air space in the wall (acceptable)

Bundled with other “hot water” piping within insulation (unacceptable). Each hot water pipe must have its own insulation.

Final Action: AS AM AMPC\_\_\_ D



**P12-09/10**  
**310.4 (New)**

**Proposed Change as Submitted**

**Proponent:** Marcelo M. Hirschler (GBH International) representing the American Fire Safety Council

**Add new text as follows:**

**310.4 Exposed insulation.** Where insulating materials are installed on exposed elements within toilet rooms, the materials shall comply with Section 719 of the International Building Code.

*(Renumber subsequent sections)*

**Reason:** This proposal appears to state the obvious but there has been some discussion as to whether the IBC applies when it is not explicitly referenced in the IPC and this language will help clarify. This proposal is intended to build on the language in existing Section 310.3 of the IPC. **“310.3 Interior finish.** Interior finish surfaces of toilet rooms shall comply with the *International Building Code*.”

It is my belief that Section 310.3, although it contains vague code language, is important because it directs the IPC code user to the appropriate requirements for interior finish in the IBC. This includes not only the information on the requirements in Section 1210 of the IBC (related to the use of impervious floors, walls, caulking, etc. so that sanitation can be maintained) but also the information on the fire properties of interior finish in the IBC. For example it is essential that the users of the IPC be aware that toilet partitions (or other interior finish) made of some smooth and impervious surfaces that potentially have very poor fire performance, such as HDPE (high density polyethylene), must comply with the fire safety requirements of Chapter 8 of the IBC. I have also made a proposal to the IBC in this cycle to upgrade the fire safety requirements for another material used as interior finish (often via toilet partitions) for bathrooms: polypropylene. Both HDPE and polypropylene ignite easily and generate very high heat release when they burn.

In the same way as 310.3 appropriately directs the IPC code user to the requirements of Sections 1210 and Chapter 8 of the IBC, this proposal is intended to direct the IPC code user to Section 719 of the IBC, on thermal and sound insulating materials. In particular, my concern is fire safety and the compliance with Section 719.7, to ensure that exposed insulating materials exhibit adequate fire properties.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: HIRSCHLER-P4-310.4

**Public Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** Based upon committee's action of disapproval of P13 and P14.

**Assembly Action:**

**None**

**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Howard Ahern, representing Plumberex Specialty Products Inc., requests Approval as Modified by this Public Comment.**

**Replace original proposal as follows:**

**310.4 Accessible fixture insulation.** Where water supply and drain piping under accessible lavatories and sinks is insulated in accordance with the requirements of ICC/ANSI A117.1, the materials shall comply with Section 807 of the IBC.

**Commenter's Reason:** The ADA 4.19.4 & ANSI A117.1-2003 Section 606.6 requirement to insulate the pipes under lavatories and sinks to protect people in wheelchairs should be addressed in the IPC. Plumbing Engineers specify this requirement and Plumbing contractors install the insulation coverings on the drain piping and water supplies below lavatories and sinks. Plumbing inspectors work most closely with Plumbing contractors & engineers to ensure that this accessibility requirement has been complied with. This proposal would simply allow the IPC code user's to reference the correct IBC section for materials.

Plastic Thermal Insulation material is not plastic pipe, fittings or valve material both are clearly defined and regulated by the IBC and IPC. The IPC references Insulation for hot water to the IECC. This proposal simply refers insulation covering used for ANSI A117.1-2003 Section 606.6 to the appropriate code section of the IBC.

Chapter 8 of the IBC "Interior Finish" section 807 regulates Thermal and Sound insulation.

The U.S. Access Board issued a letter stating the requirement is "To prevent burns exposed hot water & drain pipes must be insulated." In addition to preventing burns and thermal shock from hot water pipes, the cold water supply must also be insulated to prevent thermal shock as well as protect from sharp surfaces.

The National Mechanical Insulation Committee (NMIC) and the National Insulation Association (NIA) and the mechanical insulation industry has generally adopted the following category definitions:

Category	Definition
Cryogenic Applications	-50 F & Below
<b>Thermal Applications:</b>	
Refrigeration, chill water and below ambient applications	-49 F to +75 F
Medium to high temperature applications	+76 F to 1,200 F
Refractory Applications	+ 1,200 F & Above

Thermal Applications is defined as -49F to +75F for below ambient applications and +76F to 1,200F for mid to high.

Insulation that is required by the ADA, ADAAG, ANSI A117.1 and the ABA for exposed drain and water pipes to prevent "thermal Shock" have a service temperature which are classified as within the Thermal Application and therefore requires Thermal Insulation and coverings on the pipe.

This proposal would simply allow the IPC code user's who currently design, specify, install and inspect for this ANSI A117.1 requirement to be able to reference the correct IBC section for materials.

Final Action: AS AM AMPC \_\_\_\_\_ D

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## P15-09/10 404.2 (New), Chapter 13

### **Proposed Change as Submitted**

**Proponent:** Sid Cavanaugh, Cavanaugh Consulting representing Truebro/IPS Corporation

#### 1. Add new text as follows:

**404.2 Waste and supply pipe protective covers.** Where the waste piping and water supply piping beneath accessible lavatories and sinks are required by ICC A117.1 to be fitted with protective coverings, the products shall be in compliance to ASME A112.18.9.

#### 2. Add standard to Chapter 13 as follows:

##### ASME

##### A112.18.9-2010 Barrier Free Insulated Protectors for Exposed Waste and Supplies

**Reason:** Item #1: The code needs clarification regarding accessible fixtures which are under the jurisdiction of the plumbing code and proper protection of exposed waste and supplies that are covered under the new ANSI/ASME standard under development which should be finished by early 2010. This code change will clear up confusion over enforcement of appropriate requirements for exposed waste and supplies used with accessible fixtures.

Item #2: It is important to add this new standard for proper protection of exposed waste and supplies that are covered under the new ANSI/ASME standard under development which should be finished by early 2010. This code change will clear up confusion over enforcement of appropriate requirements for exposed waste and supplies used with accessible fixtures.

**Cost Impact:** None, because the code currently requires both accessible fixtures and waste/supply pipe protection for users of such fixtures.

**Analysis:** Review of proposed new standard, ASME A112.18.9-2010, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

ICCFILENAME: CAVANAUGH-P2-404.2 NEW

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### **Public Hearing Results**

**Note:** The following analysis was not in the Code Change monograph but was published on the ICC website at <http://www.iccsafe.org/cs/codes/Documents/2009-10cycle/ProposedChanges/Standards-Analysis.pdf> :

**Analysis:** Review of proposed new standard ASME A112.18.9-2010 indicated that in the opinion of ICC staff, the standard did comply with ICC standards criteria. Standard was submitted in draft form.

**Committee Action:**

**Disapproved**

**Committee Reason:** Proponent stated that the standard would not be completed in time to be published and available by the ICC deadline.

**Assembly Action:**

**None**

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**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Sidney Cavanaugh, Cavanaugh Consulting, representing TrueBro, requests Approval as Submitted.**

**Commenter's Reason:** The proposal was rejected because the standard was not completed at that time (ASME A112.18.9) but it is hopeful that it will be approved by the time of the hearings.

*Public Comment 2:*

**Judson Collins, JULYCO, Manford, OK, representing self, requests Disapproval.**

**Commenter's Reason:** The standard proposed for inclusion in the code was submitted in draft form. As of January 25, 2010, the standard was not yet available. If this is still the case and the proposed change was included on the consent agenda, the code would reference a non-existent standard.

Final Action:      AS              AM              AMPC \_\_\_\_\_      D

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## **P16-09/10, Part I**

### **305.4**

**NOTE: PART II DID NOT RECEIVE A PUBLIC COMMENT AND IS ON THE CONSENT AGENDA, PART II IS REPRODUCED ONLY FOR INFORMATION PURPOSES FOLLOWING ALL OF PART I.**

**Proposed Change as Submitted**

**Proponent:** Shawn Strausbaugh, Arlington County, VA representing Virginia Plumbing and Mechanical Inspectors Association

#### **PART I - IPC**

**Revise as follows:**

**305.4 Sleeves Sealing of annular spaces.** ~~The annular spaces between the outside of a pipe and the inside of a pipe sleeves, and pipes or between the outside of a pipe and an opening in a building envelope wall, floor, or ceiling assembly penetrated by a pipe shall be filled or tightly caulked in an approved manner sealed with caulking material or closed with a gasketing system. The caulking material or gasketing system shall be suitable for the conditions at the penetration location and shall be compatible with the pipe, sleeve and building materials in contact with the sealing materials. Annular spaces between created by pipes penetrating sleeves and pipes in fire resistance-rated assemblies or membranes of such assemblies shall be filled or tightly caulked sealed or closed in accordance with Section 713 of the International Building Code.~~

**Reason:** This proposal addresses a number of shortcomings of the existing old and vague text. This change also better aligns the IPC with the intent of IECC Section 504.3 Sealing of building envelope, and the IRC plumbing section with IRC N1102.4.1 Air leakage.

The reasons for the changes in the first sentence of this section are: 1) Clarifies that only the ends annular spaces need to be sealed or closed. Filling of the entire annular space cavity is pointless. 2) Eliminates the term 'tightly caulked' as it is archaic language from the era of "packing and pouring" lead joints. It would be a rare situation where it would be desired to have a pipe so rigidly fixed in a through-penetration. 3) Clarifies what "sleeves" are to be considered by adding the word "pipe" in reference to the pipe sleeves as required by IPC Section 305.5 (IRC Section P2603.5) . Some inspectors have mistaken the existing language to require sealing between pipe and flexible plastic sleeving used for corrosion protection. 4) Adds the requirement that pipe penetrations of building envelope wall, floor or ceiling assemblies (as some penetrations might not require pipe sleeves) must also be sealed to reduce the loss of conditioned air as required by International Energy Conservation Code. Although this sealing

requirement is energy related, it is important to have this text in this section because piping installers typically are the ones who cut holes in the building envelope for the passage of pipes and as such they should be the ones responsible for sealing or closing off annular spaces. They are already familiar with the requirement for sealing pipes in pipe sleeves. All trades must do their part for energy conservation. Otherwise, the sealing just doesn't get accomplished resulting in more leakage paths through the building envelope.

The reasons for the changes in the second sentence of this section are to add the requirements for sealing material compatibility to all items that the sealing material contacts and that the material is suitable for the weather and temperature conditions of the application. While this seems like something that should be obvious, there have been instances where solvent based caulking has affected plastic piping and where a caulking material was inappropriate for wet (outdoor) conditions resulting in rainwater damage to the building.

The last sentence was changed to stress and clarify the importance of making sure that where fire resistance rated assemblies are being penetrated by pipes, specific materials and methods in accordance with the IBC (or building portion of the IRC) must be used. Proper fire stopping methods are critical for fire safety.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: STRAUSBAUGH-P4-305.4

## **Public Hearing Results**

### **PART I- IPC**

#### **Committee Action:**

**Approved as Modified**

#### **Modify the proposal as follows:**

**305.4 Sealing of annular spaces.** The annular space between the outside of a pipe and the inside of a pipe sleeve or between the outside of a pipe and an opening in a building envelope wall, floor, or ceiling assembly penetrated by a pipe shall be sealed in an approved manner with caulking material or closed with a gasketing system. The caulking material or gasketing system shall be suitable designed for the conditions at the penetration location and shall be compatible with the pipe, sleeve and building materials in contact with the sealing materials. Annular spaces created by pipes penetrating fire resistance-rated assemblies or membranes of such assemblies shall be sealed or closed in accordance with Section 713 of the *International Building Code*.

**Committee Reason:** Eliminates ambiguity about sealing of pipe penetrations through the walls, ceilings and floors of the building envelope to seal against air leakage and for pipe penetrations through fire-resistance-rated assemblies.

#### **Assembly Action:**

**None**

## **Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

### ***Public Comment:***

**Joann Surma, The Dow Chemical Company, Midland, MI, representing The Dow Chemical Company, requests Approval as Modified by this Public Comment.**

#### **Modify the proposal as follows:**

**305.4 Sealing of annular spaces.** The annular spaces between the outside of a pipe and the inside of a pipe sleeve or between the outside of a pipe and an opening in a building envelope wall, floor, or ceiling assembly penetrated by a pipe shall be sealed in approved manner with caulking material, foam sealant or closed with a gasketing system. The caulking material, foam sealant or gasketing system shall be designed for the conditions at the penetration location and shall be compatible with the pipe, sleeve and building materials in contact with the sealing materials. Annular spaces created by pipes penetrating fire resistance-rated assemblies or membranes of such assemblies shall be sealed or closed in accordance with Section 713 of the *International Building Code*.

**Commenter's Reason:** This is one part of a two part code change. The parallel IRC mechanical code change included the addition of foam sealant. The IRC committee's reason was: foam sealants are also viable materials used for sealing these types of spaces and are commonly available. Adding in foam sealant will make it clear that these products can continue their successful use in these applications. This code change is a good clarification to this section of the code and this public comment adds further clarity by specifically including foam sealant as a code approved product option.

Final Action:            AS                    AM                    AMPC\_\_\_\_            D

**NOTE: PART II REPRODUCED FOR INFORMATION PURPOSES ONLY – SEE ABOVE**

**P16-09/10, PART II - IRC**

#### **Revise as follows:**

**P2603.4 Sleeves Sealing of annular spaces.** ~~The annular spaces between the outside of a pipe and the inside of a pipe sleeves, and pipes or between the outside of a pipe and an opening in a building envelope wall, floor, or ceiling assembly penetrated by a pipe shall be filled or~~

~~tightly caulked as approved by the building official, sealed with caulking material or closed with a gasketing system. The caulking material or gasketing system shall be suitable for the conditions at the penetration location and shall be compatible with the pipe, sleeve and building materials in contact with the sealing materials. Annular spaces between created by pipes penetrating sleeves and pipes in fire resistance-rated assemblies or membranes of such assemblies shall be filled or tightly caulked sealed or closed~~ in accordance with the building portion of this code.

**Reason:** This proposal addresses a number of shortcomings of the existing old and vague text. This change also better aligns the IPC with the intent of IECC Section 504.3 Sealing of building envelope, and the IRC plumbing section with IRC N1102.4.1 Air leakage.

The reasons for the changes in the first sentence of this section are: 1) Clarifies that only the ends annular spaces need to be sealed or closed. Filling of the entire annular space cavity is pointless. 2) Eliminates the term 'tightly caulked' as it is archaic language from the era of "packing and pouring" lead joints. It would be a rare situation where it would be desired to have a pipe so rigidly fixed in a through-penetration. 3) Clarifies what "sleeves" are to be considered by adding the word "pipe" in reference to the pipe sleeves as required by IPC Section 305.5 (IRC Section P2603.5) . Some inspectors have mistaken the existing language to require sealing between pipe and flexible plastic sleeving used for corrosion protection. 4) Adds the requirement that pipe penetrations of building envelope wall, floor or ceiling assemblies (as some penetrations might not require pipe sleeves) must also be sealed to reduce the loss of conditioned air as required by International Energy Conservation Code. Although this sealing requirement is energy related, it is important to have this text in this section because piping installers typically are the ones who cut holes in the building envelope for the passage of pipes and as such they should be the ones responsible for sealing or closing off annular spaces. They are already familiar with the requirement for sealing pipes in pipe sleeves. All trades must do their part for energy conservation. Otherwise, the sealing just doesn't get accomplished resulting in more leakage paths through the building envelope.

The reasons for the changes in the second sentence of this section are to add the requirements for sealing material compatibility to all items that the sealing material contacts and that the material is suitable for the weather and temperature conditions of the application. While this seems like something that should be obvious, there have been instances where solvent based caulking has affected plastic piping and where a caulking material was inappropriate for wet (outdoor) conditions resulting in rainwater damage to the building.

The last sentence was changed to stress and clarify the importance of making sure that where fire resistance rated assemblies are being penetrated by pipes, specific materials and methods in accordance with the IBC (or building portion of the IRC) must be used. Proper fire stopping methods are critical for fire safety.

**Cost Impact:** The code change proposal will not increase the cost of construction.

#### **PART II- IRC-P**

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**P2603.4 Sealing of annular spaces.** The annular space between the outside of a pipe and the inside of a pipe sleeve or between the outside of a pipe and an opening in a building envelope wall, floor, or ceiling assembly penetrated by a pipe shall be sealed with caulking material, foam sealant or closed with a gasketing system. The caulking material, foam sealant or gasketing system shall be suitable designed for the conditions at the penetration location and shall be compatible with the pipe, sleeve and building materials in contact with the sealing materials. Annular spaces created by pipes penetrating fire resistance-rated assemblies or membranes of such assemblies shall be sealed or closed in accordance with the building portion of this code.

**Committee Reason:** Modification made because foam sealant is also a viable material to be used for sealing these types of spaces and is commonly available. Proposed language eliminates ambiguity about sealing of pipe penetrations through the walls, ceilings and floors of the building envelope to seal against air leakage and for pipe penetrations through fire-resistance-rated assemblies.

**Assembly Action:**

**None**

## **P17-09/10**

**312.2, 312.3, 702.5**

### **Proposed Change as Submitted**

**Proponent:** Robert Burke, University of Colorado representing (CAPMO) Colorado Association of Plumbing and Mechanical Officials

#### **1. Delete and substitute as follows:**

~~**312.2 Drainage, waste and vent water test.** A water test shall be applied to the drainage system either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to the point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest openings of the section under test, and each section shall be filled with water, but no section shall be tested with less than a 10-foot (3048 mm) head of water. In testing successive sections, at least the upper 10 feet (3048 mm) of the next preceding section shall be tested so that no joint or pipe in the building, except the uppermost 10 feet (3048 mm) of the system, shall have been submitted to a test of less than a 10-foot (3048 mm) head of water. This pressure shall be held for at least 15 minutes. The system shall then be tight at all points.~~

~~**312.3 Drainage and vent air test.** An air test shall be made by forcing air into the system until there is a uniform gauge pressure of 5 psi (34.5 kPa) or sufficient to balance a 10-inch (254 mm) column of mercury. This pressure shall be held for a test period of at least 15 minutes. Any adjustments to the test pressure required because of changes in ambient temperature or the seating of gaskets shall be made prior to the beginning of the test period.~~

**312.2 Water testing of drain, waste and vent piping.** The design of test setups for leak testing of drain and waste piping systems shall consider the pressure requirements and limitations of Section 702.5. The test pressure for drain and waste piping systems, or portions thereof, shall not be less than the greatest possible in-service pressure or 10 feet (3048 mm) of water head (4.33 psi) ( 29.9 kPa), whichever is greater. Vent piping shall be tested at a pressure not less than 10 feet (3048 mm) of water head (4.33 psi) (29.9 kPa), except for vent piping sections that are within 10 feet of elevation below a vent system's final outdoor termination point. The upper 10 feet of a vent system terminating to the outdoors shall be permitted to be tested by a pressure ranging from 10 feet (3048 mm) of water head (4.33 psi) (29.9 kPa) at a point 10 feet in elevation below the outdoor termination point to zero pressure at the elevation of the outdoor termination point. Test pressures shall be developed by filling the closed piping system (or portion thereof) completely with water and pressurizing the system to the required test pressure using a water pump or applying the required head of water above the highest elevation of the system (or portion thereof) under test. Where piping systems are tested in sections, the joints between tested sections shall be tested at a pressure not less than the required test pressures for the sections on either side of the joint. The test pressure in the system, as evidenced by a test gauge connected to the system, shall hold steady for not less than 15 minutes, without any addition of water to the system. Where the entire piping section under test can be visually observed for water leaks and the required test pressure is developed by the required head of water above the section under test, connection of a test gauge to the system shall not be required.

**312.3 Air testing of drain, waste and vent piping.** The design of test setups for leak testing of drain and waste piping systems shall consider the pressure requirements and limitations of Section 702.5. The test pressure for drain, waste and vent piping systems, or portions thereof, shall not be less than the greatest possible in-service pressure or 5 psi (34.5 kPa), whichever is greater. Test pressures shall be developed by forcing air into the closed piping system (or portion thereof). Where piping systems are tested in sections, the joints between tested sections shall be tested at a pressure not less than the required test pressures for the sections on either side of the joint. The test pressure in the system, as evidenced by a test gauge connected to the system, shall hold steady for not less than 15 minutes, without any addition of air to the system.

## 2. Add new text:

**702.5 Pipe, fitting and joint selection for pressure conditions.** The selection of pipe, fittings and joints of drain, waste and sewer systems shall consider the greatest internal pressure that could occur during testing or service. The allowable pressure in drain, waste and sewer piping systems that are pressurized in service by pumps or ejectors shall be the pressure rating of the system component having the lowest pressure rating. Where system pressure is created by liquid-filled vertical sections of pipe, system components shall be pressure-rated for not less than the system pressure at the component's installed elevation.

*(Renumber subsequent sections)*

**Reason:** This code change proposal was prompted by the failure of a roof drain conductor (piping) system inside of a basketball arena building here at the University of Colorado. Many 100s of thousands of dollars of water damage occurred and we were lucky that no one was hurt. An 8 inch cast iron no-hub elbow blew off the piping system due to the pressure caused by a blockage in the storm drain system outside the building. In evaluating why this particular event happened, I realized that the existing code sections concerning testing of drain and waste piping fail to properly consider building designs having drain piping systems that do not have any fixture connections for many consecutive stories in a row. Consider the following arrangement: A sports arena with sky box toilet facilities. The drain piping system serving those toilet facilities is many "stories" tall without any fixture connections between the sky box elevation and the elevation of the building drain (or the nearest level down where fixtures are connected) to relieve pressure should the system become clogged at a lower elevation. The existing code section for testing allows for such a piping system to be tested in sections as short as every 10 feet as the building construction rises from the ground. If there is a clog in the system well below sky box elevation, the drainage system could fill up to the point of overflow at the fixtures in the skybox. This creates a pressure in the lower sections of the system that is many times greater than what the piping system was tested for when 10 foot sections are tested.

Since then, I have made numerous evaluations of the drain piping systems in several multi-story buildings here at the University of Colorado and discovered that the real problem is not just in the testing but in the proper selection of piping system components for these multi-story systems that do not have fixture connections for many consecutive stories. One example of improper component selection for this type of "tall system" application could be the use of shielded couplings for no-hub cast iron pipe. ASTM standards C1540 and C1277 cover these couplings and indicate the allowable pressure ratings for different sizes. The unrestrained hydrostatic pressure for standard shielded couplings is 20 psi (46 foot of head) for 1 ½ thru 5 inch, 18 psi (42 foot of head) for 6 inch, 10 psi (23 foot of head) for 8 inch, 6 psi (14 foot of head) for 12 inch. It is obvious that the larger coupling sizes would be unsuitable for systems that are over two stories of normal height, let alone structures with tall stories. Because plastic drain, waste and vent fittings as well as "not for pressure" plastic pipe is not "pressure rated", these components could also prove to be problematic in certain applications where either testing or service conditions create pressures in excess of the component ratings.



Code officials should not have to become expert in evaluating the pressure capabilities of individual components of the drain and waste systems. This is the designer's or engineer's responsibility. However, the code requirements for design and test procedures should reflect what could be the expected actual in-service or test condition pressure, whichever is greater, in order to verify that the system has been designed properly for the intended conditions. Therefore, I have submitted new section 702.5 and re-written sections 312.2 and 312.3 to eliminate any confusion as to the pressure requirements for system components as well as the requirements for testing. The existing test sections are outdated for the type of large buildings being built today and need these changes.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: Burke-P1-312.2

### Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** The proposed language does not require tests to be performed.

**Assembly Action:**

**None**

### Individual Consideration Agenda

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Robert Burke, University of Colorado, representing CAPMO, requests Approval as Modified by this Public Comment.**

**1. Replace the proposal as follows:**

**312.2 Drainage, waste and vent water test.** A water test shall be applied to the drainage system either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to the point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest openings of the section under test, and each section shall be filled with water, but no section shall be tested with less than a 10-foot (3048 mm) head of water. In testing successive sections, at least the upper 10 feet (3048 mm) of the next preceding section shall be tested so that no joint or pipe in the building, except the uppermost 10 feet (3048 mm) of the system, shall have been submitted to a test of less than a 10-foot (3048 mm) head of water. This pressure shall be held for at least 15 minutes. The system shall then be tight at all points.

**312.2 Water testing of drain, waste and vent piping.** The design of test setups for leak testing of drain and waste piping systems shall consider the pressure requirements and limitations of Section 702.5. The test pressure for drain and waste piping systems, or portions thereof, shall not be less than the greatest possible in-service pressure or 10 feet (3048 mm) of water head (4.33 psi) (29.9 kPa), whichever is greater. Vent piping shall be tested at a pressure not less than 10 feet (3048 mm) of water head (4.33 psi) (29.9 kPa), except for vent piping sections that are within 10 feet of elevation below a vent system's final outdoor termination point. The upper 10 feet of a vent system terminating to the outdoors shall be permitted to be tested by a pressure ranging from 10 feet (3048 mm) of water head (4.33 psi) (29.9 kPa) at a point 10 feet in elevation below the outdoor termination point to zero pressure at the elevation of the outdoor termination point. Test pressures shall be developed by filling the closed piping system (or portion thereof) completely with water and pressurizing the system to the required test pressure using a water pump or applying the required head of water above the highest elevation of the system (or portion thereof) under test. Where piping systems are tested in sections, the joints between tested sections shall be tested at a pressure not less than the required test pressures for the sections on either side of the joint. The test pressure in the system, as evidenced by a test gauge connected to the system, shall hold steady for not less than 15 minutes, without any addition of water to the system. Where the entire piping section under test can be visually observed for water leaks and the required test pressure is developed by the required head of water above the section under test, connection of a test gauge to the system shall not be required.

**2. Add new text:**

**702.5 Pipe, fitting and joint selection for pressure conditions.** The selection of pipe, fittings and joints of drain, waste and sewer systems shall consider the greatest internal pressure that could occur during testing or service. The allowable pressure in drain, waste and sewer piping systems that are pressurized in service by pumps or ejectors shall be the pressure rating of the system component having the lowest pressure rating. Where system pressure is created by liquid-filled vertical sections of pipe, system components shall be pressure-rated for not less than the system pressure at the component's installed elevation.

**Commenter's Reason:** The code change proposal P17-09/10 was denied because air testing is not allowed on PVC piping. The intent was to test storm water piping with water from the point of discharge to the point of overflow. Therefore Section 312.3 from the code change proposal.

Final Action: AS AM AMPC\_\_\_ D

# P22-09/10

## Table 403.1 (IBC [P] Table 2902.1)

### Proposed Change as Submitted

**Proponent:** Eirene Oliphant, MCP, Building Official, City of Leawood, KS

**Revise table as follows:**

**Table 403.1 (IBC [P] Table 2902.1)  
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES<sup>a</sup>**

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)	
				MALE	FEMALE
2	Business	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses	1 per 25 for the first 50 and 1 per <del>50</del> 100 for the remainder exceeding 50	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES	
				MALE	FEMALE	MALE	FEMALE
6	Mercantile	M	Retail stores, service stations, shops, salesroom, markets and shopping centers	1 per <del>500</del> 25 for the first 50 and 1 per 600 for the remainder exceeding 50	1 per <del>500</del> 25 for the first 50 and 1 per 400 for the remainder exceeding 50	1 per <del>750</del> 200 for the first 400 and 1 per 750 for the remainder exceeding 400	

*(Portions of table note shown remain unchanged)*

**Reason:** The purpose of the change is to substitute revised material for current provisions of the code. The IPC requires 1 WC per sex for mercantile occupancies between 51-1000. The UPC<sup>1</sup> requires between 2 to 6 WC per sex between 51 – 800. Based on an American Restroom Association (ARA)/Wall Street Journal investigation<sup>2</sup>, this low IPC minimum has not caused problems because a majority of the public is not aware that they are allowed to use sanitation facilities in small to midsize mercantile establishments. Media awareness campaigns like the Wall Street Journal story and Section 403.5.1 Directional Signs (P34-06/07) will change the public's awareness.

