

inside: **lead-free assemblies** | **webinars** | **spools** | **type II's on USC list ... and more**

# Cross Talk

Winter 2015

With recent changes at the state and federal levels regarding the amount of lead (Pb) allowed in components of water systems for potable water use, the USC Foundation added

definition of lead-free. The modification redefined lead-free to mean no more than 0.25% Pb. The regulations specifically did not allow products of more than 0.25% Pb to enter into

commerce when the product is to be used in water systems for potable water uses. So, a faucet from where water could be taken for drinking

## Lead-Free Assemblies, Model Designations and the USC List

82  
**Pb**  
Lead  
207.2

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a lead-free column to its *USC List of Approved Backflow Prevention Assemblies*. Assemblies meeting the revised definition for lead-free are designated accordingly on the USC List under the “ $\leq 0.25\%$  Pb” column. Recently, there has been confusion regarding the model designations of some assemblies on the USC List and whether or not the assembly meets the lead-free requirement. Assemblies with “LF” as a component of the model designations may be mistaken to mean lead-free even though they may or may not meet the definition of lead free.

In 2010, California and Vermont were the first in the nation to make a modification to the



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# Foundation

## Membership

### What's included with a USC Foundation Membership

#### Membership Discounts

- 25% off Manual Orders
- 20% off Training Courses
- Training Tools are also discounted

#### Other Benefits

- Free copy of the Manual of Cross-Connection Control, each time a new edition is published
- E-mail notification every time the electronic copy of the *List of Approved Backflow Prevention Assemblies* is updated
- Updates to the *List of Approved Backflow Prevention Assemblies* mailed quarterly
- Special Notice mailed when needed
- New *Cross Talk* mailed quarterly

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Members are encouraged to call the USC Foundation with technical questions. The USC Foundation's Engineering Staff is available to assist Members with the various aspects of field testing backflow preventers, installing backflow preventers and administering their cross-connection control program.

Below is a list of those who have become members of the USC Foundation since the last *Cross Talk*.

**Aecom**

**Alvarado Concepts Inc.**

**Bryan Alvarado**

**Carlos Rivera**

**Dennis Aguilar**

**DST-NY, LLC.**

**Hoffman Southwest DBA Roto-Rooter**

**Orange County Water District**

**Paul R. Gockel Construction, Inc.**

**Redlands Plumbing Htg & Air**

**Rita Neiderheiser**

**Russell Graham**

**San Juan Capistrano, City of**

**Thomas Cravens**

**WaterPro, Inc.**

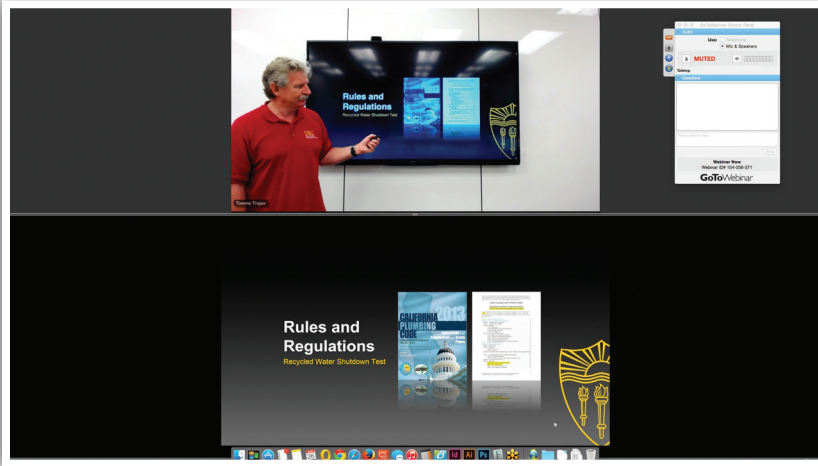
**William Watkins**

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# One-Day Update **Webinars**

In an effort to reach the largest possible audience the USC Foundation is making its *One Day Update Seminars* available on the Internet via live stream. The seminars have proven to be very popular amongst those involved in backflow prevention and cross-connection



*One-Day Update Webinar on desktop computer*

control. Providing the seminars as webinars will allow many more of those involved in the field to participate without having to make the trip to Los Angeles.

