

*The most often heard contractor phrase:  
No one else makes me do that, so why do I have to ...*

Violation : SharkBite fitting(s) installed on copper piping, bond is not assured through the SharkBite fitting(s)  
Code Section : 2008 National Electrical Code, 250.104 Bonding of Piping Systems and Exposed Structural Steel.  
Comments : Contractor to correct the above conditions as necessary to ensure electrical continuity is continuous throughout the metal water piping system with SharkBite fittings installed.

Violation : SharkBite fitting(s) installed on Type M annealed (soft) copper larger than 3/8" nominal size  
Code Section : 2010 FBC-R 2608.2 Installation of Materials and 2010 FBC-P 303.2 Installation of Materials  
Comments : Contractor to replace SharkBite fitting(s) with fittings approved for the piping size installed.

While I have not yet seen any complete water piping systems installed using SharkBite fittings, I have seen SharkBite fittings used in water piping systems in remodel/alteration projects and in water heater replacements.

This newsletter addresses two issues:

Violation 1: SharkBite fitting(s) installed on copper piping, bond is not assured through the SharkBite fitting(s)

Violation 2: SharkBite fitting(s) installed on Type M annealed (soft) copper larger than 3/8" nominal size

Violation 1: SharkBite fitting(s) installed on copper piping, bond is not assured through the SharkBite fitting(s)

SharkBite fitting(s) may not provide electrical continuity through the SharkBite fitting(s). While this may not be a recognized concern for the plumbing contractor installing the SharkBite fitting(s), this should be recognized by a plumbing contractor as a need to contact an electrical contractor; and for a plumbing inspector to contact an electrical inspector.

SharkBite fitting(s) should be a concern for the electrical contractor as they are responsible for proper bonding of the metal water piping system; this should also be a concern for the electrical inspector.

SharkBite plumbing fittings are made for, and imported by:

Reliance Worldwide Corporation

<http://www.sharkbite.com/terms-conditions/>

&

[Terms and Conditions](#)

(see bottom of page)

*OUR DETAILS*

*Our business's name is: Reliance Worldwide Corporation*

*Our business address is: 2727 Paces Ferry Rd SE, Building Two Suite 1800, Atlanta GA, 30339*

and

CASH ACME

[Retail Price Book showing CASH ACME](#) on front cover in addition to Reliance Worldwide Corporation shown on the back cover

(see lower half of front cover)

[Installation Instructions](#)

(see bottom of last page)

I have provided the above links and information to show that the email which follows, an email from CASH ACME / Reliance Worldwide, is from a source directly connected to the SharkBite fittings.

In June of 2011, I contacted SharkBite (CASH ACME / Reliance Worldwide) and inquired about the electrical continuity of SharkBite fittings installed in copper water piping systems and the suitability of use of the SharkBite fitting(s) in copper water piping systems which are required to be bonded to ground/grounding electrode system.

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I.e., do the SharkBite fittings provide electrical continuity from copper pipe in one side of the SharkBite fitting, through the SharkBite fitting, to the copper pipe in the other side of the SharkBite fitting?

They said that they had never been asked that question before, and that they would check with their technical people and let me know what they find out.

On June 27, 2011, I received the following email as their reply:

*We recommend jumping the fitting. In most cases the copper pipe will be adjacent to the brass fitting. However, it is possible the pipe only touches the rubber o ring and not the fitting.*

*Thanks,*

*Ben Wertz*

*Cash Acme  
A Division of the Reliance Worldwide Corporation  
Ph: (205) 803-4516*

The above email addressed my concern about the potential lack of electrical continuity through the SharkBite fitting and the potential lack of maintaining the electrical bonding continuity throughout the copper water piping system when SharkBite fittings are installed. The recommended solution was to install a bonding jumper across each SharkBite fitting ... this becomes a major problem when the piping system is to be concealed while the bonding jumper attachment points are required to be accessible.

At the end of December, 2014, I sent an inquiry in to Reliance Worldwide / CASH ACME / SharkBite seeking the current status of the electrical continuity question - I received their response today, 01-06-2015 (I delayed sending the newsletter out until I received their response):

*Jerry,*

*We still currently have done no testing here in the US to approve them as being electrically continuous. We always recommend using a jumper when installing our SharkBite fittings to keep the ground continuity of copper pipe.*

*The copper pipe makes contact with the pipe stop inside the brass fitting, so the fitting most likely does conduct the electricity and ground through the fitting, but not to a very large extent.*

*Thanks,*

*Nick Newlin*

*Reliance Worldwide Corporation  
Office of Sales & Technical Support  
Home of SharkBite & Cash Acme Products  
2727 Paces Ferry Road  
Building Two, Suite 1800  
Atlanta, GA 30339  
[www.sharkbite.com/faqs](http://www.sharkbite.com/faqs)  
[techsupport@rwc.com](mailto:techsupport@rwc.com)*