Unlike multi-stalled toilets, single WC toilets are typically user locked and the WC is not available to the next patron until the toilet door is unlocked. While studies such as the Cohen report<sup>4,5</sup> have shown that the average user typically needs less than 2 minutes to use a WC, there appears to be no studies of the impact of single WC, user lockable toilets. Information is available, however, via the experience of those American cities that have installed automated public toilets (APT). Every municipality has found that for legitimate reasons (wheel chair, express breast milk, change colostomy bag, absorbent pads or a child's diaper) users occasionally have a legitimate need to be in the toilet for at least 15 minutes and at least one city now allows more than 20 minutes before an alarm sounds. This same 'occasional long use' problem occurs in buildings with user lockable toilets and the problem is exacerbated because these user lockable toilets also accommodate activities not related to sanitation. A retail store with 1000 people will sometimes include more than 15 employees. OSHA requires 2 WC for 16 on site employees<sup>3</sup>. It is likely that those 16 employees competing with 984 other occupants does not satisfy the intent of the OSHA requirement. In the process of reviewing the requirement for M it was noted that if adjusted for gender the increase in toilet fixtures slope for males in B (Business) could be reduced.

**Bibliography:**

- <sup>1</sup>2006 Uniform Plumbing Code Table 4.1 'Retail or Wholesale Stores
- <sup>2</sup>Wall Street Journal 'Bathroom Backlash Arrives on Main Street ' July 26, 2005
- <sup>3</sup>29CFR1910.141(c)(1)(i) Table J-1
- <sup>4</sup>ASPE report 95-01 Cohen 'Queuing theory approach to plumbing design research'
- <sup>5</sup>ASPE report 92-02 Cohen 'Plumbing fixture requirements for office buildings research report'

**Cost Impact:** The code change proposal will increase the cost of construction at lower occupancies but may reduce cost for larger occupant loads.

ICCFILENAME: Oliphant-P1-T403.1

**Public Hearing Results**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** A single user toilet room per gender for up to 250 persons is not adequate when one considers that single user toilet rooms can be locked by the occupant for significant periods of time leaving no available facilities for up to 249 other persons.

**Assembly Action:**

**None**

**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Lawrence G. Perry, AIA, representing Building Owners and Managers Association (BOMA) International, requests Disapproval.**

**Commenter's Reason:** This change should be disapproved for the following reasons:

1. It significantly increases the requirement for the number of fixtures (and the overall size of restrooms) in small mercantile occupancies.
2. Current code allows a single water closet for mercantile occupancies of up to 1500 square feet (50 occupants). It appears this would still be permitted by the proposal.
3. Current code, mercantile occupancies of 1,501-3,000 square feet require only a single water closet in the men's room and in the women's room. The proposal doubles this. It makes no sense to allow a single water closet at 1,500 square feet and then require a total of 4 at 1,501 square feet.
4. The need for 'potty parity' scoping in mercantile occupancies has not been established. While there is a valid need for additional fixtures in women's rooms in high use, peak demand facilities (such as assembly facilities like theaters and sports arenas), there isn't documentation to warrant increasing the required fixtures in mercantile occupancies.
5. For smaller mercantile facilities, doubling the number of water closets in each toilet room has a significant negative impact on the overall income-producing space available. The accessibility requirements for a multiple-fixture restroom require it to be quite large; each toilet room would likely be at least double the size if required to have twice the fixtures. For a 1,600 square foot mercantile occupancy, it is not reasonable to remove another 100 square feet or more from the income-producing space available.
6. The proponent cites the large number of 'occupants' who must compete for access to the 'small' number of fixtures currently required. Note that the occupant load factors for mercantile occupancies are established for a 'worst case' (e.g., Christmas Eve shopping) scenario, and it has long been documented that the actual occupant load in these facilities tends to be far less than the code establishes for egress purposes.

Final Action:            AS                    AM                    AMPC\_\_\_\_            D

# P23-09/10

## Table 403.1 (IBC Table [P]2902.1)

### Proposed Change as Submitted

**Proponent:** Robert J. Heil, Code Inspections, Inc. representing the Pennsylvania Association of Building Code Officials, Inc.

Revise table as follows:

**TABLE 403.1 (IBC Table [P]2902.1)  
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES<sup>a</sup>  
(See Sections 403.2 and 403.3)**

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	OTHER
2	Business	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses	1 service sink <sup>h</sup>
6	Mercantile	M	Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 service sink <sup>h</sup>

<sup>h</sup> For business and mercantile occupancies an occupant load of 15 or fewer, service sinks shall not be required.

(Portions of table and footnotes not shown remain unchanged.)

**Reason:** In a small facility with limited occupancy, such as a retail store with a size of less than 450 square feet or an office with less than 1,500 square feet, a service sink and the associated closet occupy a disproportionate amount of floor space, with rare requirements for use by the occupants.

Note: A similar exception was added in the 2009 Code for drinking fountains, with occupancies of 15 persons or less, under Footnote "f" of the "drinking fountain" column in Table 403.1.

**Cost Impact:** This code change proposal will not increase the cost of construction.

ICCFILENAME: Heil-P2-403.1

### Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** Service sinks are very important to the occupancies regardless of the number of occupants.

**Assembly Action:**

**None**

### Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

*Public Comment 1:*

**Eirene Oliphant, MCP, City of Leawood, representing Metropolitan Kansas City Chapter of the ICC, requests Approval as Submitted.**

**Commenter's Reason:** The proponent offers a valid argument about providing relief to small tenant spaces. A small space such as a 1,500 square foot retail facility should not be held to the same level of expectation on service sinks as a restaurant or hospital. As a building official, I would prefer to make as few changes by ordinance to the code whenever possible, as it provides for a more universal adoption process when brought before my governing body. I have already changed our code language to reflect the language the proponent has offered; and it has been welcomed with relief by our smaller tenants.

*Public Comment 2:*

**Lawrence G. Perry, AIA, representing Building Owners and Managers Association (BOMA) International, requests Approval as Submitted.**

**Commenter's Reason:** This code change offers a reasonable exception for very small business and mercantile occupancies. In very small businesses, there isn't a need for a service sink, and the sink and surrounding space required eats up valuable space. As noted by the proponent, this exception would be consistent with an exception already provided for drinking fountains in very small businesses.

Final Action: AS AM AMPC\_\_\_ D

**P24-09/10**

**Table 403.1 (IBC [P] Table 2902.1)**

**Proposed Change as Submitted**

**Proponent:** Eirene Oliphant, MCP, Building Official, City of Leawood, KS

**Revise table as follows:**

**Table 403.1 (IBC [P] Table 2902.1)  
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES<sup>a</sup>**

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES	
				MALE	FEMALE	MALE	FEMALE
1	Assembly	A-2 <sup>d</sup>	Nightclubs, bars, taverns, dance halls and buildings for similar purposes	1 per <del>40</del> <u>25</u> for the first <u>25</u> and 1 per <u>90</u> for the remainder exceeding <u>25</u>	1 per <del>40</del> <u>25</u> for the first <u>25</u> and 1 per <u>75</u> for the remainder exceeding <u>25</u>	1 per <del>75</del> <u>40</u> for the first <u>40</u> and 1 per <u>200</u> for the remainder exceeding <u>40</u>	
			Restaurants, banquet halls and food courts	1 per <del>75</del> <u>25</u> for the first <u>25</u> and 1 per <u>100</u> for the remainder exceeding <u>25</u>	1 per <del>75</del> <u>25</u> for the first <u>25</u> and 1 per <u>80</u> for the remainder exceeding <u>25</u>	1 per <del>200</del> <u>40</u> for the first <u>40</u> and 1 per <u>200</u> for the remainder exceeding <u>40</u>	

*(Portions of table not shown remain unchanged)*

**Reason:** The purpose of the change is to substitute revised material for current provisions of the code. The American Restroom Association (ARA) is often questioned by the public and by reporters doing stories about the problems people face finding proper toilet facilities when away from home. One of the problems relates to having to wait too long for a restaurant toilet to free. To the degree that respondent recall details and also based on informal observation by ARA advocates, when more than 50 people are in a restaurant one will begin to see occasional toilet queuing when only 1 single occupant per sex toilet is available. Above 100, multiple person lines will appear. This problem is addressed in the UPC<sup>1</sup>, which requires between 2 & 3 WC per sex between 15 – 150 occupants. The IPC requires only 1 WC per sex for A-2 restaurant occupancies between 16-150 occupants. This problem is particularly onerous in venues where people handle food. While those with an urgent need to void bowel or bladder will queue, those needing to wash their hands before eating may defer.

The low IPC A-2 minimum is made worse by the typical no-stall implementation of a single WC toilet. Unlike multi-stalled toilets, single WC toilets are typically user locked and the WC is not available to the next patron until the toilet door is unlocked. While studies such as the APSE Cohen reports<sup>2,3</sup> have shown that the average user typically needs less than 2 minutes to use a WC, there appears to be no studies of the impact of single WC, user lockable toilets. Information is available, however, via the logs generated by automated public toilets (APT). Every American municipality, that has installed single occupant APT's has found that for legitimate reasons (wheel chair, express breast milk, change colostomy bag, absorbent pads or a child's diaper) users occasionally have a legitimate need to be in the toilet for at least 15 minutes and one city now allows more than 20 minutes before a misuse alarm sounds. This same 'occasional long use' problem occurs in buildings with user lockable toilets and the problem is exacerbated because these lockable toilets also facilitate activities not related to sanitation. A-2 Pubs and Lounges suffers the same 1 locked toilet at lower occupancies but the attempt to address the problem by requiring 1 toilet per 40 results in excessive minimums at higher occupancies.

**Bibliography:**

<sup>1</sup>2006 Uniform Plumbing Code Table 4.1 'Retail or Wholesale Stores'

<sup>2</sup>ASPE report 95-01 Cohen 'Queuing theory approach to plumbing design research'

<sup>3</sup>ASPE report 92-02 Cohen 'Plumbing fixture requirements for office buildings research report'

**Cost Impact:** The code change proposal will increase the cost of construction at lower occupancies but may reduce cost for larger occupant

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: Oliphant-P4-T403.1

**Public Hearing Results**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Proponent's reason stated that she and other restroom availability advocates have seen occasional queuing at toilet facilities when there are more than 50 persons in a restaurant. The proposal will adjust the required fixtures at these low occupant numbers.

**Assembly Action:**

**None**

**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Lawrence G. Perry, AIA, representing Building Owners and Managers Association (BOMA) International, requests Disapproval.**

**Commenter's Reason:** This change should be disapproved for the following reasons:

1. The significant increase in the number of toilet fixtures, and therefore, the space required to be allocated to restrooms, in small A-2 facilities has not been justified.
2. The need for 'potty parity' scoping in small assembly occupancies has not been established. While there is a valid need for additional fixtures in women's rooms in high use, peak demand facilities (such as assembly facilities like theaters and sports arenas), there isn't documentation to warrant increasing the required fixtures in all small dining-type assembly occupancies.
3. For smaller assembly facilities, doubling the number of water closets in each toilet room has a significant negative impact on the overall income-producing space available. The accessibility requirements for a multiple-fixture restroom require it to be quite large; each toilet room would likely be at least double the size if required to have twice the fixtures. For a 1,600 square foot assembly occupancy, it is not reasonable to remove another 100 square feet or more from the income-producing space available.

Final Action:	AS	AM	AMPC____	D
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**P30-09/10**

**403.3.5 (IBC [P] 2902.3.5) (New)**

**Proposed Change as Submitted**

**Proponent:** Eirene Oliphant, MCP, Building Official, City of Leawood, KS

**Add new text as follows:**

**403.3.5 (IP12902.3.5) Door locking. Where a toilet room is designed for multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or assisted-use toilet rooms.**

**Reason:** To prevent a toilet user from restricting access to a toilet facility intended to satisfy the sanitation needs of multiple persons. To also reduce misuse such as employee smoke breaks, drug dealing or other inappropriate activities that are more likely when an occupant can lock entry to the toilet.

**Cost Impact:** The code change will not increase the cost of construction.

ICCFILENAME: Oliphant-P3-403.3.5



## Public Hearing Results

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**403.3.5 ([P]2902.3.5) Door locking.** Where a toilet room is ~~designed~~ provided for the use of multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or assisted-use toilet rooms.

**Committee Reason:** Modification was made to replace "designed" as this might create conflict with the last sentence of the section. Toilet rooms that are lockable from the inside provide too much availability for misuse and inappropriate activities however, family/assisted-use rooms need to be exempt as privacy is a key element to having those types of toilet rooms.

**Assembly Action:**

**None**

## Individual Consideration Agenda

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Lawrence G. Perry, AIA, representing Building Owners and Managers Association (BOMA) International requests Disapproval.**

**Commenter's Reason:** This code change proposal should be disapproved for the following reasons:

1. The prohibition from locking rooms from the inside has a major unintended downside; for many common installations, it will also prohibit the capability of being able to unlock the door from the inside. It is common in facilities with large restrooms to use simple push/pull hardware. When the restrooms are not in use (after hours), the doors are locked with deadbolts. Not allowing the current common thumbturn inside the restroom could result in persons being locked in the restroom, with no means of escape.
2. No evidence of the supposed cited problems (employee smoke breaks, drug dealing or other inappropriate activities) was provided, and therefore this is no justification for such a blanket requirement across all occupancies.
3. Locking on the 'exterior' side of the restroom door is frequently needed or expected for security purposes. While it is possible to provide locking from the exterior and maintain free access from inside, it limits the type of hardware that could be utilized.

Final Action:            AS                    AM                    AMPC\_\_\_\_            D

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## **P31-09/10**

### **403.5 (IBC [P]2902.5) (New)**

## Proposed Change as Submitted

**Proponent:** Don Davies representing the Utah Chapter of ICC

**Add new text as follows:**

**403.5 (IBC [P]2902.5) Required drinking fountains.** A required drinking fountain for a tenant space shall be located in the tenant space or external to the tenant space provided that the travel distance from the most remote point in the tenant space to the drinking fountain is within 500 feet or for covered malls, within 300 feet.

**Reason:** The sharing of public restroom facilities is currently allowed in the code in Section 403.3 (IBC Section 2902.3) but the code is silent on sharing of drinking fountains even though that is what is generally done. If employees and the public can share restroom facilities then they can certainly share drinking fountains when located within the prescribed travel distances.

**Cost Impact:** There will be a cost savings with shared drinking fountains.

ICCFILENAME: Davies-P1-403.5 NEW

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## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** Proposed language does not include "floor above or below" or the requirement for an accessible route.

**Individual Consideration Agenda**

This item is on the agenda for individual consideration because public comments were submitted.

*Public Comment 1:*

**Don Davies, representing the Salt Lake City Corporation, requests Approval as Modified by this Public Comment.**

Replace the proposal as follows:

**403.5(IBC[P]2902.5) Drinking fountain location.** Drinking fountains shall not be required to be located in individual tenant spaces provided that public drinking fountains are located within a travel distance of 500 feet of the most remote location in the tenant space and not more than one story above or below the tenant space. Where the tenant space is in a covered mall, such distance shall not exceed 300 feet. Drinking fountains shall be located on an accessible route.

**Commenter’s Reason:** The Plumbing Code Change Committee generally liked this code change, except that the proposed language didn’t include the requirement that the drinking fountain be located on an accessible route and be located on a floor above or below the individual tenant space. The requirement for an accessible route was already addressed in the code change. The provisions for the facility being located not more than one story above or below the space served has been added, as requested by the Plumbing Code Change committee. We have tried to keep this requirement in the simplest form possible by stating the requirements, rather than referencing some other part of the code.

*Public Comment 2:*

**Eirene Oliphant, MCP, representing the Metropolitan Kansas City Chapter of the ICC, requests Approval as Modified by this Public Comment:**

Modify the proposal as follows:

**403.5 (IBC [P]2902.5) Required drinking fountains.** ~~A required drinking fountain for a tenant space shall be located in the tenant space or external to the tenant space provided that the travel distance from the most remote point in the tenant space to the drinking fountain is within 500 feet or for covered malls, within 300 feet.~~ Customers, patrons and visitors shall be provided with *public* drinking fountains in structures and tenant spaces intended for public utilization. The number of drinking fountains shall be provided in accordance with Section 403 for all users.

**403.5.1 Access.** The route to the *public* drinking fountain required by Section 403.5 shall not pass through kitchens, storage rooms or closets. Access to the public drinking fountains shall be from within the building or from the exterior of the building. All routes shall comply with the accessibility requirements of the *International Building Code*. The public shall have access to the required drinking fountain at all times that the building is occupied.

**403.5.2 Location of drinking fountains in occupancies other than covered malls.** In occupancies other than covered mall buildings, the required *public* drinking fountain shall be located not more than one story above or below the space required to be provided with a drinking fountain, and the path of travel to such facilities shall not exceed a distance of 500 feet (152 m).

**Exception:** The location and maximum travel distances to required employee drinking fountains in factory and industrial *occupancies* are permitted to exceed that required by this section, provided that the location and maximum travel distance are *approved*.

**403.5.3 Location of drinking fountains in covered malls.** In covered mall buildings, the required drinking fountains shall be located not more than one story above or below the space required to be provided with drinking fountains, and the path of travel to such drinking fountains shall not exceed a distance of 300 feet (91.44 m).

**Commenter’s Reason:** The proponent has provided a code change which provides specific direction on the location of drinking fountains. The committee disapproved the code change because it did not address the issue of accessibility or the “floor above or below”. The proposed modification provides for the language for drinking fountains to be consistent with toilet facilities in terms of their locations and access.

Final Action:                    AS                    AM                    AMPC\_\_\_\_                    D

**P35-09/10**  
**403.3.2 (IBC [P] 2902.3.2)**

**Proposed Change as Submitted**

**Proponent:** Patrick Vandergriff, Vandergriff Code Consulting Services representing himself.

**Revise as follows:**

**403.3.2 (IBC [P]2902.3.2) Location of toilet facilities in occupancies other than covered mall buildings.** In occupancies other than *covered mall buildings*, the required public and employee toilet facilities shall be located not more than one *story* above or below the space required to be provided with toilet facilities and the path of travel to such facilities shall not exceed a distance of 500 feet (152 400 mm). Where multiple buildings on a single lot are under the same control, public and employee toilet facilities shall not be required to be located in each building provided that all other requirements of this section are met, the total number of plumbing fixtures within such buildings complies with the aggregate number of fixtures required for all buildings and the toilet facilities are available for use when any one building on the lot is occupied.

**Exception:** The location and maximum travel distances to required employee facilities in factory and industrial occupancies are permitted to exceed that required by this section, provided that the location and maximum travel distance are *approved*.

**Reason:** Although this proposal is aimed at allowing the toilet facilities in a permanent school building to serve as the required toilet facilities for semi-permanent portable classroom buildings adjacent to the school but on the same property (lot), the allowance provides for reasonable accommodations at shopping centers, strip centers and individual commercial properties having multiple buildings under the same control. For example, consider a small business offices building with several separate buildings serving as warehouses for the business, all of which are on the same lot. If the travel and elevation location requirements are met, what is the harm in all of the required toilet facilities being located in the business office building? Other examples widely exist across the country as it is commonplace for strip centers and outdoor shopping centers to have central toilet facilities for the entire center. For schools that need fast expansion of classroom space, portable buildings are often brought in and used for several years or more until funds are available to build larger permanent buildings or additions. The decision to add these semi-permanent classroom modules should not be required to be burdened by the expense of installing toilet facilities in each classroom module, especially where adequate toilet facilities exist within the required travel distance and elevation.

**Cost Impact:** Cost savings in some areas of the country.

ICCFILENAME: VANDERGRIF-P1-403.3.2

**Public Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** An outdoor travel distance of up to 500 feet in winter or rainy conditions is too difficult for employees or the public to travel.

**Assembly Action:**

**None**

**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

**Public Comment:**

**Patrick Vandergriff, Vandergriff Code Consulting Services, representing MBI, requests Approval as Submitted.**

**Commenter's Reason:** When this item was being considered, testimony was given regarding issues of what would be allowed. A motion to approve and a second were received from the committee. Then a statement was made by a committee that I would require "wanting to require his people to go out in the cold to go to the restroom." This was not germane to any testimony provided and was after public discussion had been completed. This statement could have easily been answered had it been brought up in public comment. The vote fell directly along the lines of the makeup of the committee which was not a balanced committee and had a vast majority of the members from states along the northern border with Canada.

In reality, the code proposal would provide that a restroom meeting the distance requirement could be provided in another building under the same control and on the same site. This is often the manner of design around the country at this time, especially in southern and southwestern climates. And the idea of going outside of a building is not foreign to the code. Currently, typical designs for gasoline stations may have the patron go outside the building and back into a restroom facility. Many sports arenas particularly outside football and baseball stadiums have bathroom facilities not directly associated with the bleachers. Numerous schools in the southwest and western United States have classrooms where you

would go outside under a covered walkway to go to a bathroom located within distance but requiring the students to go outside. Numerous warehousing operations have a series of warehouses, but use common restroom facilities. This may be a design issue in Michigan or Minnesota however, it should not preclude the use of such design other areas of the country. The code is for generalized use and should establish the minimum design requirements for the generalized use. It should not apply the most egregious conditions to the whole where such is not necessary.

Final Action: AS AM AMPC\_\_\_\_\_ D

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## **P49-09/10**

**413.3**

### **Proposed Change as Submitted**

**Proponent:** Sid Cavanaugh, Cavanaugh Consulting representing In Sink Erator

**Revise as follows:**

**413.3 Commercial food waste grinder outlets.** Commercial food waste grinders shall be connected to a drain not less than 1 ½ inches (38mm) in diameter. Commercial food waste grinders shall be connected and trapped separately from any other fixtures or sink compartments. The connection of a commercial food waste grinder to the sanitary drainage system shall be downstream of all grease interceptors unless the code official approves or requires food waste grinders to discharge into a grease interceptor.

**Reason:** This code change will clarify the intent of the code regarding commercial food waste grinders. Code officials have in the past and continue to allow food waste grinders to connect directly to the sanitary drainage system of buildings. Research has shown that food waste does not cause build up or blockage of sewer lines. Food waste has the same specific gravity as fecal matter and behaves similarly in the sewer system. Finally, while this code change will allow most installations to by-pass an interceptor it will still recognize Section 1003.3.2 where it can be required/allowed by a jurisdiction to connect to an interceptor.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: CAVANAUGH-P8-413.3

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### **Public Hearing Results**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Food waste grinders are not normally used for the disposal of grease so the option of whether disposals need to connect to a grease interceptor (or not) should be left open.

**Assembly Action:**

**None**

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### **Individual Consideration Agenda**

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Rand H. Ackroyd, Rand Technical Consulting, representing himself, requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows**

**413.3 Commercial food waste grinder outlets.** Commercial food waste grinders shall be connected to a drain not less than 1 ½ inches (38mm) in diameter. Commercial food waste grinders shall be connected and trapped separately from any other fixtures or sink compartments. The connection of a commercial food waste grinder to the sanitary drainage system shall be downstream of all grease interceptors unless the code official approves or requires food waste grinders to discharge into a ~~grease~~ solids interceptor.

**Commenter's Reason:** The Code should never refer to a grease interceptor for directly receiving food waste. Grinders must discharge into a solids interceptor before the discharging into a greased interceptor.

*Public Comment 2:*

**Richard Grace, Fairfax County, representing Virginia Plumbing and Mechanical Inspectors Association (VPMIA), Virginia Building Code Officials Association (VBCOA), ICC Region VII, requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**413.3 Commercial food waste grinder outlets.** Commercial food waste grinders shall be connected to a drain not less than 1 ½ inches in diameter. Commercial food waste grinders shall be connected and trapped separately from any other fixtures or sink compartments. The connection of a commercial food waste grinder to the sanitary drainage system shall be downstream of all grease interceptors unless the interceptors are specifically designed and certified for handling food waste grinder discharge. ~~the code official approves or requires food waste grinders to discharge into a grease interceptor.~~

**Commenter's Reason:** The text that was approved during the Public Hearing creates many new problematic issues. First and foremost it should not be the code official's responsibility to determine when a waste grinder discharges to an interceptor or not. These type decisions are usually based on the wastewater treatment facility or the private sewage disposal system capability, not the code official's opinion. The next issue is that a designer may have a justified technical reason to want to discharge through an interceptor but the original language would allow the code official to override that technical determination with no just cause.

The consensus at the public hearing was that waste grinders should not discharge through interceptors for a number of reasons. However, there may be some instances where the designer, treatment facility or just a local ordinance that may require discharge through an interceptor. Many large facilities actually have a large interceptor the size of an average septic tank that may very well be able to accommodate a waste grinder discharge.

Lastly, this was originally proposed into the wrong section. Chapter 4 is titled "fixtures" and appropriately discusses food waste grinders. There was no connection between the requirements of Chapter, titled "traps, interceptors and separators" and this new requirement. We have slightly modified the format and inserted the trigger to connect the user to the correct sections of the code while maintaining the original intent.

*Public Comment 3:*

**Judson Collins, JULYCO, Mannford, OK, representing self, requests Disapproval.**

**Commenter's Reason:** The proposed language for this section is not necessary. No section of the current code requires a food waste grinder to discharge into a grease interceptor. Section 1003.3.2 only addresses situations "where" food waste grinders connect to grease interceptors. It does not require the connection. The proposed language says the code official can require a food waste grinder to discharge to a grease interceptor. The code official already has that authority. It is not necessary to repeat it.

Final Action:            AS                    AM                    AMPC\_\_\_\_\_            D

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**P51-09/10  
416.5**

**Proposed Change as Submitted**

**Proponent:** Guy Tomberlin of Virginia representing himself.

**Revise as follows:**

**416.5 Tempered water for public hand-washing facilities.** *Tempered water* shall be delivered from lavatories and group wash fixtures located in public toilet facilities provided for customers, patrons and visitors. ~~public hand-washing facilities.~~ *Tempered water* shall be delivered through an *approved* water-temperature limiting device that conforms to ASSE 1070 or CSA B125.3.

**Reason:** This is an attempt to clarify that employee or private toilet rooms, not for public use, are not required to be supplied with tempered water. Section 403.3 clearly mandates where "public toilet facilities" are to be installed. This new definition specifically works in conjunction with the provisions of 403, so wherever facilities are installed for "public utilization" the hand washing fixtures are required to be provided with tempered water.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: TOMBERLIN-P1-416.5

## Public Hearing Results

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Agreed with the proponent's reason statement which stated that employee and private toilet rooms (not for public use) do not require tempered water.

**Assembly Action:**

**None**

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## Individual Consideration Agenda

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Tim Pate representing the Colorado Chapter of ICC, requests Disapproval.**

**Commenter's Reason:** I am requesting disapproval of this code change. I believe that the language in 2003 IPC Section 607.1 was very specific in requiring tempered water for any accessible sink. Code change P66 03/04 was approved as modified which took out the specific wording about accessible sinks and used the more general wording for public sinks. It does not appear in the reason statement for code change P66 03/04 that there was specific intent to not require tempered water for employee bathrooms. By approving P51 09/10 employee bath sinks will not be required to have tempered water.

The basis behind requiring tempered water is to make sure that people – both able bodied and disabled – are not able to scald their hands. It does not make sense to restrict the requirement to bath sinks used only for customers, patrons, and visitors. While there is a requirement for protection from possible contact for the pipes under all accessible lavatories (for public and employees), this does not protect someone from possible scalding in the water coming out of the tap.

Final Action:                    AS                    AM                    AMPC\_\_\_\_\_                    D

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## **P52-09/10, Part I**

### **417.4.2**

## Proposed Change as Submitted

**Proponent:** Christopher Birch, Executive Vice President, Bath Enclosure Manufacturers Association

### **PART I - IPC**

**Revise as follows:**

**417.4.2 Access.** The shower compartment access and egress opening shall have a ~~minimum~~ clear and unobstructed width of not less than 22 18 inches (559 457 mm).

