



## **Mechanical Services**

### **Refrigeration – Air Conditioning – Heating - Plumbing**

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#### Trap Seal Primer

Traps are installed on a plumbing system to prevent sewer gases from entering the occupied space. To perform this function effectively the trap must have water in it (primed). When the trap runs dry the sewer gases infiltrate the occupied space. The result is usually a tenant or customer that places a service call to investigate the bad smell.

Most traps are served by fixtures that are in frequent use such as kitchen faucets or shower heads. Traps that are not used frequently (floor drains) are required to have a means of maintaining the prime. This is where the trap seal primer comes into play. There are several methods of accomplishing this task.

We have all seen the ¼" tube that comes off the back of a toilet or flush valve. This tube disappears into the wall and reemerges below ground into the side of the floor drain. When the toilet or flush valve is used some of the water makes its way to the trap thus keeping the floor drain primed and the sewer gases at bay. This is an effective way of priming the floor drain, however, we find more and more of these lines abandoned for one reason or another. Sometimes the flush valve or toilet is replaced and the line is not reconnected. Other times the line begins to leak and is abandoned. Even when this line is working effectively we must ensure that it is connected correctly as a floor drain trap constitutes a HIGH Hazard risk to the potable water system according to the CSA B64.10. The line that feeds the trap must protect against backflow as we do not want the water from a floor drain coming back into our potable water supply. Fortunately most toilets and flush valves have backflow preventors in the form of an Atmospheric Vacuum Breaker (A.V.B.)

Another common method is the Pressure differential trap seal primer. This device is located near the floor drain and opens and closes based on pressure fluctuations in the distribution system. This device works well as long as there are regular pressure fluctuations. If the device sits idle for too long then the parts inside seize and we lose our prime. Once again we must install these devices with backflow prevention in mind.

The future of trap seal priming is solenoid activated valves. These devices are installed on a cold water feed near the floor drain. They are set to open once a day for approximately 30 seconds. The schedule and duration are both programmable. The device can be plugged in to a regular electrical outlet or hard wired. With these devices an air gap is the most effective method for backflow prevention.

The next time you have a complaint of sewer gases or a bad smell please check if there is water in the floor drain. If there is not, fill the trap with a bucket of water and start the investigation.

Regards,

Al Martin