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- 2008 National Electrical Code - Bonding of Piping Systems – underlining is mine for highlighting
  - 250.104 Bonding of Piping Systems and Exposed Structural Steel.
    - (A) Metal Water Piping. The metal water piping system shall be bonded as required in (A)(1), (A)(2), or (A)(3) of this section. The bonding jumper(s) shall be installed in accordance with 250.64(A), (B), and (E). The points of attachment of the bonding jumper(s) shall be accessible.
      - ◆ (1) General. Metal water piping system(s) installed in or attached to a building or structure shall be bonded to the service equipment enclosure, the grounded conductor at the service, the grounding electrode conductor where of sufficient size, or to the one or more grounding electrodes used. The bonding jumper(s) shall be sized in accordance with Table 250.66 except as permitted in 250.104(A)(2) and (A)(3).
      - ◆ (2) Buildings of Multiple Occupancy. In buildings of multiple occupancy where the metal water piping system(s) installed in or attached to a building or structure for the individual occupancies is metallically isolated from all other occupancies by use of nonmetallic water piping, the metal water piping system(s) for each occupancy shall be permitted to be bonded to the equipment grounding terminal of the panelboard or switchboard enclosure (other than service equipment) supplying that occupancy. The bonding jumper shall be sized in accordance with Table 250.122, based on the rating of the overcurrent protective device for the circuit supplying the occupancy.
      - ◆ (3) Multiple Buildings or Structures Supplied by a Feeder(s) or Branch Circuit(s). The metal water piping system(s) installed in or attached to a building or structure shall be bonded to the building or structure disconnecting means enclosure where located at the building or structure, to the equipment grounding conductor run with the supply conductors, or to the one or more grounding electrodes used. The bonding jumper(s) shall be sized in accordance with 250.66, based on the size of the feeder or branch circuit conductors that supply the building. The bonding jumper shall not be required to be larger than the largest ungrounded feeder or branch circuit conductor supplying the building.

Violation 2: SharkBite fitting(s) installed on Type M annealed (soft) copper larger than 3/8" nominal size

SharkBite fittings are not approved for installation on 1/2 inch nominal and larger Type M soft copper tubing – maximum approved size of soft (annealed) copper for the installation of SharkBite fittings is 3/8 inch nominal.

From the [SharkBite Engineering Specification Package](#), from page 3 – underlining is mine for highlighting Applications

*Tubing: Hard drawn copper pipe Type K, L and M and annealed Type M not to exceed 3/8 nominal complying with ASTM B 88, PEX tubing complying with ASTM F 876 or CSA B137.5, or CVPC tubing complying with ASTM D 2846 or CSA B137.6. SharkBite fittings are approved for installations above and below ground applications. Please consult with local code for final approval. Failure to comply with the above types of pipe or application could result in connection failures.*

- Florida Building Code – Residential, Chapter 26 General Plumbing Requirements – underlining is mine for highlighting
  - SECTION P2608 MATERIALS EVALUATION AND LISTING
    - P2608.2 Installation of materials. All materials used shall be installed in strict accordance with the standards under which the materials are accepted and approved. In the absence of such installation procedures, the manufacturer's installation instructions shall be followed. Where the requirements of referenced standards or manufacturer's installation instructions do not conform to the minimum provisions of this code, the provisions of this code shall apply.

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- Florida Building Code – Plumbing, *Chapter 3 – General Regulations* – underlining is mine for highlighting
  - *SECTION 303.2 Installation of Materials.*
    - *303.2 Installation of materials. All materials used shall be installed in strict accordance with the standards under which the materials are accepted and approved. In the absence of such installation procedures, the manufacturer's installation instructions shall be followed. Where the requirements of referenced standards or manufacturer's installation instructions do not conform to minimum provisions of this code, the provisions of this code shall apply.*

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**Please, if you have any items, issues or tips you would like to share** with other building officials / inspectors / plan reviewers, send the items, issues or tips to [jerry@jerrypeck.com](mailto:jerry@jerrypeck.com) for inclusion in future newsletters.

All contributors will be acknowledged and given credit for their contributions ... please help others by sharing the items, issues, and tips you have found in the field or during plan reviews.

I look forward to all contributions.

Respectfully submitted,



Jerry Peck  
Editor/Publisher  
*Inspectors' Field Comments Newsletter©*  
[jerry@jerrypeck.com](mailto:jerry@jerrypeck.com)

Please use the email address above if:

- You have comments, corrections, or additional information to share – **all comments are encouraged.**
- **You would like to contribute an article to be included in the newsletter.**
- You have a topic you would like researched for the newsletter.
- You know someone you think would like to receive this newsletter, please include their name and email address.
- You would no longer like to receive this newsletter, just put "No thank you" in the subject line.