In April, the Foundation will be hosting its first webinar using the service GoToWebinar. The service will be available to anyone with an Internet connection and a computer or mobile device. The service is available on all operating systems including Windows, Android, Mac and iOS.

The service will allow the webinar attendee to watch and participate during the seminar. Those participating in the webinar will have an opportunity to ask questions of the Foundation staff and will be eligible for continuing education units (CEUs). All webinar attendees are eligible for six contact hours or 0.6 CEUs.

In order to receive the CEUs, attendees participating in the webinar will be asked periodically to respond during the webinar via the

chat feature to verify attendance. Failure to respond within five minutes of being asked to do so by the USC moderator will disqualify an attendee from receiving a CEU certificate for the seminar.

Foundation policy is that each person viewing the webinar must register. Only registered participants will receive CEU certificates.

If attendees choose to view the webinar in a group, the Foundation will ask attendees to verify their attendance using a sign-in sheet that will be provided by the Foundation office.

Paid attendees watching in a group must designate an organizer. That organizer will receive the sign-in sheet from the Foundation office. Verification will include the organizer gathering signatures at the beginning and end of the seminar and submitting the sign-in with an affidavit stating: "those named attended the entire seminar." Please note only paid attendees will receive CEU Certificates.

Those attendees who wish to participate via the webinar will receive an e-mail, with a link to instructions for the webinar, after registering for the seminar.

Pricing will remain the same whether the attendee chooses to participate via the webinar or attend the class in-person. Please note that all Foundation members receive a 20% discount on all *One Day Update Seminars*.



*One-Day Update Webinar on iPad*

For a list of upcoming *One Day Update Seminars* please see the back page of this newsletter and for questions about the webinars please contact the Foundation office. ■

# Installing a Spool on an Assembly

As older backflow prevention assemblies are replaced, installers may discover that a new assembly may be a different length and may not be long enough to fit in the area previously occupied by the older assembly. Making up for the shorter length of a backflow prevention assembly is common. But, how that length requirement is met is what may or may not invalidate the USC Approval of an assembly.

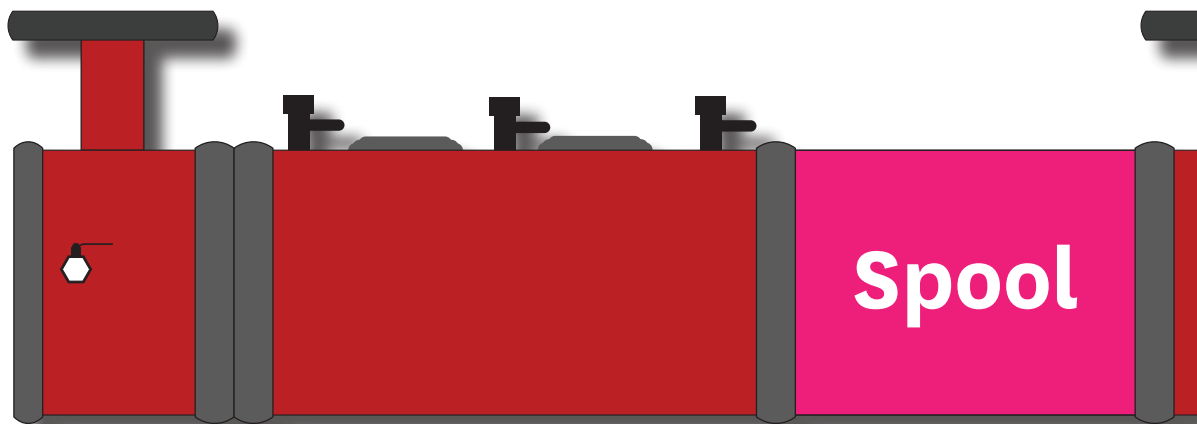
When making up for the length of an assembly an installer may use a piece of pipe, known as a spool, to retrofit the assembly. Adding a spool allows the installer to fit an assembly into spaces where a longer length is required. But adding the spool between the main body and shutoff valve of an assembly will invalidate the approval of an assembly if that assembly was not approved with an integral spool.

