

## Memorandum

**Date:** August 19, 2010

**To:** Kim Strange  
California Department Housing and Community Development  
1800 3<sup>rd</sup> Street, Room 260  
Sacramento, California 95811

**From:** Jane Taylor  
Senior Architect

**Subject:** **HCD EF 01-10**  
  
2007 and 2010 Title 24, Part 5 (Plumbing Code), §604 and Table 6-4  
  
California Code of Regulations, Title 24, Part 5

At the California Building Standards Commission meeting held on August 16, 2010, the Commission approved your agency's proposed emergency building standards concerning California Code of Regulations, Title 24, Part 5, Table 6-4. The emergency standards were filed with the Secretary of State on August 18, 2010. Attached for your records is a copy of the face sheet and approved standards as filed.

Please be advised that the subject building standards were effective on August 18, 2010. If you have any questions regarding the codification and publication of the approved standards, you may contact Russell Frank, of my staff, at (916) 263-5383.

### Attachments

cc: **Shawn Huff**  
CBSC Rulemaking File  
CBSC Chron

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AUG 16 2010

CA BUILDING STANDARDS  
COMMISSION

ENDORSED FILED  
IN THE OFFICE OF

2010 AUG 18 PM 2:05

BSC-FACE SHEET (Std. BSC-1, REV. 04/03/2009) Page 1

RECEIVED  
APPROVED

2010 AUG 10 P 4:18

CALIFORNIA BUILDING  
STANDARDS COMMISSION

*Debra Bowen*  
DEBRA BOWEN  
SECRETARY OF STATE

Notice Register Number	Publication Date			
Notice File Number: Z-				
Office of Administrative Law		Secretary of State		
Building Standards Commission				
State Agency		Submittal #	Item #	
HCD		EF 01/10		
<b>APPLICANTS - DO NOT USE THE ABOVE SPACE</b>				

1. PROPOSING AGENCY DIRECTOR OR DESIGNEE (Attach delegation order of designee)  
Kim Strange

STATE AGENCY Department of Housing and Community Development	TELEPHONE NUMBER (916) 445-9471
STREET ADDRESS 1800 3 <sup>rd</sup> Street, Room 260	FAX NUMBER (916) 327-4712
CITY Sacramento	STATE ZIP CODE CA 95811

2. SUBMITTAL - SUGGESTED REVISIONS TO THE CALIFORNIA CODE OF REGULATIONS, TITLE 24

SUBJECT: 2007 and 2010 California Plumbing Code (Title 24, Part 5) - PEX

AGENCY FILE NUMBER: HCD EF 01/10

3. NATURE OF PROCEEDINGS (GC §11346.5(a)(1))

PARTS/SECTIONS AFFECTED	Adopt Chapter 6, § 604.1.2 Amend Chapter 6, Table 6-4 and §§ 604.11, 604.11.1 & 604.11.2 Repeal
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4. TYPE OF FILING

Notice of Proposed Action  
 Regular Rulemaking  
 Resubmittal  
 Emergency  
 Other (Specify)

Certification of Compliance: The agency officer named below certifies that this agency complies with the provisions of Government Code § 11346.1 prior to, or within 180 days of, the effective date of the regulations contained in this filing.

Changes without regulatory effect (Attach explanation and justification analysis supporting that the proposed change(s) does not materially alter any rights, responsibilities, conditions, prescription or other regulatory element of any California Code of Regulations provisions.

5. EFFECTIVE DATE OF REGULATORY CHANGE

Effective 180 days after publication in the California Building Standards Code  
 Effective 30<sup>th</sup> day after filing with the Secretary of State  
 Effective on filing with Secretary of State  
 Effective other (Specify)

6. AUTHORITY -- Specify Statute(s) or Law(s) Authorizing the adoption(s) (GC §11346.2(a)(2) & §11346.5(2)): Health and Safety Code Sections 17040, 17921, 17922, 18300, 18630, 18640, 18865, 18865.3, 18873.1, 18873.2 and 19990; and Government Code Sections 12955.1 and 12955.1.1

7. REFERENCE -- Provisions of law being implemented, interpreted or made specific by the regulations: Health and Safety Code Sections 17000-17060, 17910-17990, 18200-\*18700, 18860-18774 and 19960-19998; and Government Code Sections 12955.1 and 12955.1.1

8. NAME AND TELEPHONE NUMBER OF THE AGENCY OFFICER TO WHOM INQUIRIES CONCERNING THE PROPOSED ACTION MAY BE DIRECTED  
Shawn Huff, State Housing Law Programs Manager (916) 445-9471

CERTIFICATION--IMPORTANT-- PLEASE READ BEFORE SIGNING-- If not signed, this application may be rejected.