**Reason:** In writing safety standards for the shower enclosure industry the Bath Enclosure Manufacturers Association determined that the minimum access width for shower enclosures should be 18" to accommodate shower enclosure units being manufactured. This will allow the standard bases to be fit with enclosures that are not allowed by the current code. For example, the current code does not consider overlap and jamb width in a 42 inch slider or a neo angle base with a 24 inch centerline. The 22 inch minimum has led to arbitrary and inconsistent enforcement. The industry's association has determined that 18 inches allows for functional accessibility, service and maintenance, emergency egress and response and rescue. The 18 inch minimum will be consistent with the safety and installation standards being developed by ASTM.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: BIRCH-P1-417.4.2

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## Public Hearing Results

### **PART I- IPC**

**Committee Action:**

**Disapproved**

**Committee Reason:** Rescue personnel need the 22 inches to access someone who needs help.

**Assembly Action:**

**None**

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## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Christopher Birch, representing the Bath Enclosure Manufacturers Association, requests Approval as Submitted.**

**Commenter's Reason:** The reasoning for leaving the 22 inch egress is out of touch, is illogical in the thought process and has led to arbitrary and inconsistent enforcement. Remember that the majority of shower enclosures will not be affected and most homeowners will make their purchases based upon their specifications. For the units that are affected, there is no recourse for a by the book inspector. Many dealers have customers for which they have installed bi-pass shower enclosure in their 44" fiberglass opening, thousands over the years. With the size of the jamb and the overlap, it is mathematically impossible to meet 22 inches. The local building inspector recites out of the uniform plumbing code a discrepancy for not meeting a minimum width of 22" for egress. The same goes for a neo-angle door. They rarely have a centerline that would allow a door with a 22" finished net width. There are other applications that are affected as well including but not limited to mobile homes, boats, R.V., ect. that would rule out a door but we will not address those at this time.

One could say that no one really walks into a shower "squared away" with the entry. The natural motion is move into a shower with one hand on the door handle and opposite shoulder first. This would tend to support a dimension measured from back of shoulder blade to tip of the tummy (or breast); more like 16"-18" on average. And one can also say that if a person is in need of rescue personnel in a neo angle unit or a bi-pass, the person is going to be on the floor and there will be no room for reasonable help in any situation. Common sense tells us that something needs to be changed. The industry has determined the minimum access width for shower enclosures should be 18" to accommodate all shower enclosure units being manufactured. This will allow the standard shower base to be fit with enclosures that are not allowed by the current code and still allow for functional accessibility, service and maintenance, emergency egress in response and rescue. Again, the 22" minimum egress is out of touch and has no solid basis to remain unless someone can prove to the industry that this is a TRUE safety concern. To date, we have not seen this documentation

Final Action:                    AS                    AM                    AMPC\_\_\_\_\_                    D

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## **P52-09/10, PART II IRC P2708.1**

### Proposed Change as Submitted

**Proponent:** Christopher Birch, Executive Vice President, Bath Enclosure Manufacturers Association

#### **PART II - IRC**

**Revise as follows:**

**P2708.1.1 Access.** The shower compartment access and egress opening shall have a ~~minimum~~ clear and unobstructed width of not less than 22 18 inches (559 457 mm).

**Reason:** In writing safety standards for the shower enclosure industry the Bath Enclosure Manufacturers Association determined that the minimum access width for shower enclosures should be 18" to accommodate shower enclosure units being manufactured. This will allow the standard bases to be fit with enclosures that are not allowed by the current code. For example, the current code does not consider overlap and jamb width in a 42 inch slider or a neo angle base with a 24 inch centerline. The 22 inch minimum has led to arbitrary and inconsistent enforcement. The industry's association has determined that 18 inches allows for functional accessibility, service and maintenance, emergency egress and response and rescue. The 18 inch minimum will be consistent with the safety and installation standards being developed by ASTM.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: BIRCH-P1-417.4.2

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### Public Hearing Results

#### **PART II- IRC-P**

**Committee Action:**

**Disapproved**

**Committee Reason:** Lessening of the dimension would make it difficult for the average human to get into and out of the shower.

**Assembly Action:**

**None**

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## **Individual Consideration Agenda**

This item is on the agenda for individual consideration because a public comment was submitted.

### *Public Comment:*

**Christopher Birch, representing the Bath Enclosure Manufacturers Association, requests Approval as Submitted.**

Commenter's Reason: See P52, Part II

Final Action:           AS                   AM                   AMPC\_\_\_\_           D

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## **P57-09/10**

### **419.1, Chapter 13**

### **Proposed Change as Submitted**

**Proponent:** John M. Halliwill, Halliwill and Associates, representing Caroma

#### **1. Revise as follows:**

**419.1 Approval.** Urinals shall conform to ANSI Z124.9, ASME A112.19.2M, ASME A112.19.19, CSA B45.1, or CSA 45.5 or IAPMO IGC 161. Urinals shall conform to the water consumption requirements of Section 604.4. Water-supplied urinals shall conform to the hydraulic performance requirements of ASME A112.19.6, CSA 45.1 or CSA B45.5.

#### **2. Add standard to Chapter 13 as follows:**

International Association of Plumbing and Mechanical Inspectors  
5001 E. Philadelphia St.  
Ontario, CA 91761

### **IAPMO**

#### **IGC 161-2007 Guide Criteria for Waterless Urinals**

**Reason:** The proposed IAPMO IGC (standard) provides for materials and testing requirements for waterless urinals that are not covered in the current standards. One of which is stainless steel. The purpose statement in the proposed IGC states in part "The purpose of this standard is to provide the minimum design and performance criteria for waterless urinals. This standard is not intended to be a specification guide nor is it intended to restrict design. Its purpose is to serve as a guide for producers, distributors, architects, engineers, contractors, inspectors, and users; to promote understanding regarding materials, manufacture and installation; and to provide for identifying waterless urinals that conform with this standard."

Urinals that have been evaluated to this standard are currently in use using the Waterless Urinal with Liquid Trap technology.

This standard contains requirements for a new trap sealing method that has been evaluated and products listed for use in jurisdictions around the world. Products using this technology are currently manufactured by a number of manufacturers in this and other countries around the world. Additionally, it was noted while testing products using this new technology that should a negative pressure develop in the DWV system. Air will be introduced through the device until equilibrium is established. This feature will help maintain the trap seals of liquid seal traps so that odors, vapors and possibly injurious materials will not enter the building.

**Cost Impact:** This code change proposal will not increase the cost of construction.

**Analysis:** Review of proposed new standard, IAPMO IGC 161-2007, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

ICCFILENAME: HALLIWILL-P1-419.1

## Public Hearing Results

**Note:** The following analysis was not in the Code Change monograph but was published on the ICC website at <http://www.iccsafe.org/cs/codes/Documents/2009-10cycle/ProposedChanges/Standards-Analysis.pdf> :

**Analysis:** Review of proposed new standard IGC 161-2007 indicated that in the opinion of ICC staff, the standard did not comply with ICC standards criteria.

**Committee Action:**

**Disapproved**

**Committee Reason:** IGC 161 is not a standard.

**Assembly Action:**

**None**

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## Individual Consideration Agenda

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**John M. Halliwell, Halliwell and Associates, Beaumont, CA, representing Caroma, requests Approval as Submitted.**

**Commenter's Reason:** Staff, has indicated the standard submitted does not comply with the ICC Standards Policy "3.6.3.2 The standard shall be developed and maintained through a consensus process such as ASTM or ANSI." The following information was given to staff to support the acceptance of this proposed new standard. (The standard is proposed as a new standard or as a revision is proposed. The proposal is advertised "posted for public review and comment, the committee meets in the open with public present, appeals can be made to the committees action should anyone have a problem with what was done. While this is not reviewed as an ANSI consensus document the process does allow for open and public review with comment and appeal procedures. It should be noted that there are currently none ANSI consensus documents accepted and referenced in the Code." Additionally it should be noted that not all ASTM standards have been reviewed and accepted under the ANSI standards process and that other standards were accepted by the committee at their last meeting that are not ASTM and or ANSI accepted standards.

The Committee indicated that IGC-161 was not a standard. It should be noted that the Staff did not indicate IGC-161 is not a standard and it has been noted while reviewing the committee actions that the term Standard is not defined in *Chapter 2 Definitions* of this code. While looking at other codes and dictionaries it is felt that IGC 161 does meet the definition of a standard. IGC does provide how the product is to be used, what materials are to be used in the manufacture of the products, how to test the product for compliance with the standard and how the product is to be marked to show compliance with the standard.

Final Action:            AS                            AM                            AMPC\_\_\_\_\_            D

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## **P64-09/10, Part I**

### **504.6**

### Proposed Change as Submitted

**Proponent:** Tom Hedges, representing the Arizona Building Officials

**Part I - IPC**

**Revise as follows:**

**504.6 Requirements for discharge piping.** The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap located in the same room as the water heater except where the discharge is to the outdoors, not subject to freezing and the piping terminates not less than 6 inches (152mm) and not more than 12 inches (305mm) above grade.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

5. Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
11. Not have a threaded connection at the end of such piping
12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and approved for such use in accordance with ASME A112.4.1.
14. Direct the discharge in a downward direction.

**Reason:** This change will allow the P & T relief drain pipe to extend direct from the water heater to an exterior location where no freeze potential exists. This is consistent with the IPC Section 504.6 (IRC Section P2803.6.1), Item no. 5 which allows the discharge to go to the outdoors. The 6" minimum termination height provides the required air gap. This proposed change also establishes a maximum termination height of 12" for outdoor termination. This method of drainage and termination is very common in locations that have previously utilized the Uniform Plumbing Code for over 50 years. No data exists to suggest this method has created unsafe conditions. The Committee reason for disapproval of Item P50-07/08 clarifies that the code allows a discharge pipe to terminate over a water heater drip pan. The code currently establishes drip pan drain terminations at 6" minimum and 24" maximum termination heights in IPC Section 504.7.2 (IRC Section P2801.5.2). If it's safe to drain a discharge pipe from a drip pan using these heights, then it certainly would be no more harmful to use the similar heights for an outdoors termination.

This proposal improves the termination requirements.

This method is also more energy efficient by not creating a direct open pipe for air flow from and to the out doors as will occur where an untrapped waste receptor for the P & T relief valve discharge drains to the outdoors.

In many commercial tenant spaces it is common practice to locate a water heater above the lay-in ceiling in an attic or interstitial space. Many times these locations are above a restroom or storage room. IPC Section 802.3 prohibits a waste receptor in such locations. A drain pipe needs to extend beyond the room or space containing the water heater.

Also, IPC 802.3 prohibits waste receptors in rest rooms and IPC Section 504.6 Item no. 2 requires an air gap in the same room as the water heater, thereby prohibiting water heaters in rest rooms. This change would allow a reasonable option where the need exists.

**Cost Impact:** The code change proposal will not increase the cost of construction and may decrease cost.

ICCFILENAME: HEDGES-P1-504.6

## **Public Hearing Results**

### **PART I- IPC**

**Committee Action:**

**Disapproved**

**Committee Reason:** Air gap needs to be in room with the water heater in case piping downstream of air gap is compromised.

**Assembly Action:**

**None**

## **Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Tom Hedges, representing the Arizona Building Officials; Bruce Dimmig, representing the Arizona Building Officials, requests Approval as Submitted.**

**Commenter's Reason:** The proposed code change represents a plumbing method allowed in a majority of jurisdictions west of the Mississippi River for at least 50 years. This is an opportunity for the voting members of ICC to again recognize and acknowledge a safe and cost effective method for piping the discharge from a water heater pressure-temperature relief valve.

The current IPC & IRC requires the water heater pressure-temperature relief valve drain line to have an air gap and such air gap shall be located in the same room as the water heater. If one chooses to extend the drain line to another room or the exterior of the building, an air gap is still required to be located in the same room as the water heater. This will necessitate the addition of an air gap fitting in the drain line near the P & T valve before extending the line out of the room. Since the typical discharge piping is ¾ inch, if a ¾ inch air gap fitting is installed in the discharge piping, the discharge piping will no longer be capable of carrying the flow from a P & T valve discharging at full pressure. A discharge at full pressure will also discharge from the air gap fitting's vent, flowing into the room. A ¾ inch discharge pipe under normal pressure will have a flow of about 12 GPM. Based on IPC 709.3, 12 GPM will result in an equivalent flow of 24 fixture units. This will require a 3 or 4 inch waste line, which is not practical.

The current code provisions will allow the discharge to terminate at a water heater pan. As can be deduced from the expected full flow noted above, this method will also likely allow flooding. The proposed change will result in a safe alternative that will be much less likely to cause flooding.

This code change would do 3 things; allow an option to locate the air gap at the termination of the relief valve discharge pipe, define the physical limits of the air gap and to clarify that all relief valve discharge pipes shall be pointed downward to better define "discharge in a manor that does not cause personal injury".

The air gap at the termination must also comply with the Section 504.6 requirement to “discharge to a termination point that is readily observable by the building occupants.

IMC, Section 1004.1 and 1006 related to water/steam boilers contains no similar stipulations that would mandate the air gap needs to be in the same room with the water boiler in case piping downstream of air gap is compromised. The upper limit of 12” for the air gap was a compromise to past committee criticism on previous proposed changes (P51-07/08) that 24” was too high and we agreed and recommended a lower limit.

Final Action: AS AM AMPC\_\_\_\_\_ D

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## **P64-09/10, Part II**

### **P2803.6.1**

#### **Proposed Change as Submitted**

**Proponent:** Tom Hedges, representing the Arizona Building Officials

#### **Part II – IRC-P**

**Revise as follows:**

**P2803.6.1 Requirements for discharge piping.** The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap located in the same room as the water heater except where the discharge is to the outdoors, not subject to freezing and the piping terminates not less than 6 inches (152mm) and not more than 12 inches (305mm) above grade.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
11. Not have a threaded connection at the end of such piping
12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section P2904.5 or materials tested, rated and approved for such use in accordance with ASME A112.4.1.
14. Direct the discharge in a downward direction.

**Reason:** This change will allow the P & T relief drain pipe to extend direct from the water heater to an exterior location where no freeze potential exists. This is consistent with the IPC Section 504.6 (IRC Section P2803.6.1), Item no. 5 which allows the discharge to go to the outdoors. The 6” minimum termination height provides the required air gap. This proposed change also establishes a maximum termination height of 12” for outdoor termination. This method of drainage and termination is very common in locations that have previously utilized the Uniform Plumbing Code for over 50 years. No data exists to suggest this method has created unsafe conditions. The Committee reason for disapproval of Item P50-07/08 clarifies that the code allows a discharge pipe to terminate over a water heater drip pan. The code currently establishes drip pan drain terminations at 6” minimum and 24” maximum termination heights in IPC Section 504.7.2 (IRC Section P2801.5.2). If it's safe to drain a discharge pipe from a drip pan using these heights, then it certainly would be no more harmful to use the similar heights for an outdoors termination.

This proposal improves the termination requirements.

This method is also more energy efficient by not creating a direct open pipe for air flow from and to the out doors as will occur where an untrapped waste receptor for the P & T relief valve discharge drains to the outdoors.

In many commercial tenant spaces it is common practice to locate a water heater above the lay-in ceiling in an attic or interstitial space. Many times these locations are above a restroom or storage room. IPC Section 802.3 prohibits a waste receptor in such locations. A drain pipe needs to extend beyond the room or space containing the water heater.

Also, IPC 802.3 prohibits waste receptors in rest rooms and IPC Section 504.6 Item no. 2 requires an air gap in the same room as the water heater, thereby prohibiting water heaters in rest rooms. This change would allow a reasonable option where the need exists.

**Cost Impact:** The code change proposal will not increase the cost of construction and may decrease cost.

ICCFILENAME: HEDGES-P1-504.6

## Public Hearing Results

### PART II- IRC-P

**Committee Action:**

**Disapproved**

**Committee Reason:** There needs to be an observable point near the water heater before the piping goes outside the room where the water heater is located. Proposed text conflict with the 24 inches in Section P2803.5.2.

**Assembly Action:**

**None**

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## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Tom Hedges, representing the Arizona Building Officials; Bruce Dimmig, representing the Arizona Building Officials, requests Approval as Submitted.**

**Commenter's Reason:** See P64-09/10, Part I

Final Action:           AS                   AM                   AMPC \_\_\_\_           D

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### **P65-09/10, Part I**

**504.7**

## Proposed Change as Submitted

**Proponent:** Shawn Strausbaugh–Arlington County, VA representing Virginia Plumbing and Mechanical Inspectors Association

### **PART I – IPC**

**Revise as follows:**

**504.7 Required pan.** Where a storage tank-type water heaters or a hot water storage tanks ~~are~~ is installed in a locations where water leakage from of the tanks ~~or connections will~~ could cause damage, the tank ~~or water heater~~ shall be installed in a galvanized steel pan having a material thickness of not less than 0.236 inch (0.6010mm) (No. 24 gage), or other pans approved for such use.

**Reason:** The existing text is not clear about whether tankless-type water heaters require a pan. A tankless water heater does not have a storage tank and does not present any greater risk of water leakage than a water distribution piping system that has been installed and pressure tested in accordance with this code. This proposal changes the text to make the pan requirement specific to storage tank water heaters and hot water storage tanks. This section is in the code because it is a well known fact that the majority of storage-type water heater tanks and hot water storage tanks have a relatively short life span that often ends in causing catastrophic damage to the building. Tankless water heaters are constructed of materials that are much more corrosion resistant than the materials (glass-lined carbon steel) of most water heater tanks and hot water tanks. Tankless water heaters should not be required to have drip pans installed.

The language concerning connections was removed because connections made in accordance with this code have no greater risk of leakage than any other connection in the water distribution system. Finally, the language of this section has been cleaned up to read better.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: STRAUSBAUGH-P1-504.7

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## Public Hearing Results

### PART I- IPC

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Proposed text clarifies that the pans are not required under tankless water heaters or connections to tankless water heaters

**Assembly Action:**

**None**

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## Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

### *Public Comment 1:*

**Shawn Strausbaugh, Arlington County, VA, representing VA Plumbing and Mechanical Inspectors Assoc. requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**504.7 Required pan.** Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank ~~will could~~ cause damage, the tank shall be installed in a galvanized steel pan having a material thickness of not less than .0.236 inch (0.6010) (No. 24 gage), or other pans approved for such use.

**Commenter's Reason:** Part I was approved as submitted however the word could was unintentionally placed in the change. The use of could is not proper code language and this modification is to remove the word could and use will instead. No other modifications have been made.

### *Public Comment 2:*

**Gary Klein, Affiliated International Management LLC., representing self, requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**504.7 Required pan.** Where a tankless water heater, storage tank-type water heater or a hot water storage tank is installed in a location where water leakage ~~of~~ from the water heater or tank could cause damage, the water heater or tank shall be installed in a galvanized steel pan having a material thickness of not less than 0.236 inch (0.6010mm) (No. 24 gage), or other pans approved for such use. Listed pans shall comply with CSA LC3. Tankless water heaters having an input rating not exceeding 12kW and storage water heaters having a volume not exceeding 3 gallons shall not require a pan.

**Commenter's Reason:** The reasoning used to support this proposal at the first hearing did not present a full picture of the problem. What was missing is the fact that we do not yet have data regarding the long term failure rates and modes of failure for tankless water heaters. This is because they have only been installed in large numbers in the US for less than 10 years. Most manufacturers offer a limited 10-15 year warranty, and we are only now approaching this number of years for the vast majority of the installed base.

While it is true that there is only a very small tank in a gas tankless water heater (in the heat exchanger and in the piping internal to the unit), the most likely mid-long term failure mode is leakage through the heat exchangers themselves. These are intentionally thin-walled devices, so that heat is transferred efficiently from the combustion gases to the water. The regular maintenance schedule stipulated by the manufacturer to flush out any sediment and calcification build-up in the heat exchanger depends on local water quality, which varies widely around the US. In areas with very hard water, it is necessary to accelerate the maintenance schedule in order to maintain proper performance. Each time the heat exchanger is flushed, some of the material comes away with the sediment, making the walls thinner in some places. Based on our experiences with pin-hole leaks in copper tubing, we can expect to see similar problems develop in the heat exchangers. While such leaks can start out small, they can quickly become quite large.

There is still another reason to adopt this revised proposal. We are beginning to see a wide variety of new water heater combinations coming on to the US market. Some of these have 0.5 gallon tanks, some tankless electric water heaters have about 1 gallon, others have 4-6 gallons and I expect to see some in the 2-3 gallon range. Also, what about the expansion tank; which all systems with a back-flow prevention device that prevents pressure from going back into the mains should have? These are at least 2.5 gallons. At what point does a water heater become a storage water heater?

To make enforcement easier, it seems prudent to require that all water heater installations in locations where a leak could cause damage should have a pan that enables the control of a major leak.

It is very premature to remove this building safety requirement at this time. I recommend that you disapprove the proposal that was adopted by the Committee. Thank you.

Final Action:      AS                      AM                      AMPC \_\_\_\_\_                      D

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**P65-09/10, Part II**  
**IRC P2801.5**

**Proposed Change as Submitted**

**Proponent:** Shawn Strausbaugh—Arlington County, VA representing Virginia Plumbing and Mechanical Inspectors Association

**PART II – IRC**

**Revise as follows:**

**P2801.5 Required pan.** Where a ~~storage tank-type water heaters or a hot water storage tanks~~ are ~~is~~ installed in a locations where water leakage from ~~of the tanks or connections will~~ could cause damage, the tank ~~or water heater~~ shall be installed in a galvanized steel pan having a material thickness of not less than 0.236 inch (0.6010mm) (No. 24 gage), or other pans approved for such use. Listed pans shall comply with CSA LC3.

**Reason:** The existing text is not clear about whether tankless-type water heaters require a pan. A tankless water heater does not have a storage tank and does not present any greater risk of water leakage than a water distribution piping system that has been installed and pressure tested in accordance with this code. This proposal changes the text to make the pan requirement specific to storage tank water heaters and hot water storage tanks. This section is in the code because it is a well known fact that the majority of storage-type water heater tanks and hot water storage tanks have a relatively short life span that often ends in causing catastrophic damage to the building. Tankless water heaters are constructed of materials that are much more corrosion resistant than the materials (glass-lined carbon steel) of most water heater tanks and hot water tanks. Tankless water heaters should not be required to have drip pans installed.

The language concerning connections was removed because connections made in accordance with this code have no greater risk of leakage than any other connection in the water distribution system. Finally, the language of this section has been cleaned up to read better.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: STRAUSBAUGH-P1-504.7

**Public Hearing Results**

**PART II- IRC-P**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** There are clearly differences between tank type and tankless water heaters such that tankless should not require pans. Consistency with the action of the IPC committee.

**Assembly Action:**

**None**

**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Shawn Strausbaugh, Arlington County, VA, representing VA Plumbing and Mechanical Inspectors Assoc., requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**P2801.5 Required pan.** Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank ~~will~~ could cause damage, the tank shall be installed in a galvanized steel pan having a material thickness of not less than .0.236 inch (0.6010) (No. 24 gage), or other pans approved for such use. Listed pans shall comply with CSA LC3.

**Commenter's Reason:** Part I & II were both approved as submitted however the word could was unintentionally placed in the change. The use of could is not proper code language and this modification is to remove the word could and use will instead. No other modifications have been made.



*Public Comment 2:*

**Gary Klein, Affiliated International Management, LLC., representing himself, requests Approval as Modified by this Public Comment.**

**P2801.5 Required pan.** Where a tankless water heater, storage tank-type water heater or a hot water storage tank is installed in a location where water leakage of from the water heater or tank could cause damage, the water heater or tank shall be installed in a galvanized steel pan having a material thickness of not less than 0.236 inch (0.6010mm) (No. 24 gage), or other pans approved for such use. Listed pans shall comply with CSA LC3. Tankless water heaters having an input rating not exceeding 12kW and storage water heaters having a volume not exceeding 3 gallons shall not require a pan.

**Commenter's Reason:** See P65-09/10, Part I

Final Action: AS AM AMPC\_\_\_\_\_ D

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**P72-09/10- Part I**  
**604.9**

**Proposed Change as Submitted**

**Proponent:** Rand Ackroyd, Rand Technical Consulting, representing The Plumbing and Drainage Institute

**Part I - IPC**

**1. Revise as follows:**

**604.9 Water hammer.** The velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. A water-hammer arrestor shall be installed where quick-closing valves are utilized. Water hammer arrestors shall be installed in accordance with the manufacturer's specifications. Water-hammer arrestors shall conform to ASSE1010 or PDI WH201.

**2. Add standard to Chapter 13 as follows:**

**PDI**  
WH201-2006 Water Hammer Arrestors

**Reason:** PDI WH201 is the original US standard for water hammer arrestors first published over 40 ago. With copywriter permission the PDI performance requirements were allowed to be duplicated in the equivalent standard that is currently referenced in the Code, ASSE standard 1010. PDI WH201 was updated in 2006. This standard PDI WH201 is available to the public at no cost on [www.pdionline.org](http://www.pdionline.org) .

**Cost Impact:** The code change will not increase the cost of construction.

**Analysis:** Review of proposed new standard, PDI WHI201-2006, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

ICCFILENAME: Ackroyd-P5-604.9

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**Public Hearing Results**

**Note:** The following analysis was not in the Code Change monograph but was published on the ICC website at <http://www.iccsafe.org/cs/codes/Documents/2009-10cycle/ProposedChanges/Standards-Analysis.pdf> :

**Analysis:** Review of proposed new standard PDI WH201-2006 indicated that in the opinion of ICC staff, the standard did not comply with ICC standards criteria.

**PART I- IPC**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** The PDI standard is equivalent to ASSE 1010.

**Assembly Action:**

**None**

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## **Individual Consideration Agenda**

This item is on the agenda for individual consideration because a public comment was submitted.

### *Public Comment:*

**Jonathan Humble, ICC Referenced Standards Committee Chair representing the ICC Referenced Standards Committee, requests Disapproval.**

**Commenter's Reason:** The ICC Reference Standards Committee is a committee that was organized "to support the codes development committees through the review of reference standards for the International Codes." We submit this code challenge to provide an opinion regarding code change.

It is the reference standards committee's view that the proposal currently lacks sufficient information concerning the promulgation process. We would preface this opinion that it is not our view to state that the proposed document is technically deficient or that the proposal does not have technical merit, but rather to state that the document development process and maintenance process do not comply with ICC Council Policy 28, specifically Section 3.6.3, which requires standards be promulgated according to a consensus process.

We therefore request disapproval.

Final Action:                    AS                    AM                    AMPC \_\_\_\_\_                    D

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## **P72-09/10, Part II**

### **IRC P2903.5**

### **Proposed Change as Submitted**

**Proponent:** Rand Ackroyd, Rand Technical Consulting, representing The Plumbing and Drainage Institute

#### **PART II – IRC-P**

##### **1. Revise as follows:**

**P2903.5 Water hammer.** The flow velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. Water-hammer arrestors shall be installed in accordance with the manufacturer's installation instructions. Water hammer arrestors shall conform to ASSE 1010 or PDI WH201.

##### **2. Add standard to Chapter 44 as follows:**

#### **PDI**

WH201-2006    Water Hammer Arrestors

**Reason:** PDI WH201 is the original US standard for water hammer arrestors first published over 40 ago. With copywriter permission the PDI performance requirements were allowed to be duplicated in the equivalent standard that is currently referenced in the Code, ASSE standard 1010. PDI WH201 was updated in 2006. This standard PDI WH201 is available to the public at no cost on [www.pdionline.org](http://www.pdionline.org) .

**Cost Impact:** The code change will not increase the cost of construction.

**Analysis:** Review of proposed new standard, PDI WHI201-2006, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

ICCFILENAME: Ackroyd-P5-604.9

### **Public Hearing Results**

#### **PART II- IRC-P**

**Committee Action:**

**Disapproved**

**Committee Reason:** Standard not compliant with ICC standards

**Assembly Action:**

**None**

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## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Rand H. Ackroyd representing self, requests Approval as Submitted.**

**Commenter's Reason:** PDI Standards development is an open development process offering public comment periods on its web site. PDI WH201 is the original US standard for water hammer arrestors first published over 40 ago. With copywriter permission the PDI performance requirements were allowed to be duplicated in the equivalent standard that is currently referenced in the Code, ASSE standard 1010. PDI WH201 was updated in 2009/2010. This standard PDI WH201 is available to the public at no cost on [www.pdionline.org](http://www.pdionline.org) .

