

October 2011

## **FAQ's Solder vs. Silicone**

### **1. Why did Don Park stop soldering Tall Cone Flashings?**

The Lead component in the solder that was used is a carcinogen. We are concerned about the health of our employees as well as the impact on our environment.

### **2. Why did Don Park not switch to a Lead free solder?**

The main reason Don Park did not adopt one of the newer lead free solders is quality of the joint's seal. The Lead free solder is known to have a poor "wetting" factor.

### **3. What is a "Wetting Factor"?**

The Wetting factor – is how the solder bonds with the metal being soldered to create a combined metal alloy of the bonded metal and the solder. This also affects the ability of the solder to be "drawn" into the joints which insures all gaps are filled and is well sealed.

Therefore Lead free solder will not provide the same sealing performance as the solder with Lead.

### **4. What are the benefits of using Silicone?**

Silicone sealant, already always used for Don Park "Adjustable" – sloped roof flashings, is also an approved alternate to solder for tall cone flashings as per our ULC drawings; meaning that it is a tested and proven alternative.

Silicone is stable over a wide range of temperatures. It is weather resistant and maintains its performance for decades; as it has a very high resistance to UV rays and radiation. Silicone doesn't fully harden, crack, crumble, dry, become brittle or degrade due to atmospheric pollution.

### **5. Common concerns with Silicone.**

*Concern # 1 - Silicone will melt/burn when exposed to hot roofing tar.*

Roofing tar is pre-heated to 250-300 degrees F.

The ULC approved/specified silicone (Dow Corning Type 732) has a maximum temperature of 356 degrees F. (Lead Tin solder has a melting point of 361 degrees F).

*Concern # 2 - Silicone in place of solder will leak water.*

The new Lead free solder is more likely to have water leaks than a silicone joint due to the poor wetting of lead free solder. With Silicone you can visibly see if the joints are well sealed to insure it is water tight. Silicone remains flexible as the metal in the flashing shrinks and expands with temperature fluctuations.