All assemblies found on the *USC List of Approved Backflow Prevention Assemblies* must go through a thorough laboratory and field evaluation. Manufacturers submit assemblies to the USC Foundation for approval and in some cases submit assemblies with spools as an integral part of the assembly. Those assemblies with integral spools are submitted and, if approved, are listed with the spool information.

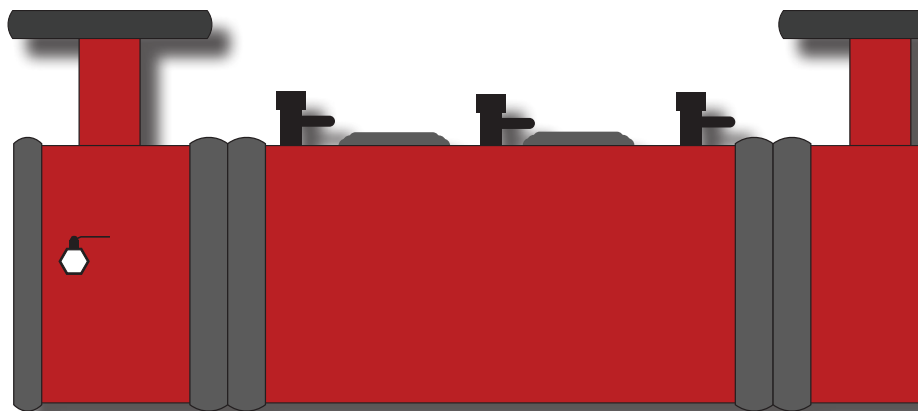
If an assembly has been approved with an option for a spool, that information may be found under the 'Notes' heading on the USC List. There may be different lengths of spools approved with an assembly, so the minimum and maximum lengths of the assembly, includ-

ing the spool section, will be shown on the USC List.

Assemblies with options for a spool are designated a specific model. Therefore, it is critical to understand that not all assemblies may have spools installed and still be considered USC Approved.



*Backflow Prevention Assembly with Spool installed between the No.2 Check Valve and No.2 Shutoff*



*Backflow Prevention Assembly with Spool installed after the*

Even though two assemblies from the same manufacturer and similar model designation may look alike, those assemblies with a spool option are designated with a different model.

For example, the Wilkins 350AST double check assembly is an approved assembly without a spool; the Wilkins 350ASTR double check as-

sembly is approved with a spool. In this case the 'R' designation in the model references the spool. While both assemblies may seem identical, adding a spool to the Wilkins 350AST would invalidate the assembly's approval since that model designation was not approved with a spool.

In many cases, installers in an attempt to mimic existing approved assemblies with a spool, will install their own spool between the No.2 check valve and the No.2 shutoff valve (since all of the assemblies on the USC List with a spool option install it in that configuration) and in doing so invalidate the USC Approval.

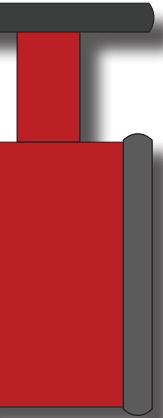
At other times, to meet a length requirement, an installer may purchase a spool from a third-party manufacturer or fabricate one and install it somewhere between the shutoff valves of the assembly. This invalidates USC Approval as well.

Adding a spool between the shutoff valves to any assembly that does not come from the original manufacturer as a unit (assembly with integral spool) invalidates the USC Approval.

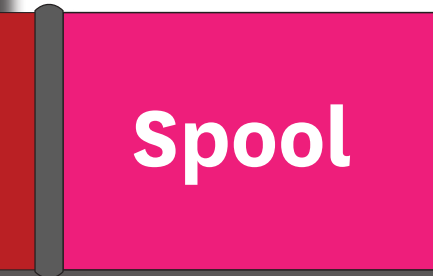
A solution for installers who need to extend the length of an assembly would be to install the spool either upstream or downstream of the

approved assembly. In this configuration, the assembly would be left intact and the USC Approval would remain valid.