Final Action:                    AS                    AM                    AMPC\_\_\_\_                    D

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### **P73-09/10, Part I 605.5 (New), Chapter 13**

#### Proposed Change as Submitted

**Proponent:** Sid Cavanaugh, Cavanaugh Consulting representing Cohesant, Inc.

#### **PART I - IPC**

##### **1. Add new text as follows:**

**605.5 Epoxy coating.** Epoxy coating used on existing water service or water distribution piping systems shall comply with NSF 61 and shall comply with ASTM F???? or AWWA C210.

(Renumber subsequent sections)

##### **2. Add standards to Chapter 13 as follows:**

###### **ASTM**

F????-?? Epoxy Lining Systems for Water Piping

###### **AWWA**

C210-03 Liquid-Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines

**Reason:** While the technology is allowed by the code and various jurisdictions it needs to be recognized and accepted in the body of the code with appropriate requirements and standards to assure proper approved installation in the field.

**Cost Impact:** None. It will probably save money for the user in many cases.

**Analysis:** Review of proposed new standards, ASTM F????-?? and AWWA C210-03, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

ICCFILENAME:CAVANAUGH-P4-605.5

#### Public Hearing Results

#### **PART I- IPC**

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**605.5 Epoxy coating.** Epoxy coating used on existing water service or water distribution piping systems shall comply with NSF 61 and shall comply with ASTM F???? or AWWA C210.

**Committee Reason:** Agreed with proponent's reason statement which stated that these products are being used and a standard needs to be in the code to assure proper installation of these products.

**Assembly Action:**

**None**

## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Sidney Cavanaugh, Cavanaugh Consulting, representing Cohesant, requests Approval as Submitted.**

**Commenter's Reason:** The proposal was modified because one of the standards (ASTM FXXXX-10) was not completed but it is hopeful that it will be by the public hearings in May.

Final Action:           AS                   AM                   AMPC\_\_\_\_           D

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### **P73-09/10, Part II P2905.19, Chapter 44**

#### Proposed Change as Submitted

##### **PART II - IRC**

##### **1. Add new text as follows:**

**P2905.19 Epoxy coating.** Epoxy coating used on existing water service or water distribution piping systems shall comply to NSF 61 and shall comply to ASTM F???? or AWWA C210.

*(Renumber subsequent sections)*

##### **2. Add standards to Chapter 44 as follows:**

###### **ASTM**

F????-?? Epoxy Lining Systems for Water Piping

###### **AWWA**

C210-03 Liquid-Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines

**Reason:** While the technology is allowed by the code and various jurisdictions it needs to be recognized and accepted in the body of the code with appropriate requirements and standards to assure proper approved installation in the field.

**Cost Impact:** None. It will probably save money for the user in many cases.

**Analysis:** Review of proposed new standards, ASTM F????-?? and AWWA C210-03, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

ICCFILENAME:CAVANAUGH-P4-605.5

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#### Public Hearing Results

##### **PART II- IRC-P**

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

~~**P2905.19 Epoxy coating.** Epoxy coating used on existing water service or water distribution piping systems shall comply with NSF 61 and shall comply to ASTM F???? or AWWA C210.~~

**Committee Reason:** Good alternative products for existing steel piping systems. Standard includes information on how material is applied.

**Assembly Action:**

**None**

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**Individual Consideration Agenda**

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Sidney Cavanaugh, Cavanaugh Consulting, representing Cohesant, requests Approval as Submitted.**

**Commenter's Reason:** See P73-09/10, Part II

Final Action: AS AM AMPC\_\_\_\_ D

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**P79-09/10  
607.2**

**Proposed Change as Submitted**

**Proponent:** Guy Tomberlin of Virginia representing himself.

**Revise as follows:**

**607.2 Hot or tempered water supply to fixtures ~~supply temperature maintenance.~~** ~~Where the developed length of hot water piping from the source of hot water supply to the furthest fixture exceeds 100 feet (30 480 mm), the hot water supply system shall be provided with a method of maintaining the temperature in accordance with the International Energy Conservation Code.~~ The developed length of hot or tempered water piping, from the source of hot water to the fixtures that require hot or tempered water, shall not exceed 40 feet (12192mm). Recirculating system piping and heat traced piping shall be considered to be sources of hot or tempered water.

**Reason:** Energy conservation needs to be observed in the IPC. Hot water supply is an area where design is critical. Either locate the water heating source near the fixtures or install a circulating system or heat trace system. This is in attempt to minimize the time it takes to get hot water to a fixture. I believe that 100 feet is entirely too much distance between the fixture and the water heating source. A huge amount of water and energy is wasted while running the water and waiting for the heated water to get to the outlet.

Current text in the IPC is easily manipulated to permit unwanted systems, that comply with the language as written, but that fail to serve the intended purpose. This proposal changes the text to say what it means, and maintain the original intent which is to get hot water to the fixture without wasting unnecessary energy and water.

In essence, this is in attempt to minimize the time it takes to get hot water to a fixture. Energy conservation must be observed in the IPC/IRC. Hot water supply is an area where design is critical to enable huge energy and water savings.

**Cost Impact:** This proposal may increase the cost of construction.

ICCFILENAME: TOMBERLIN-P3-607.2

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**Public Hearing Results**

**Committee Action:**  
**Modify the proposal as follows:**

**Approved as Modified**

**607.2 Hot or tempered water supply to fixtures** The developed length of hot or tempered water piping, from the source of hot water to the fixtures that require hot or tempered water, shall not exceed ~~40~~ 50 feet (~~12192~~ 15240mm). Recirculating system piping and heat traced piping shall be considered to be sources of hot or tempered water.

**Committee Reason:** Modification and action consistent with P80.

**Assembly Action:** **None**

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## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Gary Klein, Affiliated International Management, LLC, representing self, requests Approval as Modified by this Public Comment.**

Modify the proposal as follows:

**607.2 Hot or tempered water delivery supply to fixtures.** The developed length of hot or tempered water piping, from the source of hot water to the fixtures that require hot or tempered water, shall not exceed 50 feet (15240mm). ~~Recirculating system piping and heat traced piping shall be considered to be sources of hot or tempered water.~~ Where a water heater or a hot water storage tank is the nearest source of hot or tempered water, the volume of water in hot or tempered water piping between a water heater or a hot water storage tank and the water outlet of a shower, sink or lavatory fixture fitting shall not exceed 87 ounces (2.6 L). Where circulating hot water loop system piping or electrically heat-traced piping is the nearest source of hot or tempered water, the volume of water in hot or tempered water piping between the circulating hot water loop system piping or electrically heat-traced piping and the water outlet of a shower, sink or lavatory fixture fitting shall not exceed 32 ounces (0.96 L). The volume shall be calculated in accordance with Section 607.2.1.

**607.2.1 Volume calculation.** For the purpose of this section, water heaters, hot water storage tanks, circulating hot water loop system piping, and electrically heat-traced piping shall be considered to be sources of hot or tempered water. The volume of water between the source of hot or tempered water and the water outlet of a shower sink or lavatory fitting shall be calculated by adding the internal volume of all piping, fittings, valves, meters, and manifolds between the source and the outlet. Where the source of hot water is a circulating hot water loop system pipe or an electrically heat-traced pipe, the calculated volume shall include the volume of the portion of the fitting on the loop or heat-traced pipe that connects to the piping leading to the fixture fitting. Piping volumes shall be calculated using Table 607.2.1.

(Renumber subsequent sections)

**TABLE 607.2.1  
INTERNAL VOLUME OF  
VARIOUS TYPES OF WATER DISTRIBUTION PIPE AND TUBING**

<u>Nominal Pipe or Tube Size (inch)</u>	<u>PIPE OR TUBING MATERIAL</u>							
	<u>COPPER (Type)</u>			<u>CPVC</u>			<u>PEX</u>	
	<u>M</u>	<u>L</u>	<u>K</u>	<u>CTS SDR 11</u>	<u>SCH 40</u>	<u>SCH 80</u>	<u>CTS SDR 9</u>	<u>-AL-PEX</u>
	<u>LIQUID OUNCES PER FOOT OF LENGTH</u>							
<u>3/8</u>	<u>1.06</u>	<u>0.97</u>	<u>0.84</u>	<u>NA</u>	<u>1.17</u>	<u>0.86</u>	<u>0.64</u>	<u>0.63</u>
<u>1/2</u>	<u>1.69</u>	<u>1.55</u>	<u>1.45</u>	<u>1.25</u>	<u>1.89</u>	<u>1.46</u>	<u>1.18</u>	<u>1.31</u>
<u>3/4</u>	<u>3.43</u>	<u>3.22</u>	<u>2.90</u>	<u>2.67</u>	<u>3.38</u>	<u>2.74</u>	<u>2.35</u>	<u>3.39</u>
<u>1</u>	<u>5.81</u>	<u>5.49</u>	<u>5.17</u>	<u>4.43</u>	<u>5.53</u>	<u>4.56</u>	<u>3.91</u>	<u>5.56</u>
<u>1 1/4</u>	<u>8.70</u>	<u>8.36</u>	<u>8.09</u>	<u>6.61</u>	<u>9.66</u>	<u>8.24</u>	<u>5.81</u>	<u>8.49</u>
<u>1 1/2</u>	<u>12.18</u>	<u>11.83</u>	<u>11.45</u>	<u>9.22</u>	<u>13.20</u>	<u>11.38</u>	<u>8.09</u>	<u>13.88</u>
<u>2</u>	<u>21.08</u>	<u>20.58</u>	<u>20.04</u>	<u>15.79</u>	<u>21.88</u>	<u>19.11</u>	<u>13.86</u>	<u>21.48</u>

For SI: 1 ounces = 0.030 liter

**Commenter's Reason:** The reasoning used to support this proposal at the first hearing correctly points out that limiting the length of pipe between the source of hot water and the hot water fixtures will reduce the waste of water, energy and time while waiting for hot water to arrive. It will also reduce the energy used during the use phase of each hot water event and it will reduce the energy that is lost when the water in the non-recirculated or heat traced piping eventually cools down.

However, the proposal did not do enough to get at the core of the problem, which is to limit the volume. As it stands, it is possible to have piping with an unknown diameter between the source of hot water and the fixtures so long as it does not exceed 50 feet. This is twice as good as a pipe that does not exceed 100 feet, but since the diameter is not specified, the actual volume is unknown. Using the table above and using Type L Copper as tubing, the volume in a 50 foot pipe will range from 48.5 – 1,029 ounces (roughly 1/3 to over 8 gallons). The greater the volume, the greater the waste.

One of the most important reasons to focus on the pipe volume, rather than the length is that many fixture flow rates are below 1 gpm, in particular those for lavatory faucets, which are currently at 0.5 gpm of full flow. The faucets that temper the water at the valve actually have flow rates on the hot side that are around 0.25 gpm. At 0.5 gpm, it will take a minimum of 45 seconds for hot water to travel through 50 feet of 3/8 pipe and more than 1.5 minutes if the flow rate was 0.25 gpm. Neither of these times-to-tap is acceptable according to ASPE. At the other extreme, in a 2 inch pipe, it will take at least 16 minutes for hot water to travel 50 feet. In fact, because of the relatively small face-velocity of the water, it will take significantly longer than that, even if the pipe is insulated. This helps explain why the faucets in public restrooms in conference hotels often take an exceedingly long time to get hot water, even if there are many people using them.

I believe that this proposal is consistent with the scope of the original code change proposal and the reasoning is germane because it builds on the logic used in the reasoning for the original proposal and will enable more effective implementation of the desired intent.

I recommend that you accept this revised proposal. Thank you.

Final Action: AS AM AMPC D

## P84-09/10, Part I 605.16.2

### Proposed Change as Submitted

**Proponent:** Paul Coble, Lewis Pipe Company, Ardmore, TN

#### PART I - IPC

#### Revise as follows:

**605.16.2 Solvent cementing.** Joint surfaces shall be clean and free from moisture, and an approved primer shall be applied. Solvent cement, orange in color and conforming to ASTM F 493, shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and in accordance with ASTM D 2846 or ASTM F 493. Solvent-cement joints shall be permitted above or below ground.

**Exception:** A primer is not required where all of the conditions apply:

1. The solvent cement is third party certified as conforming to ASTM F-493.
2. The solvent cement used is yellow or blue in color.
3. The solvent cement is used only for joining ½ (12.7 mm) inch through 2 inch (51 mm) diameter pipe and fittings.
4. The CPVC pipe and fittings are manufactured in accordance with ASTM D2846.

**Reason:** The yellow color indicated matches a competitor products trademark color. The blue indicated would match our trademark color. This is the only code which gives a single company or product a competitive advantage in the market. This color has actually been used against our product in the market with representatives from our competitor in at least 5 states claiming yellow one step cement would not work with a blue pipe system. The products in question are FLOWGUARD GOLD marketed by Lubrizol and Lewis Blue marketed by Lewis Pipe Company. We have developed a blue one step and would like to market this accordingly. The same standards for the cement would still apply.

**Cost Impact:** There will be no cost impact to builders, plumbers, or home buyers as the products will be virtually the same price and represent a very small portion of the building process.

ICCFILENAME: Coble-P1-605.16.2

### Public Hearing Results

#### PART I- IPC

**Committee Action:**

**Disapproved**

**Committee Reason:** Blue color appears to be promoting a proprietary product.

**Assembly Action:**

**None**

## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Shawn Strausbaugh, Arlington County, VA, representing VA Plumbing and Mechanical Inspectors Assoc. requests Approval as Modified by this Public Comment:**

**Modify the proposal as follows:**

**605.16.2 Solvent cementing.** Joint surfaces shall be clean and free from moisture, and an approved primer shall be applied. Solvent cement, orange in color and conforming to ASTM F 493, shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and in accordance with ASTM D 2846 or ASTM F 493. Solvent-cement joints shall be permitted above or below ground.

**Exception:** A primer is not required where all of the conditions apply:

1. The solvent cement is third party certified as conforming to ASTM F-493.
- ~~2. The solvent cement used is yellow or blue in color.~~
- ~~3. The solvent cement is used only for joining ½ (12.7 mm) inch through 2 inch (51 mm) diameter pipe and fittings.~~
4. The CPVC pipe and fittings are manufactured in accordance with ASTM D2846.

**Commenter's Reason:** Part I of this proposed change was disapproved by committee and Part II was approved as submitted. In order not to have the IPC and the IRC conflicting the exception #2 from both proposals should be removed. The committee reason for Part I disapproval was that the color may be promoting a proprietary product which is why we believe colors should not be included neither blue nor yellow or any future color solvent cement that is produced. If the solvent cement conforms to ASTM F-493, the CPVC pipe and fittings are manufactured in accordance with ASTM D2846 and the solvent cement is used for joining ½ (12.7 mm) inch through 2 inch (51mm) diameter pipe and fittings then the solvent cement should conform no matter what the color.

Final Action:                      AS                      AM                      AMPC\_\_\_\_                      D

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## **P84-09/10, Part II**

### **IRC P2905.9.1.2**

### Proposed Change as Submitted

**Proponent:** Paul Coble, Lewis Pipe Company, Ardmore, TN

**PART II - IRC**

**Revise as follows:**

**P2905.9 Solvent cementing.** Joint surfaces shall be clean and free from moisture, and an approved primer shall be applied. Solvent cement, orange in color and conforming to ASTM F 493, shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and in accordance with ASTM D 2846 or ASTM F 493. Solvent-cement joints shall be permitted above or below ground.

**Exception:** A primer is not required where all of the conditions apply:

1. The solvent cement is third party certified as conforming to ASTM F-493.
2. The solvent cement used is yellow or blue in color.
3. The solvent cement is used only for joining ½ (12.7 mm) inch through 2 inch (51 mm) diameter pipe and fittings.
4. The CPVC pipe and fittings are manufactured in accordance with ASTM D2846.

**Reason:** The yellow color indicated matches a competitor products trademark color. The blue indicated would match our trademark color. This is the only code which gives a single company or product a competitive advantage in the market. This color has actually been used against our product in the market with representatives from our competitor in at least 5 states claiming yellow one step cement would not work with a blue pipe system. The products in question are FLOWGUARD GOLD marketed by Lubrizol and Lewis Blue marketed by Lewis Pipe Company. We have developed a blue one step and would like to market this accordingly. The same standards for the cement would still apply.

**Cost Impact:** There will be no cost impact to builders, plumbers, or home buyers as the products will be virtually the same price and represent a very small portion of the building process.



## Public Hearing Results

### PART II- IRC-P

Committee Action:

Approved as Submitted

Committee Reason: Provides for alternative products to be used.

Assembly Action:

None

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### Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Shawn Strausbaugh, Arlington, VA, representing VA Plumbing and Mechanical Inspectors Assoc., requests Approval as Modified by this Public Comment:**

**P2905.9.1.2 Solvent cementing.** Joint surfaces shall be clean and free from moisture, and an approved primer shall be applied. Solvent cement, orange in color and conforming to ASTM F 493, shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and in accordance with ASTM D 2846 or ASTM F 493. Solvent-cement joints shall be permitted above or below ground.

**Exception:** A primer is not required where all of the conditions apply:

1. The solvent cement is third party certified as conforming to ASTM F-493.
- 2- ~~The solvent cement used is yellow or blue in color.~~
32. The solvent cement is used only for joining ½ (12.7 mm) inch through 2 inch (51 mm) diameter pipe and fittings.
43. The CPVC pipe and fittings are manufactured in accordance with ASTM D2846.

**Commenter's Reason:** See P84-09/10, Part I

Final Action:            AS                    AM                    AMPC\_\_\_\_\_            D

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## P85-09/10, Part I 605.25 (New)

### Proposed Change as Submitted

**Proponent:** Julius Ballanco, P.E., CPD, FASPE/JB Engineering and Code Consulting, P.C. representing himself

**Errata:** The following correction of the monograph is noted. This errata was discovered after the public hearing errata book was published. Proposal P85 in its entirety was published in error. The correct P85 follows:

### PART I - IPC

**Add new text as follows:**

**605.25 Listed joint or connection.** Joints and connections that are not otherwise addressed in Section 605 and are certified by a third party agency as acceptable for water service or water distribution systems shall be permitted. The joints and connections shall be installed in accordance with their certification and manufacturer's installation instructions.

**Reason:** There are various types of joints and connections utilized in water distribution and water supply systems that are not listed in Section 605. However, these joints or connections are listed by a third party agency as being acceptable for water distributions systems. This new section will indicate that such joints and connections are acceptable. Some examples of these types of joints and connections are unions, rolled groove fittings, and cut groove fittings.

**Cost Impact:** This code change will not increase the cost of construction.

ICCFILENAME: BALLANCO-P4-711.2

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## Public Hearing Results

### PART I- IPC

**Committee Action:**

**Disapproved**

**Committee Reason:** Additional information about the type of fitting is necessary. Products can always be submitted to the code official for alternate approval.

**Assembly Action:**

**None**

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## Individual Consideration Agenda

**This item is on the agenda for individual consideration because a public comment was submitted.**

**Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C. representing self, requests Approval as Submitted.**

**Commenter's Reason:** The reason for disapproving this change is the reason I submitted the change. The Committee has stated that special joints can be approved as an alternative. Of course one can always seek an alternative approval, but why go through that in every local jurisdiction when a joining method has been listed for a given application.

NPFA 13 has long permitted listed joints to be installed. The International Fuel Gas Code has a similar provision for gas piping joints. So, why not have the same requirement in the Plumbing Code.

There are currently a number of joining methods that are listed but not in the plumbing code. I listed some of these examples in my supporting statement. These joining methods have become so common place, that most inspectors don't even realize that every time they are used, the contractor or engineer should be submitting a written request for alternative approval and the inspector must rule on that request.

When is the last time an inspector had such a written request for a union fitting. Yet that would be necessary since unions connections (the thread pattern of the union) are not listed in the code. Additionally, when is that last time this occurred for grooved fittings.

Most jurisdictions are already allowing listed fitting without going through the alternative approval process. It is time to recognize that what these jurisdictions are doing is correct and proper.

Final Action:                    AS                    AM                    AMPC\_\_\_\_                    D

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## **P85-09/10, Part II**

### **IRC P2905.19 (New)**

## Proposed Change as Submitted

**Errata:** The following correction of the monograph is noted. This errata was discovered after the public hearing errata book was published. Proposal P85 in its entirety was published in error. The correct P85 follows:

### **PART II - IRC**

**Add new text as follows:**

**P2905.19 Listed joint or connection.** Joints and connections that are not otherwise addressed in Section P2905 and are certified by a third party agency as acceptable for water service or water distribution systems shall be permitted. The joints and connections shall be installed in accordance with their certification and manufacturer's installation instructions.

**Reason:** There are various types of joints and connections utilized in water distribution and water supply systems that are not listed in Section 605. However, these joints or connections are listed by a third party agency as being acceptable for water distributions systems. This new section will indicate that such joints and connections are acceptable. Some examples of these types of joints and connections are unions, rolled groove fittings, and cut groove fittings.

**Cost Impact:** This code change will not increase the cost of construction.

ICCFILENAME: BALLANCO-P4-711.2

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## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** Special joints can be approved by the code official under alternate approval.

**Assembly Action:**

**None**

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## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Julius Ballanco, P.E. ,JB Engineering and Code Consulting, P.C., representing self, requests Approval as Submitted.**

Commenter's Reason: See P85-09/10, Part I

Final Action:           AS                   AM                   AMPC\_\_\_\_           D

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### **P86-09/10, Part I 608.7, 608.15.4.2**

#### Proposed Change as Submitted

**Proponent:** Judson Collins, JULYCO, representing Woodford Manufacturing Co.

#### **PART I – IPC**

**Revise as follows:**

**608.7 Valves and outlets prohibited below grade.** Potable water outlets and combination stop-and-waste valves shall not be installed underground or below grade. Freezeproof yard hydrants that drain the riser into the ground are considered to be stop-and-waste valves.

**Exception:** Freezeproof yard hydrants that drain the riser into the ground shall be permitted to be installed, provided that the potable water supply to such hydrants is protected upstream of the hydrants with a field testable backflow preventer assembly in accordance with Section 608 and the hydrants are permanently identified as nonpotable outlets by approved signage that reads as follows: "Caution, Nonpotable Water. Do Not Drink."

**608.15.4.2 Hose connections.** Sillcocks, hose bibs, wall hydrants and other openings with a hose connection shall be protected by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a two-check type backflow preventer or a permanently attached hose connection vacuum breaker. All devices used for such protection shall be field testable.

**Reason:** A study that evaluated vacuum breakers after they were installed found that the frost proof sillcocks, conforming to ASSE 1019 that had been installed for 5 or more years, have a high probability of failure of the vacuum breaker. Therefore, property owners have no guarantee of backflow protection from ASSE 1019 devices and no way of testing to determine if the devices are working properly. Requiring a field testable backflow preventer, other than atmospheric-type vacuum breakers, for protection of hose connections will allow owners to determine if proper protection is being provided.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: COLLINS-P10-608.7

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### Public Hearing Results

#### **PART I- IPC**

**Committee Action:**

**Disapproved**

**Committee Reason:** Field testing rarely, if ever, occurs so why require a field testable device?

**Assembly Action:**

**None**

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## Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

### Public Comment 1:

**Judson Collins, JULYCO, representing Woodford Manufacturing, requests Approval as Modified by this public comment.**

**Modify the proposal as follows:**

**Section 608.7 Valves and outlets prohibited below grade.** Potable water outlets and combination stop-and-waste valves shall not be installed underground or below grade. Freezeproof yard hydrants that drain the riser into the ground are considered to be stop-and-waste valves.

Exception: Freezeproof yard hydrants that drain the riser into the ground shall be permitted to be installed, provided that the potable water supply to such hydrants is protected upstream of the hydrants ~~with a field testable backflow preventer assembly~~ in accordance with Section 608 and the hydrants are permanently identified as nonpotable outlets by approved signage that reads as follows: "Caution, Nonpotable Water. Do Not Drink."

**Section 608.15.4.2 Hose connections.** Sillcocks, hose bibs, wall hydrants and other openings with a hose connection shall be protected by an atmospheric-type or pressure-type vacuum breaker, a two-check type backflow preventer or a permanently attached hose connection vacuum breaker. All devices used for such protection shall be field testable.

**Commenter's Reason:** Woodford Manufacturing commissioned a study that evaluated vacuum breakers in frost proof sillcocks conforming to ASSE 1019. The study dealt with frost proof sillcocks that had been installed for 5 or more years. It was determined that the vacuum breakers in the study, had a high probability of failure. Therefore property owners have no guarantee of backflow protection from ASSE 1019 devices and no way of testing to determine if the devices are working properly. Requiring a field testable backflow preventer for protection of hose connections will allow owners to determine if proper protection is being provided.

The following table and summary (listed on the next page) are taken from the report on the study.

**Table 7**  
Complete Test Results For Each Sillcock  
(An X indicates that the valve passed the particular test.)

Id. #	Backsiphonage Test	Low Head Back Pressure Test	Atmospheric Vent, Hydrostatic, and Water Flow & Pressure Loss Test	Complete Test Results
01	X	X	X	Passed
02	X			Failed
03	X			Failed
04	X		X	Failed
05				Failed
06	X			Failed
07	X			Failed
08	X		X	Failed
09				Failed
10				Failed
11	X			Failed
12	X		X	Failed
13	X	X		Failed
14				Failed
15	X	X		Passed <sup>1</sup>
16	X			Failed
17	X			Failed

Note 1. Because of the split tube, the sillcock could not be tested to the final three tests.

**Summary:** Testing of 17 frostproof sillcocks, removed after being installed for 5 or more years, in 3 different states, indicates that the ASSE 1019 standard does not provide an adequate test protocol to provide the minimum level of protection against backflow. The piston-type frostproof sillcocks, with backflow protection conforming to ASSE 1019, cannot be considered reliable after being installed for a period of 5 years. The public cannot be assured that the frostproof sillcocks will protect the potable water supply against backflow contamination.

The American Society of Sanitary Engineering and their Product Standards Committee should be notified of these test results. A request to either revise, or withdraw, the standard should be proposed to ASSE. Likewise, the model plumbing code organizations should be informed of the test results.

### *Public Comment 2:*

**Sidney Cavanaugh, Cavanaugh Consulting, representing Woodford, requests Approved as Submitted.**

**Commenter's Reason:** The whole philosophy behind backflow protection is that it will always protect against the appropriate degree of hazard. This is done by field testing on an annual basis by qualified testers who also make repairs as needed during testing or by consumer field testing that can indicate whether the device is working properly or not. Independent testing has shown that many devices currently being used are not field testable and will fail unless repaired or replaced. It is time for the code to recognize this failure and demand proper protection of the potable water outlets covered.

Final Action:                    AS                    AM                    AMPC\_\_\_\_\_                    D

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## **P86-09/10 – Part II**

### **IRC P2902.4.3, P2903.9.5**

### **Proposed Change as Submitted**

**Proponent:** Judson Collins, JULYCO, representing Woodford Manufacturing Co.

#### **PART II – IRC**

#### **Revise as follows:**

**P2902.4.3 Hose connection.** Sillcocks, hose bibbs, wall hydrants and other openings with a hose connection shall be protected by an atmospheric-type or vacuum breaker, a pressure-type vacuum breaker, a two-check type backflow preventer or a permanently attached hose connection vacuum breaker. All devices used for such protection shall be field testable.

#### **Exceptions:**

1. This section shall not apply to water heater and boiler drain valves that are provided with hose connection threads and that are intended only for tank or vessel draining.
2. This section shall not apply to water supply valves intended for connection of clothes washing machines where backflow prevention is otherwise provided or is integral with the machine.