I certify that the attached copy of regulation(s) is a true and correct copy of the regulation(s) identified in this filing, that the information specified in this filing is true and correct, and that I am the head of the agency taking this action, or a designee of the head of the agency, and am authorized to make this certification. I further understand that any false, incomplete, or incorrect statements may result in the rejection of this filing.

AGENCY DIRECTOR OR DESIGNEE SIGNATURE

*Kim Strange*

DATE SIGNED

8/5/10

TYPE NAME AND TITLE OF SIGNATORY: Kim Strange, Deputy Director, Div. of Codes & Standards

# BUILDING STANDARDS NOTICE/SUBMISSION FACE SHEET

BSC-FACE SHEET (Std. BSC-1, REV. 04/03/2009) Page 2

## INSTRUCTIONS FOR PUBLICATION OF NOTICE AND SUBMISSION

### HEARING DATE APPROVAL

Prior to submitting hearing notices for approval, state agencies must call or write in advance of submitting a public hearing notice for review to request that a particular hearing date be reserved for them. (H&SC §18935(b) & Title 24, Part 1, Section 1-302)

### NOTICES

Complete lines 1 through 8 and sign, date and identify title of signatory.

Submit the following:

- Six (6) copies of the "Notice" (notice of proposed action) prepared in accordance with Government Code Section 11346.5, including Form 399.
- One (1) copy of BSC "Face Sheet"
- One (1) copy of a delegation order, if other than the person authorized by statute signs the Face Sheet.
- Two (2) copies of the "Express Terms" (proposed regulations) in plain straightforward language, avoiding technical terms as much as possible, and using coherent and easily readable style prepare in accordance with Government Code Section 11346.2.
- Two (2) copies of the "Initial Statement of Reasons" prepared in accordance with Government Code Section 11346.2.
- One (1) diskette containing electronic files of the "Notice," "Express Terms," and "Initial Statement of Reasons."

### BUILDING STANDARD APPROVAL

Complete lines 1 through 8 and sign, date and identify title of signatory

Submit the following:

- One (1) copy of BSC Face Sheet
- One (1) copy of a delegation order, if other than the person authorized by statute signs the Face Sheet
- An indexed Rulemaking file
- Thirty-five (35) copies of the final "Express Terms" (proposed regulations)
- Thirty-five (35) copies of the "Final Statement of Reasons" prepared in accordance with Government Code Section 11346.9
- Thirty-five (35) copies of a "Nine Point Criteria" analysis
- One (1) diskette containing electronic files of the final "Express Terms"

### RESUBMITTAL

Complete lines 1 through 8 and sign, date and identify title of signatory.

Submit the following:

- One (1) copy BSC "Face Sheet"
- Appropriate number of copies of the resubmitted material

### WITHDRAWAL

Complete lines 1 through 8 and sign, date and identify title of signatory. Identify filing as a withdrawal by check "other" as the type of filing and type in "Withdrawal."

Submit the following:

- One (1) copy of BSC "Face Sheet"
- One (1) copy of a delegation order, if other than the person authorized by statute signs the "Face Sheet"

### EMERGENCY BUILDING STANDARDS

Complete lines 1 through 8 and sign, date and identify title of signatory.

Submit the following:

- One (1) copy of BSC "Face Sheet"
- One (1) copy of a delegation order, if other than the person authorized by statute signs the "Face Sheet"
- Thirty-five (35) copies of "Finding of Emergency" prepared in accordance with 11346.1
- Thirty-five (35) copies of "Express Terms"
- Thirty-five (35) copies "Nine Point Criteria" analysis

### CERTIFICATION OF COMPLIANCE

Complete lines 1 through 8 and sign, date and identify title of signatory.

