Importance of Rinsing
Session Questions and Answers

Q: Why is DI water acidic?

A: DI water in the process of removing the ions makes it very hungry to absorb materials. That's why you can really only use DI water in stainless steel or plastic piping because it can be a bit aggressive. Even when it's exposed to oxygen it scavenges some of the carbon dioxide out of the air and forms a light carbonic acid so you'll see DI water in the 4 ½ to 5 pH range normally.

Q: How should I rinse vented packages, like Xilinks devices?

A: The short answer is you really want to make sure you get the rinse water in the components in the vented package and then back out. Common techniques beyond just the inline or the batch washer or the sprays is to repurpose your old ROSE test or megameter machine where you immerse in the IPA water solution and submerge it and then allow that to penetrate in the component package and come back out. Another thing that we really recommend is a bake out cycle depending on the temperature that's allowed for the parts. Sometimes a 4 to 8 hour bake out cycle will deactivate any amines or other residues that might be left in that package.

Q: Is there a fast way to know that a device is completely rinsed?

A: It depends on the surface and what you're looking for. You can do that with a dynes pen to the surface of the assembly. You have to know what clean looks like ahead of time. Another thing is if you have wash solution that is very ionically contaminated, if you put that in your ROSE tester and the part is not sufficiently rinsed, you'll see a high score. It doesn't always mean that it is flux residues; the wash solution would also trigger that.

Q: How do you quantify the dyne pen?

A: On the dyne pens, they come in different numbers. You can get them up to 70 and they start in the lower 30s. If you by a package of dyne pens you get an array of numbers. DI water on a clean surface should be about 72 so we always look at that one for cleaning but if it passes below 72 you could try a 65 or a 60. The kit you get should come with an array of solutions for testing.

Q: Does it help to heat the rinse?

A: It does. You can relate that to when you're washing your hands or taking a shower. Hot water tends to rinse better. You've got to find the right balance between effective rinsing and compatibility. You want to rinse with warm or hot water, but not too hot for the machine or the devices being rinsed.

Q: I found that my DI water quality was low. What should I do with the assemblies just built?

A: Additional rinsing doesn't hurt the assembly. We recommend to restore the water quality or service the DI beds and turn back on the final rinse and then you can put

the work assemblies back in for additional rinsing. They don't have to be washed again, but a little extra rinsing for safety doesn't hurt.

Q: How can I control the quality of my rinse water?

A: A lot of times your DI water system will have either a red or green indicator light that's set at a certain resistivity for pass or fail. What you would want to do is set some sort of internal control well when the light or gauge drops before the threshold, then you would want to have those bottles replaced or reserviced. When you service the DI bottle, you should always replace the carbon in front of it as well because that carbon tank really pulls out any residuals organics the DI bottle handles the DI contamination. The carbon bottle handles organics so that contamination can be recovered and cleaned out.