**P2903.9.5 Valves and outlets prohibited below grade.** Potable water outlets and combination stop-and-waste valves shall not be installed underground or below grade. Freezeproof yard hydrants that drain the riser into the ground are considered to be stop-and-waste valves.

**Exception:** Installation of freezeproof yard hydrants that drain the riser into the ground shall be permitted if the potable water supply to such hydrants is protected upstream of the hydrants with a field testable backflow preventer assembly in accordance with Section P2902 and the hydrants are permanently identified as nonpotable outlets by *approved* signage that reads as follows: "Caution, Nonpotable Water. Do Not Drink."

**Reason:** A study that evaluated vacuum breakers after they were installed found that the frost proof sillcocks, conforming to ASSE 1019 that had been installed for 5 or more years, have a high probability of failure of the vacuum breaker. Therefore, property owners have no guarantee of backflow protection from ASSE 1019 devices and no way of testing to determine if the devices are working properly. Requiring a field testable backflow preventer, other than atmospheric-type vacuum breakers, for protection of hose connections will allow owners to determine if proper protection is being provided.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: COLLINS-P10-608.7

**Public Hearing Results**

**PART II- IRC-P**

**Committee Action:**

**Disapproved**

**Committee Reason:** Testimony given indicated that ASSE 1019 device failure rate is 9 out of 10. While this points to a problem that needs to be looked into by the industry, it is too early to decide to make the code require a different type of backflow device for hose bibs.

**Assembly Action:**

**None**

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**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment 1:*

**Judson Collins, JULYCO, representing Woodford Manufacturing, requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**P2902.4.3 Hose connection.** Sillcocks, hose bibbs, wall hydrants and other openings with a hose connection shall be protected by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a two-check type backflow preventer or a permanently attached hose connection vacuum breaker. All devices used for such protection shall be field testable.

**Exceptions:**

1. This section shall not apply to water heater and boiler drain valves that are provided with hose connection threads and that are intended only for tank or vessel draining.
2. This section shall not apply to water supply valves intended for connection of clothes washing machines where backflow prevention is otherwise provided or is integral with the machine.

**P2903.9.5 Valves and outlets prohibited below grade.** Potable water outlets and combination stop-and-waste valves shall not be installed underground or below grade. Freezeproof yard hydrants that drain the riser into the ground are considered to be stop-and-waste valves.

**Exception:** Installation of freezeproof yard hydrants that drain the riser into the ground shall be permitted if the potable water supply to such hydrants is protected upstream of the hydrants ~~with a field testable backflow preventer assembly~~ in accordance with Section P2902 and the hydrants are permanently identified as nonpotable outlets by approved signage that reads as follows: "Caution, Nonpotable Water. Do Not Drink."

**Commenter's Reason:** See P86-09/10, Part I

*Public Comment 2:*

**Sidney Cavanaugh, Cavanaugh Consulting, representing Woodford, requests Approval as Submitted.**

**Commenter's Reason:** See P86-09/10, Part I

Final Action:            AS                    AM                    AMPC\_\_\_\_            D

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# P92-09/10, Part I

## 202

### Proposed Change as Submitted

**Proponent:** Michael S. Moss, American Backflow Prevention Association

#### PART I – IPC

##### 1. Revise as follows:

**BACKFLOW PREVENTER.** A backflow prevention assembly, a device or other means methods to prevent backflow into the potable water supply.

**CONTAMINATION.** An impairment of the quality of potable water that creates an actual hazard to the public health risk through poisoning, ~~or through~~ the spread of disease by or contact with sewage, industrial fluids, ~~or waste~~ or radioactivity. See “*Pollution*”.

**POLLUTION.** An impairment of the quality of potable water ~~to a degree~~ that does not create a ~~hazard to the public health risk~~ but that does adversely and unreasonably affect the aesthetic qualities of ~~such~~ potable water intended for domestic use drinking, bathing or culinary purposes. See “*Contamination*”.

**REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERION ASSEMBLY.** A backflow prevention ~~device~~ assembly consisting of two independently acting check valves, internally ~~force~~-loaded to a normally closed position and separated by an intermediate chamber with a (or zone) of reduced pressure, in which there is The reduced pressure zone is provided with an automatic ~~relief~~ means of venting to the atmosphere, internally loaded to a normally open position between two tightly closing shutoff valves and with a means for testing for tightness of the checks and opening of the relief means.

##### 2. Add new definitions as follows:

#### HAZARD, DEGREE OF

**High or Health.** A condition or arrangement that could cause contamination of a potable water supply or system supply. See “*Contamination*”.

**Low or Non-health.** A condition or arrangement that could cause pollution of a potable water supply or system supply. See “*Pollution*”.

**Reason:** BACKFLOW PREVENTER: The change in this term’s definition is necessary to better understand the use of Table 608.1(IRC Table P2902.3) APPLICATION OF BACKFLOW PREVENTERS. I have submitted a companion proposal for rearranging the information in Table 608.1 to show that BACKFLOW PREVENTERS are categorized in three groups: Backflow Prevention Assemblies, Backflow Devices, and Other Methods. The purpose of the three groupings is to illustrate that Backflow Prevention Assemblies are field testable (having shutoff valves and test cock fittings), Backflow Devices are not field testable; and Other Methods are not field testable but by observation, can be determined that proper backflow protection exists.

CONTAMINATION and POLLUTION: Table 608.1 (IRC Table P2902.3) has a footnote concerning the relationship between the terms “high” and “low” hazard and the defined terms of CONTAMINATION and POLLUTION, respectively. The backflow prevention community also uses the terms “health hazard” and “non-health hazard” in describing applications and connections. The proposed amendments to these definitions are necessary so that code officials, backflow prevention specialists, plumbers and plumbing system designers clearly understand the relationships between these terms and are able to properly select appropriate backflow preventers in accordance with the table.

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY: This definition needs changed to be in alignment with the 3 groups of Backflow Preventers that are identified in the proposed amended definition of BACKFLOW PREVENTER and the proposed rearrangement of Table 608.1. For the IRC, the term “REDUCED PRESSURE-ZONE BACKFLOW PREVENTER” is not found in the IRC text, therefore, the term is being corrected to match terminology corrections that are being proposed by companion proposals for numerous code sections.

All proposed changes in the above definitions have no technical impact. These changes, along with other proposed companion changes are necessary to provide meaningful and consistent terminology throughout the code for better understanding of the application of backflow preventers.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: Moss-P1-202

## Public Hearing Results

### PART I- IPC

**Committee Action:**

**Disapproved**

**Committee Reason:** Conflicts with existing code language and will cause confusion.

**Assembly Action:**

**None**

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### Individual Consideration Agenda

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Michael S. Moss, representing American Backflow Prevention Association, requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**CONTAMINATION.** An impairment of the quality of potable water that creates public health risk through poisoning, the spread of disease or contact with sewage, industrial fluids, waste or radioactivity. ~~See "Pollution".~~ An arrangement that could cause contamination of potable water to occur is referred to as a high hazard or health hazard condition.

**POLLUTION.** An impairment of the quality of the potable water that does not create public health risk but that does adversely and unreasonably affect the aesthetic qualities of potable water intended for drinking, bathing or culinary purposes. ~~See "Contamination".~~ An arrangement that could cause pollution of potable water to occur is referred to as a low hazard or non-health hazard condition.

**Commenter's Reason:** There was considerable confusion during the code hearing concerning the ASSE Standards. An individual provided testimony against the proposal to the Committee and was in error. The ASSE Plumbing Standards Magazine provides that organizations standardized titles and approval dates. The representative's error appeared to take credibility from the proposals presented. The titles for assemblies and devices used for the code proposals have been published for several years and have been current for a considerable period of time. I do not believe the representative had read the ABPA "reasoning" which was clearly published in the ICC information provided to all who were in the hearings. On the other hand, had the representative read the published information and had other reasons to make his statements this should definitely be brought to the attention of both the ICC Committee and THE PUBLIC for open clarification of the matter. However, after the fourth proposal, the committee approved the remaining code proposals. All of the proposals received are consistent, as submitted, as a package. Part II of the P95 proposal was approved by the respective committee. This is inconsistent as both parts are the same language in their respective code. The terminology is consistent with industry, the code and those who utilize the code. I recommend that this proposal and those additional proposals be accepted as submitted or as modified.

Final Action:                    AS                    AM                    AMPC\_\_\_\_\_                    D

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## **P92-09/10-Part II**

### **IRC 202**

### Proposed Change as Submitted

**Proponent:** Michael S. Moss, American Backflow Prevention Association

### **PART II – IRC**

#### **1. Revise as follows:**

**BACKFLOW PREVENTER.** A backflow prevention assembly, a device or other means methods to prevent backflow into the potable water supply.

**CONTAMINATION.** An impairment of the quality of potable water that creates an ~~actual hazard to the public health risk~~ through poisoning, ~~or through~~ the spread of disease ~~by~~ or contact with sewage, industrial fluids, ~~or waste or~~ radioactivity. ~~See "Pollution".~~



**POLLUTION.** An impairment of the quality of potable water to a degree that does not create a hazard to the public health risk but that does adversely and unreasonably affect the aesthetic qualities of such potable water intended for domestic use drinking, bathing or culinary purposes. See “Contamination”.

**REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER/ION ASSEMBLY.** A backflow prevention device assembly consisting of two independently acting check valves, internally force-loaded to a normally closed position and separated by an intermediate chamber with a (or zone) of reduced pressure, in which there is The reduced pressure zone is provided with an automatic relief means of venting to the atmosphere, internally loaded to a normally open position between two tightly closing shutoff valves and with a means for testing for tightness of the checks and opening of the relief means.

**2. Add new definitions as follows:**

**HAZARD, DEGREE OF**

**High or Health.** A condition or arrangement that could cause contamination of a potable water supply or system supply. See “Contamination”.

**Low or Non-health.** A condition or arrangement that could cause pollution of a potable water supply or system supply. See “Pollution”.

**Reason:** BACKFLOW PREVENTER: The change in this term’s definition is necessary to better understand the use of Table 608.1(IRC Table P2902.3) APPLICATION OF BACKFLOW PREVENTERS. I have submitted a companion proposal for rearranging the information in Table 608.1 to show that BACKFLOW PREVENTERS are categorized in three groups: Backflow Prevention Assemblies, Backflow Devices, and Other Methods. The purpose of the three groupings is to illustrate that Backflow Prevention Assemblies are field testable (having shutoff valves and test cock fittings), Backflow Devices are not field testable; and Other Methods are not field testable but by observation, can be determined that proper backflow protection exists.

CONTAMINATION and POLLUTION: Table 608.1 (IRC Table P2902.3) has a footnote concerning the relationship between the terms “high” and “low” hazard and the defined terms of CONTAMINATION and POLLUTION, respectively. The backflow prevention community also uses the terms “health hazard” and “non-health hazard” in describing applications and connections. The proposed amendments to these definitions are necessary so that code officials, backflow prevention specialists, plumbers and plumbing system designers clearly understand the relationships between these terms and are able to properly select appropriate backflow preventers in accordance with the table.

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY: This definition needs changed to be in alignment with the 3 groups of Backflow Preventers that are identified in the proposed amended definition of BACKFLOW PREVENTER and the proposed rearrangement of Table 608.1. For the IRC, the term “REDUCED PRESSURE-ZONE BACKFLOW PREVENTER” is not found in the IRC text, therefore, the term is being corrected to match terminology corrections that are being proposed by companion proposals for numerous code sections.

All proposed changes in the above definitions have no technical impact. These changes, along with other proposed companion changes are necessary to provide meaningful and consistent terminology throughout the code for better understanding of the application of backflow preventers.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: Moss-P1-202

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**Public Hearing Results**

**PART II- IRC-P**

**Committee Action:**

**Disapproved**

**Committee Reason:** Wording is inconsistent and confusing.

**Assembly Action:**

**None**

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**Individual Consideration Agenda**

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Michael S. Moss, representing American Backflow Prevention Association, requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**CONTAMINATION.** An impairment of the quality of potable water that creates public health risk through poisoning, the spread of disease or contact with sewage, industrial fluids, waste or radioactivity. ~~See "Pollution".~~ An arrangement that could cause contamination of potable water to occur is referred to as a high hazard or health hazard condition.

**POLLUTION.** An impairment of the quality of the potable water that does not create public health risk but that does adversely and unreasonably affect the aesthetic qualities of potable water intended for drinking, bathing or culinary purposes. ~~See "Contamination".~~ An arrangement that could cause pollution of potable water to occur is referred to as a low hazard or non-health hazard condition.

**Commenter's Reason:** See P92-09/10, Part I

Final Action:                    AS                    AM                    AMPC\_\_\_\_                    D

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**P93-09/10, Part I**  
**Table 608.1, 608.13.6**

**Proposed Change as Submitted**

**Proponent:** Michael S. Moss of the American Backflow Prevention Association

**PART I - IPC**

**1. Revise table as follows:**

**TABLE 608.1  
APPLICATION OF BACKFLOW PREVENTERS**

<b><u>BACKFLOW PREVENTION ASSEMBLIES</u></b>			
<b>DEVICE</b>	<b>DEGREE OF HAZARD<sup>a</sup></b>		<b>APPLICABLE STANDARDS</b>
Double check backflow prevention assembly <del>and</del> Double check fire protection backflow prevention assembly	Low hazard		ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1
Double check detector fire protection backflow prevention assemblies	Low hazard		ASSE 1048
Pressure vacuum breaker assembly	High or low hazard		ASSE 1020, CSA B64.1.2
Reduced pressure principle backflow prevention assembly <del>and</del> Reduced pressure principle fire protection backflow prevention assembly	High or low hazard		ASSE 1013, AWWA C511, CAN/CSA B64.4, CSA B64.4.1
Reduced pressure detector fire protection backflow prevention assembly	High or low hazard		ASSE 1047
Spillproof <del>-resistant</del> vacuum breaker assembly	High or low hazard		ASSE 1056

<b>BACKFLOW PREVENTER DEVICES</b>			
<b>DEVICE</b>	<b>DEGREE OF HAZARD<sup>a</sup></b>		<b>APPLICABLE STANDARDS</b>
Antisiphon-type fill valves for gravity water closet flush tanks	High hazard		ASSE 1002, CSA B125.3
Pipe-applied Atmospheric vacuum breaker	High or low hazard		ASSE 1001, CAN/CSA B64.1.1
Backflow preventer for carbonated beverage dispensing equipment machines	Low hazard		ASSE 1022
Backflow preventer with intermediate atmospheric vents	Low hazard		ASSE 1012, CAN/CSA B64.3
Dual check valve type backflow preventer	Low hazard		ASSE 1024, CSA B64.6
Hose connection backflow preventer	High or Low hazard		ASSE 1052, CSA B64.2.1.1
Hose connection vacuum breaker	High or Low hazard		ASSE 1011, CAN/CSA B64.2, CSA B64.2.1
Laboratory faucet backflow preventer	High or Low hazard		ASSE 1035, CSA B64.7
Vacuum breaker wall hydrants, frost freeze-resistant, automatic draining type	High or Low hazard		ASSE 1019, CAN/CSA B64.2.2
<b>OTHER METHODS</b>			
<b>DEVICE</b>	<b>DEGREE OF HAZARD<sup>a</sup></b>		<b>APPLICABLE STANDARDS</b>
Air gap	High or low hazard		ASME A112.1.2
Air gap fittings for use with plumbing fixtures, appliances and appurtenances	High or low hazard		ASME A112.1.3
Barometric loop	High or low hazard		(See Section 608.13.4)

(Portions of table not shown remain unchanged)

**2. Revise as follows:**

**608.13.6 Atmospheric-type vacuum breakers.** Pipe-applied Atmospheric-type vacuum breakers shall conform to ASSE 1001 or CAN/CSA B64.1.1. Hose-connection vacuum breakers shall conform to ASSE 1011, ASSE 1019, ASSE 1035, ASSE 1052, CAN/CSA B64.2, CSA B64.2.1, CSA B64.2.1.1, CAN/CSA B64.2.2 or CSA B64.7. These devices shall operate under normal atmospheric pressure when the critical level is installed at the required height.

**Reason:** There is much confusion concerning protection provided by any ‘backflow preventer’. This table would better identify proper and correct applications by identifying the different protection methods: assemblies, plumbing devices and other methods. The existing table gives the mistaken understanding that “any of the above provides adequate protection for any job”. This is not true. Adequate protection is based on hazard classification, application and proper installation. Backflow prevention assemblies are specifically recognized and accepted as separate and distinct units based on Section 312.10.2 because of their requirement for periodic testing to ensure proper and reliable operation in order to protect public health. Titles are in accordance with ASSE Standards listing from Plumbing Standards magazine January-March 2009.

No new assemblies, devices or means have been added to Table 608.1 and none have been deleted. The assemblies, devices and methods are simply grouped in 3 categories for simplicity and better understanding as to how they are to be applied. The HIGH hazard was taken off the hose connection backflow preventer, the hose connection vacuum breaker and the laboratory faucet vacuum breaker as these devices are never suitable for high hazard applications. Section 608.13.6 (IRC Section P2902.3.2) was revised to align the terminology to the standards and Table 608.1 (IRC Table P2902.3) as well as eliminate the confusing term “pipe-applied”.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: MOSS-P18-605.3.1

**Public Hearing Results**

**PART I- IPC**

**Committee Action:**

**Disapproved**

**Committee Reason:** Proponent stated that he wants to clean up table at a later date. There was some concern about “high hazard” being removed from some entries.

**Assembly Action:**

**None**

## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Michael S. Moss representing the American Backflow Prevention Association requests Approval as Modified by this Public Comment.**

Replace the proposal as follows:

**TABLE 608.1  
APPLICATION OF BACKFLOW PREVENTERS**

DEVICE	DEGREE OF HAZARD <sup>a</sup>	APPLICATION <sup>b</sup>	APPLICABLE STANDARDS
Air gap	High or low hazard	Backsiphonage or backpressure	ASME A112.1.2
Air gap fittings for use with plumbing fixtures, appliances and appurtenances	High or low hazard	Backsiphonage or backpressure	ASME A112.1.3
Antisiphon fill valves for gravity water closet tanks	High hazard	Backsiphonage only	ASSE 1002, CSA B125.3
Backflow preventer for carbonated beverage machines dispensing equipment	Low hazard	Backpressure or backsiphonage Sizes 1/4" - 3/8 "	ASSE 1022
Backflow preventer with intermediate atmospheric vents	Low hazard	Backpressure or backsiphonage Sizes 1/4" - 3/4"	ASSE 1012, CAN/CSA B64.3
Barometric loop	High or low hazard	Backsiphonage only	(See Section 608.13.4)
Double check backflow prevention assembly and double check fire protection backflow prevention assembly	Low hazard	Backpressure or backsiphonage Sizes 3/8" - 16"	ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1
Double check detector fire protection backflow prevention assembly	Low hazard	Backpressure or backsiphonage (Fire sprinkler systems) Sizes 2" - 16"	ASSE 1048
<del>Dual check valve type</del> Dual check backflow preventer	Low hazard	Backpressure or backsiphonage Sizes 1/4" - 1"	ASSE 1024, CSA B64.6
Hose connection backflow preventer	High or low hazard	Low head backpressure, rated working pressure, backpressure or backsiphonage Sizes 1/2", 1"	ASSE 1052, CSA B64.2.1.1
Hose connection vacuum breaker	High or low hazard	Low head backpressure or backsiphonage Sizes 1/2", 3/4", 1"	ASSE 1011, CAN/CSA B64.2, CSA B64.2.1
Laboratory faucet backflow preventers	High or low hazard	Low head backpressure and backsiphonage	ASSE 1035, CSA B64.7
<del>Pipe applied</del> Atmospheric-type vacuum breaker	High or low hazard	Backsiphonage only Sizes 1/4" - 4"	ASSE 1001, CAN/CSA B64.1.1
Pressure vacuum breaker assembly	High or low hazard	Backsiphonage only Sizes 1/2" - 2"	ASSE 1020, CSA B64.1.2
Reduced pressure detector fire protection backflow prevention assembly	High or low hazard	Backsiphonage or backpressure (Fire sprinkler systems)	ASSE 1047

Reduced pressure principle backflow prevention assembly and reduced pressure principle fire protection backflow prevention assembly	High or low hazard	Backpressure or backsiphonage Sizes 3/8" - 16"	ASSE 1013, AWWA C511, CAN/CSA B64.4, CSA B64.4.1
Spillproof resistant vacuum breaker assembly	High or low hazard	Backsiphonage only Sizes 1/4" -2"	ASSE 1056
Vacuum breaker wall hydrants, freeze-resistant, automatic draining type	High or low hazard	Low head backpressure or backsiphonage Sizes 3/4", 1"	ASSE 1019, CAN/CSA B64.2.2

For SI: 1 inch = 25.4 mm

- a. Low Hazard - See Pollution (Section 202)  
High Hazard - See Contamination (Section 202)
- b. See Backpressure (Section 202)  
See Backpressure, low head (Section 202)  
See Backsiphonage (Section 202)

**608.13.6 Atmospheric-type vacuum breakers.** ~~Pipe-applied~~ Atmospheric-type vacuum breakers shall conform to ASSE 1001 or CAN/CSA B64.1.1. Hose-connection vacuum breakers shall conform to ASSE 1011, ASSE 1019, ASSE 1035, ASSE 1052, CSA B64.2, CSA B64.2.1, CSA B64.2.1.1, CSA B64.2.2 or CSA B64.7. These devices shall operate under normal atmospheric pressure when the critical level is installed at the required height.

**Commenter's Reason:** There was considerable confusion during the code hearing concerning the ASSE Standards. An individual provided testimony against the proposal to the Committee and was in error. The ASSE Plumbing Standards Magazine provides that organizations standardized titles and approval dates. The representative's error appeared to take credibility from the proposals presented. The titles for assemblies and devices used for the code proposals have been published for several years and have been current for a considerable period of time. I do not believe the representative had read the ABPA "reasoning" which was clearly published in the ICC information provided to all who were in the hearings. On the other hand, had the representative read the published information and had other reasons to make his statements this should definitely be brought to the attention of both the ICC Committee and THE PUBLIC for open clarification of the matter. However, after the fourth proposal, the committee approved the remaining code proposals. All of the proposals received are consistent, as submitted, as a package. Part II of this proposal was approved by the respective committee. This is inconsistent as both parts are the same language in their respective code. The terminology is consistent with industry, the code and those who utilize the code. I recommend that this proposal and those additional proposals be accepted as modified.

Final Action: AS AM AMPC\_\_\_ D

## P93-09/10-PART II

### IRC Table P2902.3, P2902.3.2

#### Proposed Change as Submitted

**Proponent:** Michael S. Moss of the American Backflow Prevention Association

#### PART II – IRC

##### 1. Revise table as follows:

**TABLE P2902.3  
APPLICATION OF BACKFLOW PREVENTERS**

<b>BACKFLOW PREVENTION ASSEMBLIES</b>			
<b>DEVICE</b>	<b>DEGREE OF HAZARD<sup>a</sup></b>		<b>APPLICABLE STANDARDS</b>
Double check backflow prevention assembly and	Low hazard		ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1
Double check fire protection backflow prevention assembly			
Double check detector fire protection backflow prevention assemblies	Low hazard		ASSE 1048
Pressure vacuum breaker assembly	High or low hazard		ASSE 1020, CSA B64.1.2
Reduced pressure principle backflow prevention assembly and	High or low hazard		ASSE 1013, AWWA C511, CAN/CSA B64.4, CSA B64.4.1
Reduced pressure principle fire protection backflow prevention			

assembly			
Reduced pressure detector fire protection backflow prevention assembly	High or low hazard		ASSE 1047
Spillproof -resistant vacuum breaker assembly	High or low hazard		ASSE 1056
<b>BACKFLOW PREVENTER DEVICES</b>			
<b>DEVICE</b>	<b>DEGREE OF HAZARD<sup>a</sup></b>		<b>APPLICABLE STANDARDS</b>
Antisiphon-type fill valves for gravity water closet flush tanks	High hazard		ASSE 1002, CSA B125.3
Pipe-applied Atmospheric vacuum breaker	High or low hazard		ASSE 1001, CAN/CSA B64.1.1
Backflow preventer with intermediate atmospheric vents	Low hazard		ASSE 1012, CAN/CSA B64.3
Dual check valve type backflow preventer	Low hazard		ASSE 1024, CSA B64.6
Hose connection backflow preventer	High or Low hazard		ASSE 1052, CSA B64.2.1.1
Hose connection vacuum breaker	High or Low hazard		ASSE 1011, CAN/CSA B64.2, CSA B64.2.1
Laboratory faucet backflow preventer	High or Low hazard		ASSE 1035, CSA B64.7
<b>OTHER METHODS</b>			
<b>DEVICE</b>	<b>DEGREE OF HAZARD<sup>a</sup></b>		<b>APPLICABLE STANDARDS</b>
Air gap	High or low hazard		ASME A112.1.2
Air gap fittings for use with plumbing fixtures, appliances and appurtenances	High or low hazard		ASME A112.1.3

*(Portions of table not shown remain unchanged)*

**2. Revise as follows:**

**P2902.3.2 Atmospheric-type vacuum breakers.** Pipe-applied Atmospheric-type vacuum breakers shall conform to ASSE 1001 or CSA B64.1.1. Hose-connection vacuum breakers shall conform to ASSE 1011, ASSE 1019, ASSE 1035, ASSE 1052, CSA B64.2, CSA B64.2.1, CSA B64.2.1.1, CSA B64.2.2 or CSA B64.7. These devices shall operate under normal atmospheric pressure when the critical level is installed at the required height.

**Reason:** There is much confusion concerning protection provided by any 'backflow preventer'. This table would better identify proper and correct applications by identifying the different protection methods: assemblies, plumbing devices and other methods. The existing table gives the mistaken understanding that "any of the above provides adequate protection for any job". This is not true. Adequate protection is based on hazard classification, application and proper installation. Backflow prevention assemblies are specifically recognized and accepted as separate and distinct units based on Section 312.10.2 because of their requirement for periodic testing to ensure proper and reliable operation in order to protect public health. Titles are in accordance with ASSE Standards listing from Plumbing Standards magazine January-March 2009.

No new assemblies, devices or means have been added to Table 608.1 and none have been deleted. The assemblies, devices and methods are simply grouped in 3 categories for simplicity and better understanding as to how they are to be applied. The HIGH hazard was taken off the hose connection backflow preventer, the hose connection vacuum breaker and the laboratory faucet vacuum breaker as these devices are never suitable for high hazard applications. Section 608.13.6 (IRC Section P2902.3.2) was revised to align the terminology to the standards and Table 608.1 (IRC Table P2902.3) as well as eliminate the confusing term "pipe-applied".