Submit the following:

- One (1) copy of BSC "Face Sheet"
- One (1) copy of a delegation order, if other than the person authorized by statute signs the "Face Sheet"
- An Indexed rulemaking file
- Certification of Compliance
- Thirty-five (35) copies of "Express Terms"
- Thirty-five (35) copies of the "Final Statement of Reasons" prepared in accordance with Government Code Section 11346.9
- Thirty-five (35) copies "Nine Point Criteria" analysis
- One (1) diskette containing electronic files of the final "Express Terms"



FINAL EXPRESS TERMS  
FOR  
PROPOSED BUILDING STANDARDS  
OF THE  
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT (HCD)  
REGARDING AMENDMENT OF THE 2007 AND 2010 CALIFORNIA PLUMBING CODE (CPC)  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5  
(HCD EF 01/10)

LEGEND FOR EXPRESS TERMS

1. New California amendment or code language that was modified as part of first 45-day comment period (ending July 19, 2010): All such language appears in *italics*, modified language is underlined.
2. New California amendment or code language being modified as part of current 45-day comment period: All such language appears in double underlined and in italics.
3. Repealed text that was part of first 45-day comment period (ending July 19, 2010): All such language appears in ~~strikeout~~.
4. Repealed text that is part of the current 45-day comment period: All such language appears in ~~double strikeout~~.

The California Building Standards Code (California Code of Regulations, Title 24, Parts 1, 2, 3, 4, 5, 6, 7, 8, 10 & 12) is published in its entirety every three years and is effective to all buildings that submit an application for a building permit during its effective period. Each triennial edition of the California Building Standards Code becomes effective 180 days after its publication and is effective at the time an application for a building permit is submitted.

These proposed regulations will amend the 2007 edition of the California Plumbing Code (CPC) based on the 2006 edition of the Uniform Plumbing Code (UPC) of the International Association of Plumbing and Mechanical Officials (IAPMO) and the 2010 edition of the CPC based on the 2009 UPC for buildings constructed under the statutory authority of the Department of Housing and Community Development, including but not limited to, hotels, motels, one- and two-family dwellings, lodging houses, apartment houses, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing, factory-built housing and other types of dwellings.

In January 2009, HCD adopted "PEX regulations" that allowed the statewide use of PEX Tubing by removing the CPC's former prohibition against using PEX. The PEX regulations have been the subject of litigation. During the litigation, the court ordered that the PEX regulations must be "vacate[d] and set aside ..." pending the Commission's preparation and certification of the Second Revised Draft Environmental Impact Report (SRDEIR). In June 2010, the Department of Housing and Community Development complied with the court's order by repealing the action taken by the Building Standards Commission in January 2009. The Commission has prepared an SRDEIR, which supports the adoption of PEX regulations and, if certified by the Commission, will constitute full compliance with the California Environmental Quality Act (CEQA). In this regulatory action, HCD proposes to adopt new PEX regulations and amend other regulations, as necessary, in order to allow the statewide use of PEX Tubing. The parties have reached a tentative settlement agreement that reflects the mitigation measures identified in the SRDEIR and additional conditions and restrictions on the use of PEX that address concerns raised after the release of the SRDEIR. These "Final Express Terms," if approved by the Commission, will implement the settlement agreement.

Section "A" of these Final Express Terms describes HCD's action to adopt the PEX regulations into the 2007 CPC on an emergency basis and will be effective upon filing with the Secretary of State, and Section "B" of these Final Express Terms describes HCD's action to adopt PEX regulations into the 2010 CPC effective January 1, 2011.

A. The express terms adopting PEX regulations into the 2007 CPC, Chapter 6 are presented as follows:

CHAPTER 6  
WATER SUPPLY AND DISTRIBUTION

TABLE 6-4 <sup>1,2,3</sup>

Material	Water Distribution Pipe and Fittings		Building Supply Pipe and Fittings
	Hot	Cold	
Asbestos – Cement			X
Brass	X	X	X
Copper	X	X	X
Cast Iron	X	X	X
CPVC	X	X	X
Galvanized Malleable Iron	X	X	X
Galvanized Wrought Iron	X	X	X
Galvanized Steel	X	X	X
PE			X
PE-AL-PE	X	X	X
PEX <sup>1,2</sup>	X	X	X
PEX-AL-PEX <sup>3</sup>	X	X	X
PVC			X

<sup>1</sup> When PEX tubing is placed in soil and is used in potable water systems intended to supply drinking water to fixtures or appliances, the tubing or piping shall be sleeved with a material approved for potable water use in soil or other material that is impermeable to solvents or petroleum products.