For questions about which assemblies are approved with a spool option please refer to the USC List or contact the Foundation office. ■



Valve

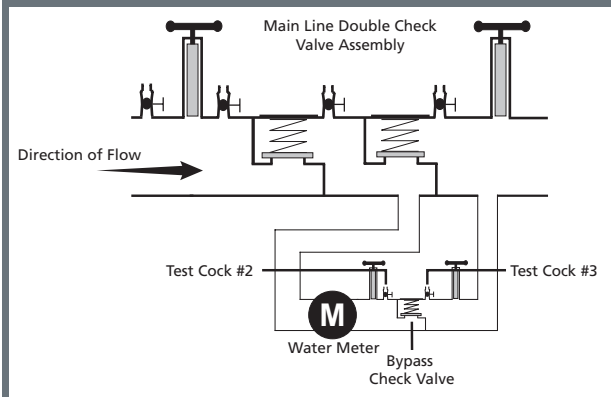


No.2 Shutoff Valve

## DCDA-II/RDPA-II Now on USC List

Earlier this year the Foundation's *USC List of Approved Backflow Prevention Assemblies* included its first Double Check Detector Backflow Prevention Assembly – Type II (DCDA-II) and Reduced Pressure Principle Detector Backflow Prevention Assembly – Type II (RPDA-II). The DCDA-II and RDPA-II assemblies are commonly found on fire systems where backflow protection and water usage recording is necessary.

A Type II assembly only bypasses one check valve of the main line assembly (i.e. 2nd check valve) and in turn the bypass arrangement includes only one check valve. This can allow the overall pressure loss of the assembly to be less than that of a DCDA or RPDA, although the requirements in the standards are the same.



*Double Check Detector  
Backflow Prevention Assembly - Type II*

This configuration allows the assembly to balance the relationship between the mainline and bypass more easily. Whether water flows through the mainline or the bypass, it always flows through two check valves still providing the same level of backflow protection as a double check valve assembly or a reduced pressure principle assembly.

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would be required to be lead-free. And an assembly sold to be used on that water line providing the drinking water is required to meet the lead-free requirement.

In 2014 the EPA followed California and Vermont and changed its definition of lead-free from  $\leq 8\%$  Pb to  $\leq 0.25\%$  Pb.

It is common to find a “LF” model designation for an assembly on the USC List. And most assume the “LF” model designation to mean lead-free. However the “LF” as part of the model designation does not necessarily mean the assembly meets the  $\leq 0.25\%$  Pb requirement.

There are over 600 assemblies on the current USC List that contain “LF” in one format or another as part of the model designation. Almost one-quarter of these do not meet the current requirements to be considered a lead-free assembly. So it is important to understand why a “LF” model designation does not necessarily mean the assembly meets the lead-free requirement.

First of all, the model designation is simply a choice by the manufacturer. A manufacturer may choose to designate a particular assembly with whatever convention they decide to use. Some manufacturers choose to use the “LF” designation to indicate a lead free assembly. But there are more than 500 assemblies on the USC List that meet the lead-free requirement and do not contain “LF” anywhere within the model designation.

On the other hand, there are about 100 assemblies on the USC List that contain the “LF” designation in the model number and do not meet the current lead free requirement.

There are a few different reasons for the inconsistencies. For example, an assembly could have been approved in 2008 when the commonly accepted definition of lead-free was  $\leq 8.0\%$  Pb. At that time, the manufacturer chose to include the “LF” designation so that a customer could easily identify that this assembly met the, then current, lead-free definition of  $\leq 8.0\%$  Pb. Once the lead-free definition changed in California, the USC List was modified to include the column indicating whether

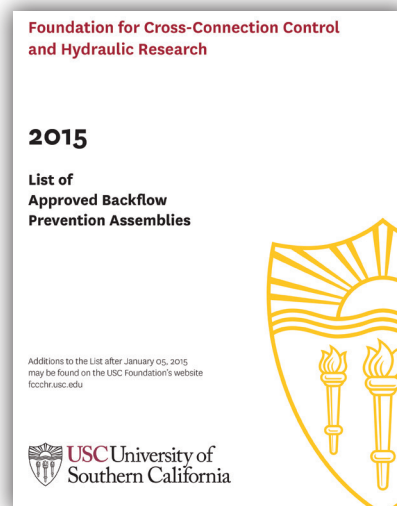
or not an assembly met the new definition of  $\leq 0.25\%$  Pb. So, the lead-free assembly with the “LF” designation, which was approved in 2008, stayed on the USC List as approved but is indicated as not meeting the  $\leq 0.25\%$  Pb requirement.