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: MOSS-P18-605.3.1

**Public Hearing Results**

**PART II- IRC-P**

**Committee Action:**

**Disapproved**

**Committee Reason:** Proponent stated that he wants to clean up table at a later date.

**Assembly Action:**

**None**

## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Michael S. Moss representing the American Backflow Prevention Association requests Approval as Modified by this Public Comment.**

Replace the proposal as follows:

**TABLE P2902.3  
APPLICATION FOR BACKFLOW PREVENTERS**

DEVICE	DEGREE OF HAZARD <sup>a</sup>	APPLICATION <sup>b</sup>	APPLICABLE STANDARDS
Air gap	High or low hazard	Backsiphonage or backpressure	ASME A112.1.2
Air gap fittings for use with plumbing fixtures, appliances and appurtenances	High or low hazard	Backsiphonage or backpressure	ASME A112.1.3
Antisiphon fill valves for gravity water closet tanks	High hazard	Backsiphonage only	ASSE 1002, CSA B125.3
Backflow preventer with intermediate atmospheric vents	Low hazard	Backpressure or backsiphonage Sizes 1/4" - 3/4"	ASSE 1012, CAN/CSA B64.3
Double check backflow prevention assembly and double check fire protection backflow prevention assembly	Low hazard	Backpressure or backsiphonage Sizes 3/8" - 16"	ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1
Double check detector fire protection backflow prevention assemblies	Low hazard	Backpressure or backsiphonage (Fire sprinkler systems) Sizes 2" - 16"	ASSE 1048
<del>Dual check valve type</del> Dual check backflow preventer	Low hazard	Backpressure or backsiphonage Sizes 1/4" - 1"	ASSE 1024, CSA B64.6
Hose connection backflow preventer	High or low hazard	Low head backpressure, rated working pressure, backpressure or backsiphonage Sizes 1/2", 1"	ASSE 1052, CSA B64.2.1.1
Hose connection vacuum breaker	High or low hazard	Low head backpressure or backsiphonage Sizes 1/2", 3/4", 1"	ASSE 1011, CAN/CSA B64.2, CSA B64.2.1
Laboratory faucet backflow preventers	High or low hazard	Low head backpressure and backsiphonage	ASSE 1035, CSA B64.7
<del>Pipe applied</del> Atmospheric-type vacuum breaker	High or low hazard	Backsiphonage only Sizes 1/4" - 4"	ASSE 1001, CAN/CSA B64.1.1
Pressure vacuum breaker assembly	High or low hazard	Backsiphonage only Sizes 1/2" - 2"	ASSE 1020, CSA B64.1.2
Reduced pressure detector fire protection backflow prevention assemblies	High or low hazard	Backsiphonage or backpressure (Fire sprinkler systems)	ASSE 1047
Reduced pressure principle backflow prevention assembly and reduced pressure principle fire protection backflow prevention assembly	High or low hazard	Backpressure or backsiphonage Sizes 3/8" - 16"	ASSE 1013, AWWA C511, CAN/CSA B64.4, CSA B64.4.1
Spillproof <u>resistant</u> vacuum breaker assembly	High or low hazard	Backsiphonage only Sizes 1/4" - 2"	ASSE 1056
Vacuum breaker wall hydrants, freeze-resistant, automatic draining type	High or low hazard	Low head backpressure or backsiphonage Sizes 3/4", 1"	ASSE 1019, CAN/CSA B64.2.2

For SI: 1 inch = 25.4 mm

- a. Low Hazard - See Pollution (Section 202)  
High Hazard - See Contamination (Section 202)
- b. See Backpressure (Section 202)  
See Backpressure, low head (Section 202)  
See Backsiphonage (Section 202)

**P2902.3.2 Atmospheric-type vacuum breakers.** ~~Pipe-applied~~ Atmospheric-type vacuum breakers shall conform to ASSE 1001 or CAN/CSA B64.1.1. Hose-connection vacuum breakers shall conform to ASSE 1011, ASSE 1019, ASSE 1035, ASSE 1052, CSA B64.2, CSA B64.2.1, CSA B64.2.1.1, CSA B64.2.2 or CSA B64.7. These devices shall operate under normal atmospheric pressure when the critical level is installed at the required height.

**Commenter's Reason:** See P93-09/10, Part I

Final Action: AS AM AMPC \_\_\_\_\_ D

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## P94-09/10-PART I

### 608.13.7, 608.15.4.1, 608.15.4.2

#### **Proposed Change as Submitted**

**Proponent:** Michael S. Moss of the American Backflow Prevention Association

#### **PART I - IPC**

**Revise as follows:**

**608.13.7 Double check-valve backflow prevention assemblies.** Double check-valve backflow prevention assemblies shall conform to ASSE 1015, CSA B64.5, CSA B64.5.1 or AWWA C510. ~~Double-detector check-valve detector backflow prevention~~ assemblies shall conform to ASSE 1048. These devices shall be capable of operating under continuous pressure conditions.

**608.15.4.1 Deck-mounted and integral vacuum breakers.** *Approved* deck-mounted or equipment-mounted vacuum breakers and faucets with integral atmospheric vacuum breakers or integral spillproof -resistant vacuum breakers assemblies shall be installed in accordance with the manufacturer's instructions and the requirements for labeling. ~~with~~ The critical level of the breakers and assemblies shall be located at not less than 1 inch (25 mm) above the *floor level rim*.

**608.15.4.2 Hose connections.** Sillcocks, hose bibbs, wall hydrants and other openings with a hose connection shall be protected by an atmospheric-type vacuum breaker, ~~or a pressure-type vacuum breaker assembly~~ or a permanently attached hose connection vacuum breaker.

#### **Exceptions:**

1. This section shall not apply to water heater and boiler drain valves that are provided with hose connection threads and that are intended only for tank or vessel draining.
2. This section shall not apply to water supply valves intended for connection of clothes washing machines where backflow prevention is otherwise provided or is integral with the machine.

**Reason:** To provide consistent terminology throughout the code for reference and comparison.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: MOSS-P19-608.13.7

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#### **Public Hearing Results**

#### **PART I- IPC**

**Committee Action:**

**Disapproved**

**Committee Reason:** Language is not consistent with current ASSE Standards.



**Individual Consideration Agenda**

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Michael S. Moss, representing the American Backflow Prevention Association, requests Approval as Submitted.**

**Commenter's Reason:** There was considerable confusion during the code hearing concerning the ASSE Standards. An individual provided testimony against the proposal to the Committee and was in error. The ASSE Plumbing Standards Magazine provides that organizations standardized titles and approval dates. The representative's error appeared to take credibility from the proposals presented. The titles for assemblies and devices used for the code proposals have been published for several years and have been current for a considerable period of time. I do not believe the representative had read the ABPA "reasoning" which was clearly published in the ICC information provided to all who were in the hearings. On the other hand, had the representative read the published information and had other reasons to make his statements this should definitely be brought to the attention of both the ICC Committee and THE PUBLIC for open clarification of the matter. However, after the fourth proposal, the committee approved the remaining code proposals. All of the proposals received are consistent, as submitted, as a package. Part II of this proposal was approved by the respective committee. This is inconsistent as both parts are the same language in their respective code. The terminology is consistent with industry, the code and those who utilize the code. I recommend that this proposal and those additional proposals be accepted as submitted

Final Action: AS AM AMPC\_\_\_\_ D

**P94-09/10, Part II**

**IRC P2902.3.6, P2902.4, P2902.4.2, P2904.4.3, P2902.5.5**

**Proposed Change as Submitted**

**Proponent:** Michael S. Moss of the American Backflow Prevention Association

**PART II – IRC****Revise as follows:**

**P2902.3.6 Double check-valve backflow prevention assemblies.** Double check-valve backflow prevention assemblies shall conform to ASSE 1015, CSA B64.5, CSA B64.5.1 or AWWA C510. Double-detector check-valve detector backflow prevention assemblies shall conform to ASSE 1048. These devices shall be capable of operating under continuous pressure conditions.

**P2902.4 Protection of potable water outlets.** Potable water openings and outlets shall be protected by an air gap, a reduced pressure principle backflow preventer or an atmospheric vent, an atmospheric-type vacuum breaker, a pressure-type vacuum breaker assembly or a hose connection backflow preventer.

**P2902.4.2 Deck-mounted and integral vacuum breakers.** Approved deck-mounted or equipment-mounted vacuum breakers and faucets with integral atmospheric vacuum breakers or integral spillproof-resistant vacuum breakers assemblies shall be installed in accordance with the manufacturer's instructions and the requirements for labeling. The critical level of the breakers and assemblies shall be located at not less than 1 inch (25 mm) above the flood level rim.

**P2902.4.3 Hose connections.** Sillcocks, hose bibbs, wall hydrants and other openings with a hose connection threads shall be protected by an atmospheric-type vacuum breaker, or a pressure-type vacuum breaker assembly or a permanently attached hose connection vacuum breaker.

**Exceptions:**

1. This section shall not apply to water heater and boiler drain valves that are provided with hose connection threads and that are intended only for tank or vessel draining.
2. This section shall not apply to water supply valves intended for connection of clothes washing machines where backflow prevention is otherwise provided or is integral with the machine.

**P2902.5.5 Solar systems.** The potable water supply to a solar system shall be equipped with a backflow preventer with intermediate atmospheric vents complying with ASSE 1012 or a reduced pressure principle backflow prevention assembly complying with ASSE 1013. Where chemicals are used, the potable water supply shall be protected by a reduced pressure principle backflow prevention assembly.

**Exception:** Where all solar system piping is a part of the potable water distribution system, in accordance with the requirements of the *International Plumbing Code*, and all components of the piping system are listed for potable water use, ~~cross-connection protection measures~~ backflow protection shall not be required.

**Reason:** To provide consistent terminology throughout the code for reference and comparison.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: MOSS-P19-608.13.7

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### **Public Hearing Results**

#### **PART II- IRC-P**

**Committee Action:**

**Disapproved**

**Committee Reason:** It is unclear as to whether the terminology aligns with the nationally recognized standards.

**Assembly Action:**

**None**

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### **Individual Consideration Agenda**

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Michael S. Moss representing the American Backflow Prevention Association requests Approval as Submitted.**

**Commenter's Reason:** See P94-09/10, Part I

Final Action:           AS                   AM                   AMPC\_\_\_\_\_           D

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## **P95-09/10, Part I**

### **608.13.2**

**NOTE: PART II DID NOT RECEIVE A PUBLIC COMMENT AND IS ON THE CONSENT AGENDA. PART II IS REPRODUCED FOR INFORMATIONAL PURPOSES ONLY FOLLOWING ALL OF PART I**

### **Proposed Change as Submitted**

**Proponent:** Michael S. Moss of the American Backflow Prevention Association

#### **PART I - IPC**

**Revise as follows:**

**608.13.2 Reduced pressure principle backflow prevention assemblies.** Reduced pressure principle backflow prevention assemblies and reduced pressure principle fire protection backflow prevention assemblies shall conform to ASSE 1013, AWWA C511, CSA B64.4 or CSA B64.4.1. Reduced pressure detector fire protection assembly backflow prevention assemblies shall conform to ASSE 1047. These devices shall be permitted to be installed where subject to continuous pressure conditions. The relief opening shall discharge by air gap and shall be prevented from being submerged.

**Reason:** To provide consistent terminology throughout the code for reference and comparison.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: Moss-P7-608.13.2

### **Public Hearing Results**

#### **PART I- IPC**

**Committee Action:**

**Disapproved**

**Committee Reason:** A survey of ASSE and other backflow industry people revealed that they had no idea what was meant by the device terminology used in the proposal.

**Assembly Action:**

**None**

### **Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

#### *Public Comment:*

**Michael S. Moss representing the American Backflow Prevention Association requests Approval as Submitted.**

**Commenter's Reason:** There was considerable confusion during the code hearing concerning the ASSE Standards. An individual provided testimony against the proposal to the Committee and was in error. The ASSE Plumbing Standards Magazine provides that organizations standardized titles and approval dates. The representative's error appeared to take credibility from the proposals presented. The titles for assemblies and devices used for the code proposals have been published for several years and have been current for a considerable period of time. I do not believe the representative had read the ABPA "reasoning" which was clearly published in the ICC information provided to all who were in the hearings. On the other hand, had the representative read the published information and had other reasons to make his statements this should definitely be brought to the attention of both the ICC Committee and THE PUBLIC for open clarification of the matter. However, after the fourth proposal, the committee approved the remaining code proposals. All of the proposals received are consistent, as submitted, as a package. Part II of this proposal was approved by the respective committee. This is inconsistent as both parts are the same language in their respective code. The terminology is consistent with industry, the code and those who utilize the code. I recommend that this proposal and those additional proposals be accepted as submitted.

Final Action:            AS                    AM                    AMPC\_\_\_\_\_            D

**NOTE: PART II REPRODUCED FOR INFORMATIONAL PURPOSES ONLY – SEE ABOVE**

#### ***P95-09/10, PART II- IRC***

**Revise as follows:**

**P2902.3.5 Reduced pressure principle backflow preventerion assemblies.** Reduced pressure principle backflow preventerion assemblies and reduced pressure principle fire protection backflow preventerion assemblies shall conform to ASSE 1013, AWWA C511, CSA B64.4 or CSA B64.4.1. Reduced pressure detector fire protection assembly backflow preventerion assemblies shall conform to ASSE 1047. These devices shall be permitted to be installed where subject to continuous pressure conditions. The relief opening shall discharge by air gap and shall be prevented from being submerged.

**Reason:** To provide consistent terminology throughout the code for reference and comparison.

**Cost Impact:** The code change proposal will not increase the cost of construction.

#### **PART II- IRC-P**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Agreed with the proponent's reason statement which was to provide for consistent terminology throughout the code.

**Assembly Action:**

**None**

**P102-09/10, Part I  
608.6**

**Proposed Change as Submitted**

**Proponent:** Michael S. Moss of the American Backflow Prevention Association

**PART I - IPC**

**Revise as follows:**

**608.6 Cross-connection control.** Cross connections shall be prohibited, except where approved ~~protective backflow preventers~~ devices are installed to protect the potable water supply.

**Reason:** Because the term "Protective devices" is not included in the definitions, this change clarifies the intent of Section 608.6. The change for the definition of "Backflow preventer" makes the definition more descriptive and precise.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: Moss-P2-608.6

**Public Hearing Results**

**PART I- IPC**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Eliminates cloudy wording and clearly specifies that a backflow device is needed where cross connections are made.

**Assembly Action:**

**None**

**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Julius Ballanco, PE, JB Engineering and Code Consulting, PC, representing the Home Ventilating Institute, requests Approval as Modified by this public comment.**

**Modify the proposal as follows:**

**608.6 Cross-connection control.** Cross connections shall be prohibited, except where approved ~~backflow preventers~~ methods are installed to protect the potable water supply.

**Commenter's Reason:** While I agree with the proponent that the language needs correcting, it would appear that the use of the term, "backflow preventers" would be inappropriate. The most common method of preventing backflow is an air gap. This would not be considered a backflow preventer, but would be considered and approved method of backflow protection. Another method identified that is not a backflow preventer is a barometric loop.

Final Action:            AS                    AM                    AMPC\_\_\_\_            D

**P102-09/10, Part II**  
**IRC P2902.1**

**Proposed Change as Submitted**

**Proponent:** Michael S. Moss of the American Backflow Prevention Association

**PART II - IRC**

**Revise as follows:**

**P2902.1 General.** A potable water supply system shall be designed and installed as to prevent contamination from nonpotable liquids, solids or gases being introduced into the potable water supply. Connections shall not be made to a potable water supply in a manner that could contaminate the water supply or provide a cross-connection between the supply and a source of contamination ~~unless an approved backflow prevention device is provided.~~ except where approved backflow preventers are installed to protect the potable water supply. Cross-connections between an individual water supply and a potable public water supply shall be prohibited.

**Reason:** Because the term "Protective devices" is not included in the definitions, this change clarifies the intent of Section 608.6. The change for the definition of "Backflow preventer" makes the definition more descriptive and precise.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: Moss-P2-608.6

**Public Hearing Results**

**PART II- IRC-P**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Proposed language makes the terminology of the code consistent with the standards.

**Assembly Action:**

**None**

**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Julius Ballanco, PE, JB Engineering and Code Consulting, PC, representing the Home Ventilating Institute, requests Approval as Modified by this public comment.**

**Modify the proposal as follows:**

**P2902.1 General.** A potable water supply system shall be designed and installed as to prevent contamination from nonpotable liquids, solids or gases being introduced into the potable water supply. Connections shall not be made to a potable water supply in a manner that could contaminate the water supply or provide a cross-connection between the supply and a source of contamination ~~except where approved backflow preventers~~ methods are installed to protect the potable water supply. Cross-connections between an individual water supply and a potable public water supply shall be prohibited

**Commenter's Reason:** See P102-09/10, Part I

Final Action:            AS                    AM                    AMPC\_\_\_\_            D

**P105-09/10**  
**608.15.2**

**Proposed Change as Submitted**

**Proponent:** Michael S. Moss of the American Backflow Prevention Association

**Revise as follows:**

**608.15.2 Protection by a reduced pressure principle backflow prevention assembly.** Openings and outlets shall be protected by a reduced pressure principle backflow prevention assembly on potable water supplies or by a reduced pressure principle fire protection backflow prevention assembly on dedicated fire line water supplies.

**Reason:** To provide consistent terminology throughout the code for reference and comparison.

**Cost Impact:** The code change proposal will not increase the cost of construction.

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**Public Hearing Results**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Agreed with the proponent's reason statement which stated that the change was needed for consistency in terminology throughout the code.

**Assembly Action:**

**None**

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**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Julius Ballanco, PE, JB Engineering and Code Consulting, PC, representing the Home Ventilating Institute, requesting Approval as Modified by this public comment.**

**Modify the proposal as follows:**

**608.15.2 Protection by reduced pressure principle backflow prevention assembly.** Openings and outlets shall be protected by a reduced pressure principle backflow prevention assembly or a reduced pressure principle fire protection backflow prevention assembly on potable water supplies or by a reduced pressure principle fire protection backflow prevention assembly on dedicated fire line water supplies.

**Commenter's Reason:** The proponent is correct in identifying a reduce pressure principle fire protection backflow prevention assembly, however, this valve is not limited to dedicated fire line water supplies. The valve can be used on any water supply. Furthermore a reduced pressure principle backflow preventer can be used on a fire sprinkler or standpipe water supply. The difference between the two valves is in the pressure loss at high rates of flow. The backflow performance is the same for both valves.

Final Action:            AS                    AM                    AMPC\_\_\_\_            D

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**P107-09/10**  
**608.18**

**Proposed Change as Submitted**

**Proponent:** Robert Burke University of Colorado representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

**Add new text as follows:**

**608.18 Dead ends.** Dead ends exceeding 4 feet in developed length shall be prohibited unless protected by an approved backflow preventer .

**Reason:** Stagnant water is unhealthy and a prime cause of Legionella disease. ASHRAE Standard 12-200 addresses this issue; minimizing the risk of Legionellosis associated with building water system.

**Cost Impact:** The cost impact to construction will be minimal.

ICCFILENAME: Burke-P3-608.18

**Public Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** A backflow preventer will not work under these conditions. There are other ways to isolate dead ends such as valve.

**Assembly Action:**

**None**

**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Robert Burke, University of Colorado, representing CAPMO requests Approval As Modified by this public comment.**

**Modify the proposal as follows:**

Dead ends exceeding 4 feet in developed length shall be prohibited ~~unless protected by an approved backflow preventer.~~

**Commenter's Reason:** Stagnant water is unhealthy and a prime cause of legionella disease. ASHRAE Standard 12-2000 addresses this issue; minimizing the risk of Legionellosis associated with building water systems.

Final Action:            AS                    AM                    AMPC\_\_\_\_            D

**P110-09/10, Part I**  
**705.8.2, 705.14**

**Proposed Change as Submitted**

**Proponent:** Michael Cudahy, Plastic Pipe and Fittings Association (PPFA)

**PART I – IPC**

**Revise as follows:**

**705.8.2 Solvent cementing.** Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be permitted above or below ground.

**Exception:** A primer is not required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D 2564.
2. The materials joined are drain, waste and vent pipe and fittings installed in non-pressure service applications.
3. The pipe and fitting size does not exceed 4 inches (100 mm) in diameter.

**705.14.2 Solvent cementing.** Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be permitted above or below ground.

**Exception: A primer is not required where all of the following conditions apply:**

1. The solvent cement used is third-party certified as conforming to ASTM D 2564.
2. The materials joined are drain, waste and vent pipe and fittings installed in non-pressure service applications.
3. The pipe and fitting size does not exceed 4 inches (100 mm) in diameter.

**Reason:** To introduce an exception in IPC Chapter 7 (IRC Chapter 30), Sanitary Drainage, allowing for the practice of one-step solvent cementing of non-pressure DWV systems 4" and under.

This exception allows for an optional one-step procedure for joining non-pressure DWV PVC piping systems 4" in diameter and below with solvent cement conforming to ASTM D 2564. This method is practiced, and the code should include specific language to indicate when it is acceptable.

Pressure testing completed by NSF International has shown that solvent cement conforming to ASTM D 2564, when used without primer on PVC DWV pipe and fittings, both solid wall and cell core, generates bonding forces well in excess of what is required for these systems. The strength of the joint often exceeds the pipe and fitting pressure capacity.

**Bibliography:** NSF International report J-00036842.can be found on the PPFA website, [www.ppfahome.org/ICC09/PPFA\\_NSF\\_J-00036842.pdf](http://www.ppfahome.org/ICC09/PPFA_NSF_J-00036842.pdf)

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: CUDAHY-P1-705.8.2

**Public Hearing Results**

**PART I- IPC**

**Committee Action:**

**Disapproved**

**Committee Reason:** A primed joint works best and many manufacturers require priming before solvent cementing.

**Assembly Action:**

**None**

**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Michael Cudahy, PPFA (Plastic Pipe and Fittings Association), requests Approval as Submitted**

**Commenter's Reason:** This exception allows for an optional one-step procedure for joining non-pressure DWV PVC piping systems 4" in diameter and below with solvent cement conforming to ASTM D 2564. This method is practiced, and the code should include specific language to indicate when it is acceptable.

Pressure testing completed by NSF International has shown that solvent cement conforming to ASTM D 2564, when used without primer on PVC DWV pipe and fittings, both solid wall and cell core, generates bonding forces well in excess of what is required for these systems.

The strength of the joint often exceeds the pipe and fitting pressure capacity with the pipe or fitting failing before the joint in the "hundreds of psi" range of pressures.

Since these are non-pressure systems, the one step PVC practice is completely suitable – as is one step ABS and one step CPVC solvent welding.

PPFA urges the FAH to support this change as submitted.

**Bibliography:** NSF International report J-00036842.can be found on the PPFA website, [www.ppfahome.org/ICC09/PPFA\\_NSF\\_J-00036842.pdf](http://www.ppfahome.org/ICC09/PPFA_NSF_J-00036842.pdf)

Final Action:

AS

AM

AMPC\_\_\_\_\_

D



**P110-09/10, Part II**  
**IRC P3003.9.2, P3003.14.2**

**Proposed Change as Submitted**

**Proponent:** Michael Cudahy, Plastic Pipe and Fittings Association (PPFA)

**PART II – IRC**

**Revise as follows:**

**P3003.9.2 Solvent cementing.** Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3 or CSA B181.2 shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be permitted above or below ground.

**Exception:** A primer is not required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D 2564.
2. The materials joined are drain, waste and vent pipe and fittings installed in non-pressure service applications.
3. The pipe and fitting size does not exceed 4 inches (100 mm) in diameter.

**P3003.14.2 Solvent cementing.** Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3 or CSA B181.2 shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be permitted above or below ground.

**Exception:** A primer is not required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D 2564.
2. The materials joined are drain, waste and vent pipe and fittings installed in non-pressure service applications.
3. The pipe and fitting size does not exceed 4 inches (100 mm) in diameter.

**Reason:** To introduce an exception in IPC Chapter 7 (IRC Chapter 30), Sanitary Drainage, allowing for the practice of one-step solvent cementing of non-pressure DWV systems 4" and under.

This exception allows for an optional one-step procedure for joining non-pressure DWV PVC piping systems 4" in diameter and below with solvent cement conforming to ASTM D 2564. This method is practiced, and the code should include specific language to indicate when it is acceptable.

Pressure testing completed by NSF International has shown that solvent cement conforming to ASTM D 2564, when used without primer on PVC DWV pipe and fittings, both solid wall and cell core, generates bonding forces well in excess of what is required for these systems. The strength of the joint often exceeds the pipe and fitting pressure capacity.

**Bibliography:** NSF International report J-00036842.can be found on the PPFA website, [www.ppfahome.org/ICC09/PPFA\\_NSF\\_J-00036842.pdf](http://www.ppfahome.org/ICC09/PPFA_NSF_J-00036842.pdf)

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: CUDAHY-P1-705.8.2

**Public Hearing Results**

**PART II- IRC-P**

**Committee Action:**

**Disapproved**

**Committee Reason:** A primed joint is easier to inspect. Strength of a primed joint is better.

**Assembly Action:**

**None**

## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Michael Cudahy, PPFA (Plastic Pipe and Fittings Association) requests Approval as Submitted.**

**Commenter's Reason:** See P110-09/10, Part I

**Bibliography:** See P110-09/10, Part I

Final Action:                    AS                    AM                    AMPC\_\_\_\_\_                    D

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### **P116-09/10, Part I 712.3.5**

#### Proposed Change as Submitted

**Proponent:** John T.E. Walters, Prince William County, VA., representing the Virginia Plumbing and Mechanical Inspectors Association

#### **PART I - IPC**

**Revise as follows:**

**712.3.5 Ejector connection to the drainage system.** Pumps connected to the drainage system shall connect to ~~the a building sewer, or shall connect to a wye fitting in the building drain, soil stack, waste stack or horizontal branch drain.~~ a minimum of 10 feet (3048 mm) from the base of any soil stack, waste stack or fixture drain. Where the discharge line connects into horizontal drainage piping, the connection shall be made through a wye fitting into the top of the drainage piping and such wye fitting shall be located not less than 10 feet (3048 mm) from the base of any soil stack, waste stack or fixture drain.

**Reason:** In addition to building sewers and building drains, soil stacks, waste stacks and horizontal branch drains are acceptable points of termination for ejector discharge lines. Fittings acceptable for changes of direction are already addressed in Table 706.3.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: WALTERS-P1-712.3.5

#### Public Hearing Results

#### **PART I- IPC**

**Committee Action:**

**Disapproved**

**Committee Reason:** Good proposal except last line of added text needs to be changed to say 10 pipe diameters instead of 10 feet.

**Assembly Action:**

**None**

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## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Shawn Strausbaugh, representing VA Plumbing and Mechanical Inspectors Assoc. and ICC Region 7, requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**712.3.5. Ejector connection to the drainage system.** Pumps connected to the drainage system shall connect to a building sewer, building drain, soil stack, waste stack or horizontal branch drain. Where the discharge line connects into horizontal drainage piping, the connection shall be made through a wye fitting into the top of the drainage piping and such wye fitting shall be located not less than 10 feet (3048 mm) pipe diameters from the base of any soil stack, waste stack or fixture drain.

**Commenter's Reason:** Part I of the above code change was denied by the committee due to the language of 10 feet. This was existing wording in this code section however the language per this proposal is to remove feet and replace with pipe diameters. In order to keep this change consistent with the IPC and IRC both part I and part II have been modified. Part II had been approved as submitted by the IRC committee.

Final Action:                    AS                    AM                    AMPC \_\_\_\_                    D

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### **P116-09/10, Part II IRC P3007.3.5**

#### Proposed Change as Submitted

**Proponent:** John T.E. Walters, Prince William County, VA., representing the Virginia Plumbing and Mechanical Inspectors Association

#### **PART II- IRC**

**Revise as follows:**

**P3007.3.5 Ejector connection to the drainage system.** Pumps connected to the drainage system shall connect to the a building sewer, or shall connect to a wye fitting in the building drain, soil stack, waste stack or horizontal branch drain. a minimum of 10 feet (3048 mm) from the base of any soil stack, waste stack or fixture drain. Where the discharge line connects into horizontal drainage piping, the connection shall be made through a wye fitting into the top of the drainage piping and such wye fitting shall be located not less than 10 feet (3048 mm) from the base of any soil stack, waste stack or fixture drain.

**Reason:** In addition to building sewers and building drains, soil stacks, waste stacks and horizontal branch drains are acceptable points of termination for ejector discharge lines. Fittings acceptable for changes of direction are already addressed in Table 706.3.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: WALTERS-P1-712.3.5

#### Public Hearing Results

#### **PART II- IRC-P**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Agreed with the proponent's reason statement which stated that soil stacks, waste stacks and horizontal branch drains are also acceptable points of termination of an ejector discharge line.

**Assembly Action:**

**None**

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## **Individual Consideration Agenda**

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Shawn Strausbaugh, representing VA Plumbing and Mechanical Inspectors Assoc. and ICC Region 7, requests Approval as Modified by this Public Comment**

**Modify the proposal as follows:**

**P3007.3.5 Ejector connection to the drainage system.** Pumps connected to the drainage system shall connect to a building sewer, building drain, soil stack, waste stack or horizontal branch drain. Where the discharge line connects into horizontal drainage piping, the connection shall be made through a wye fitting into the top of the drainage piping and such wye fitting shall be located not less than 10 feet (3048 mm) pipe diameters from the base of any soil stack, waste stack or fixture drain.