<sup>2</sup> PEX tubing shall meet or exceed the requirements of ASTM F 876-08 or an equivalent or more stringent standard when used in continuously recirculating hot water systems and the PEX tubing is exposed to the hot water 100% of the time.

<sup>3</sup> The use of PEX and PEX-AL-PEX in potable water supply systems is not adopted, for applications under the authority of the Building Standards Commission and the Division of the State Architect and the Department of Housing and Community Development.

604.1.2 PEX All installations of PEX pipe where it is the initial plumbing piping installed in new construction shall be flushed twice over a period of at least one week. The pipe system shall be first flushed for at least 10 minutes and then filled and allowed to stand for no less than 1 week, after which all the branches of the pipe system must be flushed long enough to fully empty the contained volume. This provision shall not apply to the installation of PEX pipe where it replaces an existing pipe system of any material.

- (1) At the time of fill, each fixture shall have a removable tag applied stating:

"This new plumbing system was first filled and flushed on \_\_\_\_\_ (date) by \_\_\_\_\_ (name). The State of California requires that the system be flushed after standing at least one week after the fill date specified above. If this system is used earlier than one week after the fill date, the water must be allowed to run for at least two minutes prior to use for human consumption. This tag may not be removed prior to the completion of the required second flushing, except by the building owner or occupant."

- (2) Prior to issuing a building permit to install PEX pipe, the building official shall require as part of the permitting process that the contractor, or the appropriate plumbing subcontractors, provide written certification that he or she will comply with the flushing procedures set forth in the code.
- (3) The building official shall not give final permit approval of any PEX plumbing installation unless he or she finds that the material has been installed in compliance with the requirements of the code, including the requirements to flush and tag the systems.
- (4) Any contractor or subcontractor found to have failed to comply with the PEX flushing requirements shall be subject to the penalties in Health and Safety Code, Division 13, Part 1.5, Chapter 6 (Section 17995, et seq.).

~~604.11 PEX. [Not Adopted by DSA/SS, HCD, AGR, BSC, DHS]~~ Cross-linked polyethylene (PEX) tubing shall be marked with the appropriate standard designation(s) listed in Table 14-1 for which the tubing has been approved. PEX tubing shall be installed in compliance with the provisions of this section. All PEX pipe installed in California must provide at least 30-day UV protection.

~~604.11.1 PEX Fittings. [Not Adopted by DSA/SS, HCD, AGR, BSC, DHS]~~ Metal insert fittings, metal compression fittings, and cold expansion fittings used with PEX tubing shall be manufactured to and marked in accordance with the standards for the fittings in Table 14-1. Brass fittings used with PEX tubing shall meet or exceed NSF 14-2009 standards to prevent dezincification and stress crack corrosion.

~~604.11.2 Water Heater Connections. [Not Adopted by DSA/SS, HCD, AGR, BSC, DHS]~~ PEX tubing shall not be installed within the first eighteen (18) inches (457mm) of piping connected to a water heater.

**NOTE:**

Authority cited: Health and Safety Code Sections 17040, 17921, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

**Rationale:** HCD proposes to adopt the above-listed amendments into the 2007 CPC, Title 24, Part 5. In January 2009, HCD adopted amendments to the 2007 CPC that included mitigation measures based on the certified CEQA EIR. The Building Standards Commission prepared a Second Revised Draft Environmental Impact Report (SRDEIR) which supports the adoption of PEX regulations and, if certified by the Commission, will constitute full compliance with CEQA.

The mitigation measures identified in the SRDEIR (Table 6-4 footnotes 2, 3, and 4) and additional restrictions on the use of PEX address concerns raised after the release of the SRDEIR (Sections 604.1.2, 604.11, and 604.11.1).

The banners have been proposed for removal from Sections 604.11, 604.11.1 and 604.11.2 to maintain consistency with the format of this code.

**B. The express terms adopting PEX regulations into the 2010 CPC, Chapter 6 with amendments are presented as follows:**

**CHAPTER 6  
WATER SUPPLY AND DISTRIBUTION**

**TABLE 6-4**

Material	Building Supply Pipe and Fittings	Water Distribution Pipe and Fittings	Referenced Standard(s) Pipe	Referenced Standard(s) Fittings
Asbestos – Cement	X <sup>1</sup>		ASTM ...	
Brass	X	X	ASTM ...	
Copper	X	X	ASTM ...	ASME ...
CPVC	X	X	ASTM ...	ASTM ...
Ductile-Iron	X	X	AWWA...	ASME ...
Galvanized Steel	X	X	ASTM ...	
Malleable Iron	X	X		ASME ...
PE	X <sup>1</sup>		ASTM ...	ASTM ...
PE-AL-PE	X	X	ASTM ...	ASTM ...
PEX <sup>2, 3, 4</sup>	X	X	ASTM ...	ASTM ...
PEX-AL-PEX <sup>2, 4</sup>	X	X	ASTM ...	ASTM ...
PVC	X <sup>1</sup>		ASTM ...	ASTM ...
Stainless Steel	X	X	ASTM ...	