It is also important to note that the requirement for an assembly to contain  $\leq 0.25\%$  Pb is not a requirement for USC Approval. The lead-free column on the USC List is only provided to help Foundation members determine which assemblies meet

this regulatory requirement. Since the lead-free requirement is not necessary for USC Approval, USC does not perform the calculation to determine if an assembly is lead-free.

Although all testing required for USC Approval is conducted by USC Staff; the lead-free determination is made by a third party which is capable of testing to the NSF Standard 61 or NSF 372 to determine if the product meets the  $\leq 0.25\%$  Pb requirement.

Before an assembly is listed on the USC List with a “Y” (Yes) in the  $\leq 0.25\%$  Pb column, the Foundation must receive documentation showing that the assembly does meet the NSF Standard 61 or NSF 372.



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## dcda-II/rdpa-II now on **usc list** : continued

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It is important to note that even though a single check is present in Type II assemblies it does not mean that a single check alone is suitable for backflow protection. The single check that is included in all Type II assemblies is part of the entire detector assembly that contains multiple check valves. The Foundation continues to stress that a single check by itself does not meet the needs for backflow protection.

For more information about which Type II assemblies are USC Approved please refer to the USC List on the Foundation's website (<http://fccchr.usc.edu/list.html>). ■

## lead free assemblies, model designations and the **usc list** : continued

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It is not uncommon for an assembly to receive USC Approval before the documentation is received indicating compliance with NSF Standard 61 or NSF 372. In these cases, the assembly is placed on the USC List, but is not designated as meeting the  $\leq 0.25\%$  Pb requirement. The assembly may meet this requirement, but the testing has not been complete to ensure that this is so.

In these cases, an assembly may be added to the USC List and contain an "LF" designation in the model number but contain an "N" (No) in the  $\leq 0.25\%$  Pb column. If and when documentation is received, the indicator in this column would be changed to a "Y" (Yes).

It is important to note that any "LF" designation on any assembly should not be interpreted to mean lead-free. Some "LF" assemblies may have been considered lead-free before the 2010 change of the definition, while other assemblies may be listed as not meeting the current lead-free requirement but that status may change once the Foundation receives the lead-free documentation. Foundation Members are encouraged to reference the USC List for approval and lead-free requirement status. ■

## approved assemblies & lead-free spare parts

With the definition of lead-free being revised nationwide last year many have wondered what that means for a USC Approved assembly that was not originally approved with lead-free replacement parts since installing spare parts that are different than the original component parts invalidates the USC Approval.

The Foundation, in order to assist field personnel in meeting lead-free requirements, has been working with backflow prevention assembly manufacturers for the last several years to ease any transition between lead to lead-free parts. In that time frame the Foundation has evaluated existing USC Approved assemblies with new lead-free parts to ensure the assembly continues to meet Foundation standards as well as the lead-free requirements discussed here.

Please see Cross Talk, Winter 2014 for more information regarding lead-free spare parts and USC Approval. And, for a list of USC Approved lead-free repair/replacement parts please visit <http://fccchr.usc.edu/leadfree.html>. ■

# Training

## Courses 2015

all courses in Los Angeles, CA unless noted

**Tester Course**      **Specialist Course**

4-8 May

20-24 April | Austin, TX

13-17 July

27-31 July

5-9 October

**One Day Update Seminar**

16 April

**L.A. & CA Codes and Regulations**

25 June

**Recycled Water Shutdown Test**

12 August

**Field Test Procedures**

13 August

**Advanced Field Test Procedures**

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## Social Media

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subscribe to our YouTube channel

[youtube.com/usfccchr](https://youtube.com/usfccchr)



# Upcoming Events

**ABPA Annual Education Conference & Trade Show**

Nashville, TN

18-20 May 2015

**AWWA National Conference & Exposition**

Anaheim, CA

7-10 June 2015

**ABPA Western Regional Backflow Conference**

Las Vegas, NV

28-29 September 2015

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