**Commenter's Reason:** See P116-09/10, Part I

Final Action:            AS                    AM                    AMPC \_\_\_\_\_            D

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### **P119-09/10** **802.1.8**

#### **Proposed Change as Submitted**

**Proponent:** Robert G. Konyndyk, Chief, Plumbing Division, Bureau of Construction Codes, State of Michigan

**Revise as follows:**

**802.1.8 Food utensils, dishes, pots and pans sinks.** Sinks used for the washing, rinsing or sanitizing of utensils, dishes, pots, pans or service ware used in the preparation, serving or eating of food shall discharge indirectly through an air gap or an air break or ~~directly connect~~ to the drainage system.

**Reason:** The insertion of the new section into the 09 edition of the code attempted to list the three options for connections of the named fixtures. While any one of the three options may be accepted in different jurisdictions, the lead in clarification of "indirectly" obviates the direct connection choice. If a code change was to be submitted removing the directive "indirectly" the choice of three methods would be merely a laundry list which is contrary to modern code text processes.

**Cost Impact:** The clarification will not increase the cost of construction from that of the present language.

ICCFILENAME: KONYNDYK-P2-802.1.8

#### **Public Hearing Results**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Creates a safer environment in a kitchen.

**Assembly Action:**

**None**

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## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Rand H. Ackroyd representing self, requests Approval as Modified by this public comment.**

**Modify the proposal as follows:**

**802.1.8 Food utensils, dishes, pots and pans sinks.** Sinks used for the washing, rinsing or sanitizing of utensils, dishes, pots, pans or service ware used in the preparation, serving or eating of food shall discharge indirectly through an air gap or an air break or directly connect to the drainage system. Where such sinks are directly connected, the next fixture connected downstream of the sink fixture drain connection to the drainage system shall be a floor drain.

**Commenter's Reason:** The concern was the backup of the drainage system to a sink. The requirement of a floor drain addresses this issue.

Final Action:                    AS                    AM                    AMPC\_\_\_\_\_                    D

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**P120-09/10**

**802.2**

### Proposed Change as Submitted

**Proponent:** Cort Strain University of Colorado representing (CAPMO) Colorado Association of Plumbing and Mechanical Officials

**Revise as follows:**

**802.2 Installation.** All indirect waste piping shall discharge through an air gap or air break into a waste receptor ~~or standpipe~~. Waste receptors and standpipes shall be trapped and vented and shall connect to the building drainage system. All indirect waste piping that exceeds ~~2 feet~~ 30 inches (762mm) in developed length measured horizontally, or ~~4 feet~~ 54 inches (1372mm) in total developed length, shall be trapped.

**Exception:** Where a waste receptor receives only clear water waste and does not directly connect to a sanitary drainage system, the receptor shall not require a trap.

**Reason:** Because the IPC allows 30 inches center-to-center for a combination fixture (see Section 1002.1 exception 2), horizontal continuous waste tubing of up to 30 inches in length is allowed by the code. Therefore, a horizontal indirect waste pipe should be allowed to be 30 inches long elsewhere, so as to be consistent. The 54 inch total developed length allowance is simply the 30 inches horizontal length allowance plus the 24 inches vertical distance allowed from a fixture to it's trap (see Section 1002.1) The proposed lengths seem to make a lot more sense and will be consistent with other allowances in the code. The added exception should be self evident; no traps are necessary with clear water waste in an indirect piping system.

**Cost Impact:** The code change proposal will not increase the cost of construction

ICCFILENAME: Strain-P1-802.2

### Public Hearing Results

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**802.2 Installation.** All indirect waste piping shall discharge through an air gap or air break into a waste receptor Waste receptors and standpipes shall be trapped and vented and shall connect to the building drainage system. All indirect waste piping that exceeds 30 inches (762mm) in developed length measured horizontally, or 54 inches (1372mm) in total developed length, shall be trapped.

~~**Exception:** Where a waste receptor receives only clear water waste and does not directly connect to a sanitary drainage system, the receptor shall not require a trap.~~

**Committee Reason:** Modification was made because some equipment might require a trap. Agreed with the proponent's reason statement which indicated that the distances are aligned with the same distances allowed for waste piping from a combination sink before connection to a trap.

**Assembly Action:**

**Approved as Submitted**

## **Individual Consideration Agenda**

This code change proposal is on the agenda for individual consideration because the proposal received a successful assembly action. Note that the assembly action, Approved as Submitted, will be the initial motion on the floor for consideration when this item is called.

Final Action:                    AS                    AM                    AMPC\_\_\_\_\_                    D

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### **P123-09/10** **901.3, 917.8, Chapter 13**

#### **Proposed Change as Submitted**

**Proponent:** Jack Beuschel, Studor, Inc. representing himself.

#### **1. Revise as follows:**

**901.3 Chemical waste vent systems.** The vent system for a chemical waste system shall be independent of the sanitary vent system and shall terminate separately through the roof to the ~~open air~~ outdoors or to an air admittance valve that complies with ASSE 1049. Air admittance valves for chemical waste systems shall be constructed of materials approved in accordance with Section 702.5 and shall be tested for chemical resistance in accordance with ASTM F1412.

**917.8 Prohibited installations.** Air admittance valves shall not be installed in non-neutralized special waste systems as described in Chapter 8 except where such valves are in compliance with ASSE 1049, are constructed of materials approved in accordance with Section 702.5 and are tested for chemical resistance in accordance with ASTM F1412. Air admittance valves shall not be located in spaces utilized as supply or return air plenums.

#### **2. Add standards to Chapter 13 as follows:**

##### **ASSE**

1049-2009            Performance Requirements for Individual and Branch Type Air Admittances Valves for Chemical Waste Systems.

##### **ASTM**

F1412-01            Standard Specification for Polyolefin Pipe and Fittings for Corrosive Waste Drainage Systems.

**Reason:** The purpose of this code change is to add new provisions to the code to allow air admittance valves that are chemically-resistant (AAVCs) to serve as vents for a chemical waste system as an option to chemical waste vent piping terminating outdoors.

Laboratory sinks into which acids and chemicals are dumped are usually located in islands in the middle of rooms. To vent the traps for these sinks using vent piping that can only terminate outdoors requires extensive labor and material. Because acid- and chemically-resistant pipe and fittings are very costly (as compared to materials used in sanitary drainage systems), allowing the use of AAVCs will significantly reduce material costs for installing chemical waste systems. A reduction in the amount of required material vent piping material will result in reduced labor costs for installing chemical waste systems.

ASSE has recently developed ANSI/ASSE Standard 1049 - *Performance Requirements for Individual and Branch Type Air Admittance Valves for Chemical Waste Systems*. Section 702.5 of the IPC requires that 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. Therefore, AAVs that comply with ANSI/ASSE 1049 and are manufactured from materials that meet recognized industry standards for chemical and acid resistant material in compliance with Section 702.5 and tested to ASTM F1412 for chemical resistance must be permitted to serve as the vent for nonneutralized special waste systems.

Referenced Standards:

ASSE 1049  
ASTM F1412-01  
ASTM D4104-05

**Cost Impact:** This code change proposal will not increase the cost of construction.

**Analysis:** Review of proposed new standards, ASSE 1049-2009 and ASTM F1412-01, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

ICCFILENAME: BEUSCHEL-P1-901.3

## Public Hearing Results

**Note:** The following analysis was not in the Code Change monograph but was published on the ICC website at <http://www.iccsafe.org/cs/codes/Documents/2009-10cycle/ProposedChanges/Standards-Analysis.pdf> :

**Analysis:** Review of proposed new standards ASSE 1049-2009 and ASTM F 1412-01 indicated that in the opinion of ICC staff, the standards did comply with ICC standards criteria. Standard was submitted in draft form.

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Past committees have turned this same proposal because no standard existed for chemical air admittance valves. Now that the standard is in place, it is time that the proposal is approved.

**Assembly Action:**

**None**

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## Individual Consideration Agenda

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Richard Grace, Fairfax County, representing Virginia Plumbing and Mechanical Inspectors Association (VPMIA), Virginia Building Code Officials Association (VBCOA), ICC Region VII, requests Disapproval.**

**Commenter's Reason:** The opposition to this application is not based on the approval of a Standard or even if the material is compatible with the materials contained within the piping system, it is based solely on the fact that the Air Admittance Valves (AAV) have a life expectancy. This is not the same application as a typical plumbing system. This application would be serving venting systems for some of the most dangerous materials known to man. So even if the AAV maintains good operating condition for several years, the fact remains that, inevitably, one day it is going to fail. When that happens it could be a deadly event. In most instances the vapors produced by hazardous fluids are far more dangerous than the fluid itself.

These need to remain as a viable option for the industry just as the current code permits now, through a code modification. That way proper assessment of each application can be reviewed and evaluated on its own merit, not a blanket approval for any and all.

Final Action:            AS                    AM                    AMPC\_\_\_\_            D

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**P126-09/10**

**912.1**

## Proposed Change as Submitted

**Proponent:** Robert Burke, University of Colorado representing Colorado Association of Plumbing and Mechanical Officials (CAPMO)

**Revise as follows:**

**912.1 Type of fixtures.** A combination drain and vent system shall not serve fixtures other than floor drains, sinks, lavatories, and drinking fountains. Combination drain and vent systems shall not receive ~~discharge from a food waste grinder or clinical sink~~ grease laden waste or solid waste.

**Reason:** By design, combination drain and vent systems are intended for clear and gray water waste. See 2006 IPC code commentary.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: Burke-P2-912.1

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## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** Combination drain and vent systems are used extensively in commercial kitchens. Proposal would eliminate that type venting system to be used in commercial kitchens.

**Assembly Action:**

**None**

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## **Individual Consideration Agenda**

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Robert Burke, University of Colorado, representing CAPMO, requests Approval as Submitted.**

**Commenter's Reason:** By design, combination drain and vent systems are intended for clear and gray water waste. See IPC code commentary.

Final Action:            AS                    AM                    AMPC\_\_\_\_            D

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### **P127-09/10, Part II IRC P3111.3**

#### **Proposed Change as Submitted**

**Proponent:** John R. Addario, PE, New York State Department of State - Division of Code Enforcement and Administration

#### **PART II- IRC**

**Revise as follows:**

**P3111.3 Size.** The minimum size of a combination drain and vent pipe shall be in accordance with Table 3111.3. The horizontal length of a combination drain and vent system shall be unlimited.

**Reason:** This proposed change clarifies the intent of the code by adding that a combination drain and vent system, sized per code, shall be unlimited in horizontal length. Combination drain and vent systems are critical when used in piping systems serving floor drains, especially in large commercial kitchens. It is a source of confusion as to whether the length of the combination drain and vent is limited in length; this proposed change clarifies the intent of the code.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: Addario-P1-912.3

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#### **Public Hearing Results**

#### **PART II- IRC-P**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** No limit allows for greater design possibilities. There doesn't appear to be any downside to allowing unlimited length.

**Assembly Action:**

**None**

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## **Individual Consideration Agenda**

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**John R. Addario requests Approval as Modified by this public comment.**

**Modify the proposal as follows:**

Part II – IRC-P

**P3111.3 Size.** The minimum size of a combination waste and vent pipe shall be in accordance with Table P3111.3. ~~The horizontal length of a combination drain and vent system shall be unlimited.~~



**P3111.2 Installation.** The only vertical pipe of a combination drain and vent system shall be the connection between the fixture drain and the horizontal combination waste and vent pipe. The maximum vertical distance shall be 8 feet (2438 mm). The horizontal length of a combination drain and vent system shall be unlimited.

Commenter's Reason: This proposed modification simply moves the committee approved language to a more appropriate section.

This change also provides consistency between the Residential Code and the Plumbing Code.

This same change, along with the approved language and corresponding code section, was approved, this code cycle, by the IPC committee for inclusion into the plumbing code.

Final Action: AS AM AMPC\_\_\_\_\_ D

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**NOTE: PART I REPRODUCED FOR INFORMATIONAL PURPOSES ONLY – SEE ABOVE**

**P127-09/10, PART I - IPC**

**Revise as follows:**

**912.3 Size.** The minimum size of a combination drain and vent pipe shall be in accordance with Table 912.3. The horizontal length of a combination drain and vent system shall be unlimited.

**Reason:** This proposed change clarifies the intent of the code by adding that a combination drain and vent system, sized per code, shall be unlimited in horizontal length. Combination drain and vent systems are critical when used in piping systems serving floor drains, especially in large commercial kitchens. It is a source of confusion as to whether the length of the combination drain and vent is limited in length; this proposed change clarifies the intent of the code.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**PART I- IPC**

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**912.3 912.2.2 Size.** The minimum size of a combination drain and vent pipe shall be in accordance with Table ~~912.3~~ 912.2.2. The horizontal length of a combination drain and vent system shall be unlimited.

*(Renumber Table 912.3 to Table 912.2.2)*

*(Renumber subsequent sections)*

**Committee Reason:** Modification was made to make the section tie to the existing dry vent connection section (912.2) as that is more logical for the subject matter of Section 912.3. Proposal eliminates the question about whether there is a limit to the maximum length of the combination drain and vent system.

**Assembly Action:**

**None**

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## **P134-09/10**

### **1002.1**

#### **Proposed Change as Submitted**

**Proponent:** Donald R. Monahan, PE, Walker Parking Consultants, representing the National Parking Association and the Automated & Mechanical Parking Association

**Revise as follows:**

**1002.1 Fixture traps.** Each plumbing fixture shall be separately trapped by a liquid-seal trap, except as otherwise permitted by this code. The vertical distance from the fixture outlet to the trap weir shall not exceed 24 inches (610 mm), and the horizontal distance shall not exceed 30 inches (610 mm) measured from the centerline of the fixture outlet to the centerline of the inlet of the trap. The height of a clothes washer standpipe above a trap shall conform to Section 802.4. A fixture shall not be double trapped.

**Exceptions:**

1. This section shall not apply to fixtures with integral traps.
2. A combination plumbing fixture is permitted to be installed on one trap, provided that one compartment is not more than 6 inches (152 mm) deeper than the other compartment and the waste outlets are not more than 30 inches (762 mm) apart.
3. A grease interceptor intended to serve as a fixture trap in accordance with the manufacturer’s installation instructions shall be permitted to serve as the trap for a single fixture or a combination sink of not more than three compartments where the vertical distance from the fixture outlet to the inlet of the interceptor does not exceed 30 inches (762 mm) and the *developed length* of the waste pipe from the most upstream fixture outlet to the inlet of the interceptor does not exceed 60 inches (1524 mm).
4. Where floor drains in multi-level parking structures are required to discharge to a combined building sewer system, the floor drains shall not be required to be individually trapped provided that they are connected to a main trap in accordance with Section 1103.1.

**Reason:** Floor drain traps in unheated multi-level parking structures are problematic because the traps can be damaged during freezing conditions. The liquid in traps for floor drains in covered parking levels usually evaporates as there is little, if any, water runoff on the covered levels. Heat tracing and insulation are not reliable in these locations. A main trap for the parking structure floor drain system is typically required as many jurisdictions require a sand/oil separator prior to discharge to the sanitary sewer.

**Cost Impact:** The code change will not increase the cost of construction. There will be a construction cost savings to install only a main trap at the lowest level as opposed to traps at all floor drains on the upper levels.

ICCFILENAME: MONAHAN-P1-1002.1

**Public Hearing Results**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Agreed with the proponent’s reason statement which stated that parking garage floor drains do not require traps if there is a main trap provided prior to connection to a combined sewer.

**Assembly Action:**

**None**

**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Shawn Strausbaugh, Arlington County, VA, representing VA Plumbing and Mechanical Inspectors Assoc., requests Disapproval.**

**Commenter’s Reason:** Even though this language is existing in Chapter 11 we believe it needs to stay in Chapter 11 only. By adding this language into Chapter 10 it appears to make this system part of a sanitary drainage system when in essence it is a storm drainage system discharging to a combined building sewer or drain. The existing language of “main trap” is undefined in the IPC and the proponent in his reasoning is inferring that a sand/oil interceptor will serve as a “main trap”. However depending upon the construction of the sand/oil interceptor it may or may not act as a trap and may allow sewer gases into the untrapped storm drainage system and ultimately into the building/structure. It is also imperative that if this section is to be placed in chapter 10 that it also references that no other sanitary drainage system connections be permitted into a storm drainage system which is discharging into a combined building sewer or drain unless it is downstream of the “main trap”.

Final Action:            AS                    AM                    AMPC\_\_\_\_            D

**P136-09/10, Part I**  
**1002.4**

**Proposed Change as Submitted**

**Proponent:** Julius Ballanco, P.E./JB Engineering and Code Consulting,P.C. representing Sure Seal

**PART I - IPC**

**1. Revise as follows:**

**1002.4 Trap seals.** Each fixture trap shall have a liquid seal of not less than 2 inches (51 mm) and not more than 4 inches (102 mm), or deeper for special designs relating to accessible fixtures. Where a trap seal is subject to loss by evaporation, a trap seal primer shall be connected to the trap valve or a trap seal protection device shall be installed. The discharge pipe from a trap seal primer valves shall connect to the trap at a point above the level of the trap seal. Trap seal protection devices shall be installed in accordance with the manufacturer's installation instructions. A Potable water-type trap seal primers valve shall conform to ASSE 1018, or Drainage waste-type and nonpotable water-type trap seal primers shall conform to ASSE 1044. Trap seal protection devices shall conform to ASSE 1072.

**2. Add standard to Chapter 13 as follows:**

**ASSE**  
**1072-06**      Performance Requirements for Barrier Type Floor Drain Trap Seal Protection Devices.

**Reason:**

**Part I-** The current code text does not distinguish between nonpotable water-type/ waste-type trap seal primers and potable water-type trap seal primers. This change will make that distinction clear. This is necessary for where municipal-reclaimed water will be used for trap seal priming. The proposed text also includes the standard for trap seal protection devices. This standard regulates a new form of trap seal protection that does not rely on water or drainage waste-type primers. Trap seal protection devices are a green design concept that provides an effective means of preventing evaporation of the trap seal without the use of water.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** Review of proposed new standard ASSE 1072-06 indicated that, in the opinion of ICC staff, the standard did comply with ICC standards criteria.

ICCFILENAME: BALLANCO-P1-1002.4

**Public Hearing Results**

**Note:** The following analysis was not in the Code Change monograph but was published on the ICC website at <http://www.iccsafe.org/cs/codes/Documents/2009-10cycle/ProposedChanges/Standards-Analysis.pdf> :

**Analysis:** Review of proposed new standard ASSE 1072-06 indicated that in the opinion of ICC staff, the standard did comply with ICC standards criteria.

**PART I- IPC**

**Committee Action:**

**Disapproved**

**Committee Reason:** There is concern that the floor drain strainer already restricts flow into the drain so installation of another device that would further restrict the flow would create problems. New text "shall be connected to the trap" is not accurate. There is a potential for device to be installed for the wrong application due to device identification issues that could be encountered at a later time.

**Assembly Action:**

**None**

## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Julius Ballanco, P.E. JB Engineering and Code Consulting, P.C. representing Sure-Seal, requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**1002.4 Trap seals.** Each fixture trap shall have a liquid seal of not less than 2 inches (51 mm) and not more than 4 inches (102 mm), or deeper for special designs relating to accessible fixtures. Where a trap seal is subject to loss by evaporation, a trap seal primer ~~shall be connected to the trap~~ or a trap seal protection device shall be installed. The discharge pipe from a trap seal primer shall connect to the trap at a point above the level of the trap seal. Trap seal protection devices shall be installed in accordance with the manufacturer's installation instructions. Potable water-type trap seal primers shall conform to ASSE 1018. Drainage waste-type and nonpotable water-type trap seal primers shall conform to ASSE 1044. Trap seal protection devices shall conform to ASSE 1072.

**Commenter's Reason:** The reason given by the Committee for disapproving this change is technically inaccurate. I testified to this inaccuracy. A claim was made that a floor drain trap seal protection device restricts the flow into the drain. The devices do not. There is even a test in the ASSE 1072 to verify this.

What I testified was that the grate for a floor drain restricts the flow, whereby the trap seal protection device does not. Others provided anecdotal testimony that the devices restrict flow. Yet, none of these testifiers reviewed the standard or data that proved otherwise. Their testimony should have been ruled out of order. Testimony at public hearing should be accurate, not hearsay.

As for the language, this was an easy modification if the Committee did not like the term, "shall be connect to the trap." I have reverted that text back to the original text.

The IPC must recognize green methods of accomplishing protection of the trap seal. The current method of using a water supply trap seal primer wastes precious water. Having the option to use a trap seal protection device saves water and is a green alternative.

Furthermore, there is no maintenance required for trap seal protection devices. This is another green feature to the concept. Water supply trap seal primers are notorious for failing and requiring maintenance. Engineers and contractors should be given the option to use a trap seal protection device to protect the trap seal.

Thousands of these devices have been installed in area where trap seal primers have either failed or where not installed. They have an excellent track record and are often the method of choice by the engineers for protecting the trap seal in floor drains.

Final Action:                    AS                    AM                    AMPC\_\_\_\_\_                    D

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## **P136-09/10, Part II**

### **IRC P3201.2**

### Proposed Change as Submitted

**Proponent:** Julius Ballanco, P.E./JB Engineering and Code Consulting, P.C. representing Sure Seal

#### **PART II - IRC**

##### **1. Revise as follows:**

**P3201.2 Trap seals and trap seal protection.** Traps shall have a liquid seal of not less than 2 inches (51 mm) and not more than 4 inches (102 mm). Traps for floor drains shall be ~~fitted with~~ connected to a trap seal primer, fitted with a trap seal protection device or be of deep seal design. The discharge pipe from a trap seal primer valves shall connect to the trap at a point above the level of the trap seal. Trap seal protection devices shall be installed in accordance with the manufacturer's installation instructions. Trap seal protection devices shall conform to ASSE 1072.

##### **2. Add standard to Chapter 44 as follows:**

#### **ASSE**

1072-06                    Performance Requirements for Barrier Type Floor Drain Trap Seal Protection Devices.

#### **Reason:**

**Part I-** The current code text does not distinguish between nonpotable water-type/ waste-type trap seal primers and potable water-type trap seal primers. This change will make that distinction clear. This is necessary for where municipal-reclaimed water will be used for trap seal priming. The proposed text also includes the standard for trap seal protection devices. This standard regulates a new form of trap seal protection that does not rely on water or drainage waste-type primers. Trap seal protection devices are a green design concept that provides an effective means of preventing evaporation of the trap seal without the use of water.

**Part II-** The proposed text includes trap seal protection devices as a means to prevent trap evaporation. The added standard regulates this new form of trap seal protection that does not rely on water or drainage waste-type primers. Trap seal protection devices are a green design concept that provides an effective means of preventing evaporation of the trap seal without the use of water.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** Review of proposed new standard ASSE 1072-06 indicated that, in the opinion of ICC staff, the standard did comply with ICC standards criteria.

ICCFILENAME: BALLANCO-P1-1002.4

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### **Public Hearing Results**

#### **PART II- IRC-P**

**Committee Action:**

**Disapproved**

**Committee Reason:** Consistent with action taken by IPC committee. Standard does not comply with ICC criteria.

**Assembly Action:**

**None**

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### **Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C representing Sure-Seal requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**P3201.2 Trap seals and trap seal protection.** Traps shall have a liquid seal of not less than 2 inches (51 mm) and not more than 4 inches (102 mm). Traps for floor drains shall be fitted with ~~connected to~~ a trap seal primer, fitted with a trap seal protection device or be of deep seal design. The discharge pipe from a trap seal primer shall connect to the trap at a point above the level of the trap seal. Trap seal protection devices shall be installed in accordance with the manufacturer’s installation instructions. Trap seal protection devices shall conform to ASSE 1072.

**Commenter’s Reason:** The reason given by the Committee for disapproving this change is technically inaccurate. I testified to this inaccuracy. A claim was made that a floor drain trap seal protection device restricts the flow into the drain. The devices do not. There is even a test in the ASSE 1072 to verify this.

What I testified was that the grate for a floor drain restricts the flow, whereby the trap seal protection device does not. Others provided anecdotal testimony that the devices restrict flow. Yet, none of these testifiers reviewed the standard or data that proved otherwise. Their testimony should have been ruled out of order. Testimony at public hearing should be accurate, not hearsay.

As for the language, this was an easy modification if the Committee did not like the term, “shall be connect to the trap.” I have reverted that text back to the original text.

The IPC must recognize green methods of accomplishing protection of the trap seal. The current method of using a water supply trap seal primer wastes precious water. Having the option to use a trap seal protection device saves water and is a green alternative.

Furthermore, there is no maintenance required for trap seal protection devices. This is another green feature to the concept. Water supply trap seal primers are notorious for failing and requiring maintenance. Engineers and contractors should be given the option to use a trap seal protection device to protect the trap seal.

Thousands of these devices have been installed in area where trap seal primers have either failed or where not installed. They have an excellent track record and are often the method of choice by the engineers for protecting the trap seal in floor drains.

The Committee was inaccurate when stating that the standard did not comply with the ICC policy. The staff had issued a statement indicating that the standard did comply. This should not have been given as a reason for disapproval since it was incorrect.

Final Action:           AS                   AM                   AMPC\_\_\_\_           D

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**P137-09/10**  
**1003.1**

**Proposed Change as Submitted**

**Proponent:** Judson Collins, JULYCO, representing himself.

**Delete and substitute as follows:**

~~**1003.1 Where required.** Interceptors and separators shall be provided to prevent the discharge of oil, grease, sand and other substances harmful or hazardous to the building drainage system, the public sewer, the private sewage disposal system or the sewage treatment plant or processes.~~

**1003.1 Where required.** Interceptors shall be provided and installed as required by Sections 1003.3, 1003.4, 1003.6, 1003.7 and 1003.8. In other occupancies or locations where fixtures discharge substances that could be detrimental to the drainage system, the sewer system or wastewater treatment processes, an approved interceptor shall be provided and installed.

**Reason:** The current text says "provide interceptors and separators to prevent discharge." It does not say where the discharge is to go. The intent of the text is to keep waste that is harmful to drainage systems, sewer systems or wastewater treatment processes from reaching them. Revising the section as proposed will clarify the intent of the section, give reference to the appropriate sections and reiterate that approved interceptors are required. The word "separators" is not used in the proposed text since the definition of the word is the same as that for "interceptor". Since the two words are used interchangeably and the code only defines "interceptor", "separators" was deleted.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: COLLINS-P11-1003.1

**Public Hearing Results**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Agreed with the proponent's reason statement which stated that the current language is saying that interceptors and separators should be installed to prevent discharge. The proposed language states the intent (capturing detrimental substances) better.

**Assembly Action:**

**None**

**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Judson Collins, JULYCO, representing self, requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

~~**1003.1 Where required.** Interceptors shall be provided and installed as required by Sections 1003.3, 1003.4, 1003.6, 1003.7 and 1003.8. In other occupancies or locations where fixtures discharge substances that could be detrimental to the drainage system, the sewer system or wastewater treatment processes; an approved interceptor shall be provided and installed.~~ Interceptors and separators shall be installed in accordance with Sections 1003.3, 1003.4, 1003.6, 1003.7 and 1003.8. Interceptors and separators of an approved type shall also be installed where the waste flow contains hazardous or harmful substances that are detrimental to the building drainage system, public sewer system, private sewage disposal system, public sewage treatment system or sewage treatment processes. Interceptors and separators shall be required to be located so as to prevent the hazardous or harmful materials from entering the building drainage system and the building sewer.

**Commenter's Reason:** Although the original proposed code change was recommended for approval as submitted by the committee, it did not accomplish what was intended. The intent of this section is to have waste with substances detrimental to the building drainage system, public sewer system, private sewage system or sewage treatment plant or processes discharge through an approved interceptor to keep those substances from entering those systems. This modification better explains the intent than the original proposal did.