<sup>1</sup> ~~For BSC, DSA/SS & HCD~~ The use of PEX and PEX-AL-PEX in potable water supply systems is not adopted for applications under the authority of the Building Standards Commission and the Division of the State Architect and the Department of Housing and Community Development.

<sup>2</sup> When PEX tubing is placed in soil and is used in potable water systems intended to supply drinking water to fixtures or appliances, the tubing or piping shall be sleeved with a material approved for potable water use in soil or other material that is impermeable to solvents or petroleum products.

<sup>3</sup> PEX tubing shall meet or exceed the requirements of NSF P171-CL-R, ASTM F 876-08 or an equivalent or more stringent standard when used in continuously recirculating hot water systems where chlorinated water is supplied to the system and the PEX tubing is exposed to the hot water 100% of the time.

604.1.2 PEX All installations of PEX pipe where it is the initial plumbing piping installed in new construction shall be flushed twice over a period of at least one week. The pipe system shall be first flushed for at least 10 minutes and then filled and allowed to stand for no less than 1 week, after which all the branches of the pipe system must be flushed long enough to fully empty the contained volume. This provision shall not apply to the installation of PEX pipe where it replaces an existing pipe system of any material.

(1) At the time of fill, each fixture shall have a removable tag applied stating:

"This new plumbing system was first filled and flushed on \_\_\_\_\_ (date) by \_\_\_\_\_ (name). The State of California requires that the system be flushed after standing at least one week after the fill date specified above. If this system is used earlier than one week after the fill date, the water must be allowed to run for at least two minutes prior to use for human consumption. This tag may not be removed prior to the completion of the required second flushing, except by the building owner or occupant."

(2) Prior to issuing a building permit to install PEX pipe, the building official shall require as part of the permitting process that the contractor, or the appropriate plumbing subcontractors, provide written certification that he or she will comply with the flushing procedures set forth in the code.

(3) The building official shall not give final permit approval of any PEX plumbing installation unless he or she finds that the material has been installed in compliance with the requirements of the code, including the requirements to flush and tag the systems.

(4) Any contractor or subcontractor found to have failed to comply with the PEX flushing requirements shall be subject to the penalties in Health and Safety Code, Division 13, Part 1.5, Chapter 6 (Section 17995, et seq.).

**604.11 PEX.** Cross-linked polyethylene (PEX) tubing conforming to ASTM F877 shall be marked with the appropriate standard designation(s) for the fittings specified for use with the tubing. Such marking shall not be required for PEX tubing conforming to only ASTM F876. PEX tubing shall be installed in compliance with the provisions of this section. All PEX pipe installed in California must provide at least 30-day UV protection.

**604.11.1 PEX Fittings.** Fittings used with PEX tubing shall be manufactured to and marked in accordance with the standards for the fittings referenced in Table 14-1. Brass fittings used with PEX tubing shall meet or exceed NSF 14-2009 standards to prevent dezincification and stress crack corrosion.

**NOTE:**

Authority cited: Health and Safety Code Sections 17040, 17921, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

**Rationale:** HCD proposes to adopt the above-listed amended sections into 2010 CPC, Title 24, Part 5. In January 2009, HCD adopted the UPC as a basis for the 2010 CPC with amendments that included mitigation measures based on the certified CEQA EIR. The Building Standards Commission prepared a Second Revised Draft Environmental Impact Report (SRDEIR), which supports the adoption of PEX regulations and, if certified by the Building Standards Commission, will constitute full compliance with CEQA and will allow the Commission to adopt and approve PEX regulations.

The mitigation measures identified in the SRDEIR (Table 6-4 footnotes 2, 3, and 4) and additional restrictions on the use of PEX address concerns raised after the release of the SRDEIR (Sections 604.1.2, 604.11, and 604.11.1).