**Staff Analysis:** Action taken on this public should be coordinated with the action on P138.

*Public Comment 2:*

**Richard Grace, Fairfax County, representing Virginia Plumbing and Mechanical Inspectors Association (VPMIA), Virginia Building Code Officials Association (VBCOA), requests Disapproval.**

**Commenter's Reason:** A public comment was submitted for P138 that has merged some of the wording from this change into it. Leaving both changes approved will provide for contradiction in the code.

**Staff Analysis:** Action taken on this public should be coordinated with the action on P138.

Final Action: AS AM AMPC \_\_\_\_\_ D

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**P138-09/10**  
**1003.1**

**Proposed Change as Submitted**

**Proponent:** Richard Grace/Fairfax County/ VA Plumbing and Mechanical Inspectors/VA Building and Code Officials

**Revise as follows:**

**1003.1 Where required.** Interceptors and separators shall be provided to prevent the discharge of oil, grease, sand and other substances harmful or hazardous to the ~~building drainage system~~, the public sewer, the private sewage system or the sewage treatment plant or processes.

**Reason:** With the incorporation of the new exception to Section 1003.3.4 it is abundantly clear that waste is permitted to flow within the building drainage system. This concept has always been the intent because in almost every application the waste must travel through some portion of the building drainage system in order to get to the interceptor. If the actual code text were applied literally the interceptors would need to attach directly to fixture outlets. That is not the intent. Striking this text will remove the misconception that a device is required to install adjacent to each and every fixture that discharges any liquid that may need to be separated prior to entering the public or private systems.

**Cost Impact:** None. There will be a cost savings.

ICCFILENAME: GRACE-P6-1003.1

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**Public Hearing Results**

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** Because some jurisdictions require outdoor grease interceptors, the current section creates a conflict for those applications. Elimination of the indicated text solves those conflicts.

**Assembly Action:**

**None**

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**Individual Consideration Agenda**

**These items are on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Richard Grace, Fairfax County representing Virginia Plumbing and Mechanical Inspectors Association (VPMIA), Virginia Building Code Officials Association (VBCOA) requests Approval as Modified by this Public Comment.**

**Modify the proposal as follows:**

**1003.1 Where required.** ~~Interceptors and separators shall be provided~~ and installed as required by Sections 1003.3, 1003.4, 1003.6, 1003.7 and 1003.8 ~~Interceptors and separators shall be provided~~ to prevent the discharge of oil, grease, sand and other harmful or hazardous substances ~~harmful or hazardous~~ to the public sewer, the private sewage system, or the sewage treatment plant or processes.

**Commenter's Reason:** P137 and P138 were both approved by the plumbing committee. If left as is, the two would have contradicting language. This proposed language takes the two and merges them together to provide specific requirements that are not contradicting. The relocation of the terms "harmful or hazardous" clarifies the intent of what cannot be discharged into these drainage systems.

**Staff Analysis:** Action on this public comment should be coordinated with the action on P137.

**Public Comment 2:**

**Judson Collins, JULYCO, representing self, requests Approval as Modified by this Public Comment.**

Replace the proposal as follows:

~~1003.1 Where required. Interceptors and separators shall be provided to prevent the discharge of oil, grease, sand and other substances harmful or hazardous to the public sewer, the private sewage system or the sewage treatment plant or processes.~~

**1003.1 Where required.** As required by Sections 1003.3, 1003.4, 1003.6, 1003.7 and 1003.8 and where waste contains substances that are hazardous or harmful to the building drainage system, public sewer, private sewage system or sewage treatment plant or processes, such waste shall discharge to these systems through an approved interceptor.

**Commenter's Reason:** Although the original proposed code change was recommended for approval as submitted by the committee, it did not accomplish what was intended. The intent of this section is to have waste with substances detrimental to the building drainage system, public sewer system, private sewage system or sewage treatment plant or processes discharge through an approved interceptor to keep those substances from entering those systems. This modification better explains the intent than the original proposal did.

**Staff Analysis:** Action on this public comment should be coordinated with the action on P137.

Final Action: AS AM AMPC\_\_\_ D

**P140-09/10**

**1003.3.2**

**Proposed Change as Submitted**

**Proponent:** Sid Cavanaugh, Cavanaugh Consulting representing In Sink Erator

**Revise as follows:**

**1003.3.2 Food Waste Grinders.** Where food waste grinders connect to grease interceptors, ~~a solids interceptor shall separate the discharge before connecting to the grease interceptor. Solids interceptor and the~~ grease interceptor shall be sized for the discharge of the food waste grinder. Emulsifiers, chemicals, enzymes and bacteria shall not discharge into the food waste grinder.

**Reason:** Current language implies solids interceptors are used in conjunction with the installation of all food waste grinders, but food waste grinders are connected to grease interceptors only when required by the authority having jurisdiction, and this should be the exception not the rule. Data indicates it is impractical to discharge food waste grinders into interceptors. Language that specifies using a solids interceptor upstream of all grease interceptors is illogical since none are manufactured large enough to accommodate food waste grinder

The intent of grease interceptors is to reduce the introduction of fats, oils and greases (FOG) into sewers. Sewer clogs associated with FOG are well documented, and results from a collaborative research project undertaken by the Water Environment Research Foundation published in the fall 2008 characterized the composition of sewer deposits and provided much insight on these blockages.<sup>[1]</sup> The data revealed that 84% of the FOG deposit samples analyzed contained high concentrations of saturated fatty acids and calcium, higher than normal background levels, and appeared to be metallic salts of fatty acids. One of the researchers, Dr. Kevin Keener, has reported that no food waste particles were evident in these deposits. The report suggests a chemical reaction is occurring in the sewers, saponification, with calcium chemically selected over sodium. These insoluble deposits are difficult to remove and provide significant challenges for sewage collection system managers and plumbers as well. A supplemental report to the FROG study provided additional insight on the effluent of grease interceptors. 90% of flows through interceptors are on average 1/3 the peak design flow, which equates to detention times in the order of hours, not minutes, interceptors are mainly acidic, with pH's in the range of 4-8, and dissolved oxygen concentrations are less than 0.5 mg/L.

Together, the information provided in these studies suggests FOG deposits may indeed be the result of free fatty acids from the effluent of grease interceptors reacting with calcium. If pumped and maintained infrequently, or retained solids digest anaerobically, or if interceptors are improperly sized, conditions are conducive for promoting the formation of FOG deposits. While it is inappropriate to introduce grease into sewers without remediation through such devices as interceptors, ground food waste should only be discharged directly to sanitary sewers, bypassing interceptors.

Ducoste, Joel J., Kevin M. Keener, John W. Groninger, Leon M. Holt. "Fats, Roots, Oils and Grease (FROG) in Centralized and Decentralized Systems." WERF. 2008

**Cost Impact:** Minimal.

ICCFILENAME: CAVANAUGH-P7-1003.3.2



## Public Hearing Results

**Committee Action:**

**Disapproved**

**Committee Reason:** Grease interceptors cannot be sized to take the discharge of a food waste grinder without a solids interceptor upstream of the grinder.

**Assembly Action:**

**None**

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### Individual Consideration Agenda

**This items is on the agenda for individual consideration because public comments were submitted.**

*Public Comment 1:*

**Sidney Cavanaugh, Cavanaugh Consulting, representing In-sink-erator, requests Approval as Submitted.**

**Commenter's Reason:** The proposal was supported by the restaurant/kitchen industry and by all food waste grinder manufacturers. The current code wording is impractical and illogical since none of the solids interceptors currently available in the market are large enough to accommodate commercial food waste grinders and are therefore not used when food waste grinders are mandated or allowed to connect to large gravity type grease interceptors.

*Public Comment 2:*

**Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C., representing self, requests Approval as Modified by this Public Comment**

**Modify the proposal as follows:**

**1003.3.1 Grease interceptors and automatic grease removal devices required.** A grease interceptor or automatic grease removal device shall be required to receive the drainage from fixtures and equipment with grease-laden waste located in food preparation areas, such as in restaurants, hotel kitchens, hospitals, school kitchens, bars, factory cafeterias and clubs. Fixtures and equipment shall include pot sinks, prerinse sinks; soup kettles or similar devices; wok stations; floor drains or sinks into which kettles are drained; automatic hood wash units and dishwashers without prerinse sinks. Grease interceptors and automatic grease removal devices shall receive waste only from fixtures and equipment that allow fats, oils or grease to be discharged. Food waste grinders shall not discharge through a grease interceptor.

**Exception:** Where required by the local jurisdiction or health authority, food waste grinders shall be permitted to discharge through a grease interceptor.

**1003.3.2 Food Waste Grinders.** Where a food waste grinder is required by the exception to Section 1003.3.1 to connect to a grease interceptors, a solids interceptor shall separate the discharge before connecting to the grease interceptor. The solids interceptor and the grease interceptor shall be sized for the discharge of the food waste grinder. Emulsifiers, chemicals, enzymes and bacteria shall not discharge into the food waste grinder.

**Commenter's Reason:** A food waste grinder should not discharge through a grease interceptor. The purpose of a food waste grinder is to reduce the food waste to small enough particles, such that they can discharge directly to the sanitary drainage system. If they discharge to a grease interceptor, it defeats the purpose of having a food waste grinder. The food particles would be separated by the solids interceptor and grease interceptor.

Unfortunately, some health authorities and local jurisdictions are requiring food waste grinders to discharge through a grease interceptor. This has been done because installations are allowing grease to discharge to the POTW. The response has been to require everything to pass through the grease interceptor. This is unnecessary when there is a properly installed and maintained sanitary drainage system with grease interceptor.

By adding an exception, this allows the local jurisdictions and health authority to still require food waste grinders to discharge through a grease interceptor. Section 1003.3.2 is wordsmithed to address when a food waste grinder must discharge through a grease interceptor.

**Staff Analysis:** Section 102.10 of the code addresses situations where local, state or federal codes might override the code.

Final Action:                    AS                    AM                    AMPC\_\_\_\_                    D

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# P141-09/10

## 202, 1003.3.4, Chapter 13

### Proposed Change as Submitted

**Proponent:** Rand Ackroyd, Rand Technical Consulting, representing The Plumbing and Drainage Institute

#### 1. Delete and substitute as follows:

~~**GREASE INTERCEPTOR.** A plumbing appurtenance that is installed in a sanitary drainage system to intercept oily and greasy wastes from a wastewater discharge. Such device has the ability to intercept free-floating fats and oils.~~

#### GREASE INTERCEPTOR.

**HYDRO-MECHANICAL.** Plumbing appurtenances that are installed in the sanitary drainage system to intercept free-floating fats, oils and grease from wastewater discharge. Continuous separation is accomplished by air entrainment, buoyancy and interior baffling.

**GRAVITY.** Plumbing appurtenances of not less than 500 gallons (1893 L) capacity that are installed in the sanitary drainage system to intercept free-floating fats, oils and grease from wastewater discharge. Separation is accomplished by gravity during a retention time of not less than 30 minutes.

#### 2. Revise as follows:

**1003.3.4 Hydromechanical grease interceptors and automatic grease removal devices.** Hydromechanical grease interceptors and automatic grease removal devices shall be sized in accordance with PDI G101, ASME.14.3 Appendix A or ASME A112.14.4. Hydromechanical grease interceptors and automatic grease removal devices shall be designed and tested in accordance with PDI G101, PDI G102, ASME.14.3 Appendix A or ASME A112.14.4. Hydromechanical grease interceptors and automatic grease removal devices shall be installed in accordance with the manufacturer's instructions. The section shall not apply to gravity grease interceptors.

~~**Exception:** Interceptors that have a volume of not less than 500 gallons (1893 L) and that are located outdoors shall not be required to meet the requirements of this section.~~

#### 3. Add standard to Chapter 13 as follows:

**PDI**  
G102      Testing and Certification for Grease Interceptors with FOG Sensing and Alarm Devices

**Reason:** The industry has standardized on the terms "Hydro-Mechanical" and "Gravity" for the two general types of grease interceptors in the plumbing industry. The requirements in Section 1003.3.4 and its subsections were never intended to apply to gravity grease interceptors. The new terminology makes a clear distinction between the two types in order for the code to be clear about which type of grease interceptor the requirements apply to.

PDI G102 covers the Testing and Certification for Grease Interceptors with FOG Sensing and Alarm Devices. This standard expands on the already recognized PDI G101 by including testing and certification of alarm devices that can be provided on interceptors already complying with PDI G101. The alarm device on a hydromechanical grease interceptor monitors the level of the grease captured in the unit and provides both a loud audible signal and a visible signal when the accumulated grease (FOG) in the interceptor needs to be removed. Standard PDI G102 is available for free downloading from the PDI website [www.pdionline.org](http://www.pdionline.org).

The exception to this section that was put in last cycle by another proponent was an attempt to distinguish between the two general types of grease interceptors in order to clarify that Section 1003.3.4 did not apply to gravity grease interceptors. The new proposed terminology provides the necessary clarification and thus, the exception is no longer needed. However, in the spirit of the exception, the last line of text was added to reinforce that the reader should not try to apply the requirements of this section (including the subsections that follow) to gravity grease interceptors.

**Cost Impact:** The code change proposal will not increase the cost of construction.

ICCFILENAME: Ackroyd-P3-1003.3.4

## Public Hearing Results

**Note:** The following analysis was not in the Code Change monograph but was published on the ICC website at <http://www.iccsafe.org/cs/codes/Documents/2009-10cycle/ProposedChanges/Standards-Analysis.pdf> :

**Analysis:** Review of proposed new standard PDI G102 indicated that in the opinion of ICC staff, the standard did not comply with ICC standards criteria.

**Committee Action:**

**Approved as Submitted**

**Committee Reason:** New terms and definitions are in alignment with product standards and industry terminology.

**Assembly Action:**

**None**

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## Individual Consideration Agenda

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Jonathan Humble, representing the ICC Referenced Standards Committee, requests Approval as Modified by this public comment.**

**Modify the proposal as follows:**

**1003.3.4 Hydromechanical grease interceptors and automatic grease removal devices.** Hydromechanical grease interceptors and automatic grease removal devices shall be sized in accordance with PDI G101, ASME.14.3 Appendix A or ASME A112.14.4. Hydromechanical grease interceptors and automatic grease removal devices shall be designed and tested in accordance with PDI G101, ~~PDI G402~~, ASME.14.3 Appendix A or ASME A112.14.4. Hydromechanical grease interceptors and automatic grease removal devices shall be installed in accordance with the manufacturer's instructions. The section shall not apply to gravity grease interceptors.

**Remove standard in Chapter 13 as follows:**

**PDI**  
~~G402- Testing and Certification for Grease Interceptors with FOG Sensing and Alarm Device~~

**Commenter's Reason:** The ICC Reference Standards Committee is a committee that was organized "to support the codes development committees through the review of reference standards for the International Codes." We submit this code challenge to provide an opinion regarding code change.

It is the reference standards committee's view that the proposal currently lacks sufficient information concerning the promulgation process. We would preface this opinion that it is not our view to state that the proposed document is technically deficient or that the proposal does not have technical merit, but rather to state that the document development process and maintenance process do not comply with ICC Council Policy 28, specifically, and 3.6.2.1 which requires standards be written in mandatory language.

We therefore propose to have deleted the reference standard and subsequent reference to that standard as part of this proposal to modify the original proposal.

Final Action:            AS                            AM                            AMPC \_\_\_\_\_            D

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## **P143-09/10**

### **1003.4.2**

## Proposed Change as Submitted

**Proponent:** Bob Eugene/Underwriters Laboratories Inc/Underwriters Laboratories Inc

**1. Revise as follows:**

**1003.4.2 Oil separator design.** Oil separators shall be listed and labeled in accordance with UL 2215, or designed in accordance with Sections 1003.4.2.1 and 1003.4.2.2.

**2. Add standards to Chapter 13 as follows:**

**UL**  
**2215-00**      Outline of Investigation for Oil/Water Separators

**Reason:** This proposal provides an alternative for the use of listed oil/water separators that are built on-site. UL’s Outline of Investigation includes a comprehensive set of construction and performance requirements that are used to evaluate and list oil/water separators used in garages and service stations. These requirements cover stationary gravity or pump fed aboveground and underground, atmospheric type oil/water separator systems intended to remove oil suspended in water from rainwater runoff or normal washdown of streets, highways, and parking lots at an inlet rate not exceeding the marked maximum influent concentration and flow rate. Oil/water separator systems covered by these requirements are fabricated, inspected, and tested for leakage before shipment from the factory as completely assembled units, or with instructions for field assembly of minor components. Over 20 companies currently have oil/water separators listed.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** Review of the proposed new requirement UL 2215-00 indicated that, in the opinion of ICC staff, the requirement did not comply with ICC standards criteria.

ICCFILENAME: EUGENE-P1-1003.4.2

**Public Hearing Results**

**Note:** The following analysis was not in the Code Change monograph but was published on the ICC website at <http://www.iccsafe.org/cs/codes/Documents/2009-10cycle/ProposedChanges/Standards-Analysis.pdf> :

**Analysis:** Review of proposed new standard UL 2215-00 indicated that in the opinion of ICC staff, the standard did not comply with ICC standards criteria.

**Committee Action:** **Approved as Submitted**

**Committee Reason:** The UL outline provides a needed method for sizing criteria for oil separators.

**Assembly Action:** **None**

**Individual Consideration Agenda**

**This item is on the agenda for individual consideration because a public comment was submitted.**

*Public Comment:*

**Jonathan Humble, ICC Referenced Standards Chair, representing the ICC Reference Standards Committee, requests Approved as Modified by this Public Comment.**

**Modify the proposal as follows:**

**1003.4.2 Oil separator design.** Oil separators shall be listed and labeled in accordance with UL 2215, or designed in accordance with Sections 1003.4.2.1 and 1003.4.2.2.

**UL**  
**2215-00**      Outline of Investigation for Oil/Water Separators

**Commenter’s Reason:** The ICC Reference Standards Committee is a committee that was organized “to support the codes development committees through the review of reference standards for the International Codes.” We submit this code challenge to provide an opinion regarding code change.

It is the reference standards committee’s view that the proposal currently lacks sufficient information concerning the promulgation process. We would preface this opinion that it is not our view to state that the proposed document is technically deficient or that the proposal does not have technical merit, but rather to state that the document development process and maintenance process do not comply with ICC Council Policy 28, specifically Sections 3.6.2.1 which requires standards to be written in mandatory language, and 3.6.3 which requires standards be promulgated according to a consensus process.

We therefore propose to have deleted the reference standard and subsequent reference to that standard as part of this proposal to modify the original proposal.

Final Action:            AS                    AM                    AMPC\_\_\_\_\_            D

**P144-09/10**  
**1003.9, 1003.10 (New)**

**Proposed Change as Submitted**

**Proponent:** Cort Strain University of Colorado representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO).

**1. Revise as follows:**

**1003.9 Venting of interceptors and separators.** ~~Interceptors and separators shall be designed so as not to become air bound where tight covers are utilized. Each interceptor or separator shall be vented where subject to a loss of trap seal.~~ The pipe connected to the outlet of an interceptor or separator shall be vented in accordance with the fixture trap venting requirements of Chapter 9. The invert of the outlet fitting of the interceptor or separator shall be considered as the trap weir elevation for the purposes of determining the maximum allowable distance from the outlet to the vent connection to the outlet pipe.

**2. Add new text as follows:**

**1003.10 Cleanout for outlet pipe of interceptors or separators.** A two-way cleanout arrangement shall be installed on the outlet pipe of interceptors and separators. The cleanout arrangement shall enable rodding of the outlet pipe in both the upstream and downstream directions.

*(Renumber subsequent sections)*

**Reason:** Although interceptor or separator manufacturer's installation instructions might state that a vent is not required on outlet pipe of the unit, the fact is that most instructions are silent on the issue. So how is the code official supposed to know if a particular unit in a specific installation arrangement could develop siphon action? The truth is, no one really knows. Therefore, the words in Section 1003.9 are deleted because there really isn't any way to know if siphonage will occur. In our experience, a fair number of interceptors and separators do develop siphons which result in the discharge of collected contents into drain and sewer systems. The outlet pipes of interceptors and separators should be vented to prevent siphoning from occurring. The need for outlet pipe venting is supported by Section 10.3 of standard PDI-101 (a code referenced standard) that states: "Grease interceptors shall have a vented waste on the outlet side, sized in accordance with code requirements for venting traps to retain water seal and prevent siphoning". The text added to Section 1003.9 brings this requirement to light and provides the details for properly locating and sizing the vent.

Unlike a fixture trap that can be easily removed for access to rod a fixture drain, interceptors and separators are not easily removed and rarely have the provisions necessary to gain adequate access for rodding of the pipe connected to the outlet. This is a location that can require frequent rodding especially if the interceptor or separator is not cleaned at the necessary intervals. In many cases, as a necessity, cleanouts are often added after installation. Unfortunately, many of these after-the-fact cleanout installations do not get permitted or inspected resulting problems. The new section 1003.10 adds text to require a two way cleanout arrangement on the outlet pipe of interceptors and separators.

**Cost Impact:** The code change proposal will increase the cost of construction.

ICCFILENAME: Strain-P2-1003.9

**Public Hearing Results**

**Committee Action:**

**Disapproved**

**Committee Reason:** Not every interceptor or separator has a "trap seal" or acts like a trap so the requirement for venting the outlet of every interceptor or separator is questionable. Installing two-way cleanouts on interceptor and separator outlets might introduce problems of damage to internal separator and interceptor components.

**Assembly Action:**

**None**

## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

*Public Comment:*

**Cort Strain, University of Colorado, representing CAPMO, requests Approval as Modified by this Public Comment.**

Modify the proposal as follows:

**1003.9 Venting of interceptors and separators.** ~~Interceptors and separators shall be designed so as not to become air bound where tight covers are utilized. The outlet pipe connected to the outlet of from an interceptor or separator shall be vented within the distance as indicated in Table 1003.9 in accordance with the fixture trap venting requirements of Chapter 9, by the connection of a dry vent to the outlet pipe. The invert of the outlet fitting of the interceptor or separator shall be considered as the trap weir elevation for the purposes of determining the maximum allowable distance from the outlet to the vent connection to the outlet pipe. Dry vent piping shall be installed in accordance with Sections 905.1 through 905.5.~~

**TABLE 1003.9  
MAXIMUM DISTANCE FROM  
INTERCEPTOR OR SEPARATOR OUTLET TO VENT**

SIZE OF OUTLET PIPE (inches)	MAXIMUM SLOPE OF OUTLET PIPE (inch per foot)	MAXIMUM DISTANCE FROM OUTLET TO VENT (feet)
1½	¼	6
2	¼	8
3	⅛	12
4	⅛	16
5	⅛	20
6	⅛	24
8	⅛	32
10	⅛	40

*(Underlining omitted in table for clarity)*

**1003.10 Cleanout for outlet pipe of interceptors or separators.** ~~A two-way cleanout arrangement shall be installed on the outlet pipe of interceptors and separators at a point not greater than 24 inches in developed pipe length from the outlet of the interceptor or separator. The cleanout arrangement shall enable rodding of the outlet pipe only in both the upstream and downstream directions the direction of flow.~~

**Commenter's Reason:** Although interceptor or separator manufacturer's installation instructions might state that a vent is not required on outlet pipe of the unit, the fact is that most instructions are silent on the issue. So how is the code official supposed to know if a particular unit in a specific installation arrangement could develop siphon action? The truth is, no one really knows. Therefore, the words in Section 1003.9 are deleted because there really isn't any way to know if siphonage will occur. In our experience, a fair number of interceptors and separators do develop siphons which result in the discharge of collected contents into drain and sewer systems. The outlet pipes of interceptors and separators should be vented to prevent siphoning from occurring. The need for outlet pipe venting is supported by Section 10.3 of standard PDI-101 (a code referenced standard) that states: "Grease interceptors shall have a vented waste on the outlet side, sized in accordance with code requirements for venting traps to retain water seal and prevent siphoning". The text added to Section 1003.9 brings this requirement to light and provides the details for properly locating and sizing the vent.

Unlike a fixture trap that can be easily removed for access to rod a fixture drain, interceptors and separators are not easily removed and rarely have the provisions necessary to gain adequate access for rodding of the pipe connected to the outlet. This is a location that can require frequent rodding especially if the interceptor or separator is not cleaned at the necessary intervals. In many cases, as a necessity, cleanouts are often added after installation. Unfortunately, many of these after-the-fact cleanout installations do not get permitted or inspected resulting problems. The new section 1003.10 adds text to require a cleanout on the outlet pipe of interceptors and separators.

Final Action:            AS                    AM                    AMPC \_\_\_\_            D

# P151-09/10

1107 (New), 1107.1 (New), Chapter 13

## Proposed Change as Submitted

**Proponent:** Robert Evans, CPD/ASPE Legislative Committee/ASPE

**1. Add a new section as follows:**

### Section 1107 Siphonic Roof Drainage Systems

**1107.1 General.** Siphonic roof drainage systems shall be designed in accordance with ASPE 45.

**2. Add standard to Chapter 13 as follows:**

American Society of Plumbing Engineers  
8614 Catalpa Avenue, Suite 1007  
Chicago, IL 60656-1116

ASPE  
45-2007

Siphonic Roof Drainage Systems

**Reason:** This section will add requirements for the design of siphonic roof drainage systems. ASPE developed a standard for the plumbing engineers to use when designing these systems. This is a complex design that needs to be properly addressed in the code. Without the reference to the proper standard, the plumbing official has no requirements by which to evaluate siphonic roof drainage systems.

**Cost Impact:** The code change proposal will not increase the cost of construction.

**Analysis:** Review of proposed new standard, ASPE 45-2007, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

ICCFILENAME: EVANS-P1-1107 NEW

## Public Hearing Results

**Note:** The following analysis was not in the Code Change monograph but was published on the ICC website at <http://www.iccsafe.org/cs/codes/Documents/2009-10cycle/ProposedChanges/Standards-Analysis.pdf> :

**Analysis:** Review of proposed new standard ASPE 45-2007 indicated that in the opinion of ICC staff, the standards did not comply with ICC standards criteria.

**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**1107.1 General.** Siphonic roof drains and drainage systems shall be designed in accordance with ASME A112.6.9 and ASPE 45.

**Add standard to Chapter 13 as follows:**

ASPE

A112.6.9-2005      Siphonic Roof Drains

**Committee Reason:** Agreed with the proponent's reason statement which stated that siphonic roof drain systems because of their complexity, need to have a standard for design and need to use a roof drain that meets a specific referenced standard.

**Assembly Action:**

**None**

## Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

### *Public Comment:*

**Jonathan Humble, ICC Referenced Standards Chair, representing the ICC Reference Standards Committee, requests Approval as Modified by this Public Comment.**

Modify the proposal as follows:

**Section 1107**  
**Siphonic Roof Drainage Systems**

**1107.1 General.** Siphonic roof drains and drainage systems shall be designed in accordance with ~~ASME A112.6.9 and ASPE 45~~ an approved manner.

~~American Society of Plumbing Engineers  
8614 Catalpa Avenue, Suite 1007  
Chicago, IL 60656-1116~~

**ASPE**  
~~45-2007- Siphonic Roof Drainage Systems~~

**Commenter's Reason:** The ICC Reference Standards Committee is a committee that was organized "to support the codes development committees through the review of reference standards for the International Codes." We submit this code challenge to provide an opinion regarding code change.

It is the reference standards committee's view that the proposal currently lacks sufficient information concerning the promulgation process. We would preface this opinion that it is not our view to state that the proposed document is technically deficient or that the proposal does not have technical merit, but rather to state that the document development process and maintenance process do not comply with ICC Council Policy 28, specifically Section 3.6.3, which requires standards be promulgated according to a consensus process. We therefore propose to have deleted the reference standard and subsequent reference to that standard as part of this proposal to modify the original proposal.

Final Action:    AS                    AM                    AMPC\_\_\_\_                    D

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