While awaiting the start of a meeting, I noticed the person next to me tossing something gently in the air. Being the typical engineer, I couldn’t help but ask, “What is that?”

He went on to explain that it was a device to protect the trap seal in a floor drain by preventing the water from evaporating. Of course, I asked if I could see it and play with it also.

I was impressed by this simple product that push fits into a floor drain and formed a barrier over the opening of the drain. The membrane was so light, that with the slightest amount of water, it opens to allow the water to flow down the drain.

The possibilities of a product such as this seemed endless. There are thousands of floor drains in plumbing systems that have no means of protecting the trap seal. While the plumbing codes require trap seal primers, the enforcement has been lax. Furthermore, until recently, the plumbing codes have been wishy-washy regarding the requirement for trap seal protection.

To this day, some plumbing codes allow the use of a deep seal trap for protecting a floor drain trap. A deep seal trap merely extends the length of time to evaporate the water by a factor of two. If it takes a month to evaporate a floor drain trap seal, it takes two months with a deep seal trap. The result is no real protection.

Not only would this type of device work on a new floor drain, it would also work on an existing floor drain. It is rather difficult to add a trap seal primer to an existing floor drain. The only way to install it is to dig up the concrete floor to run the piping for the trap seal primer. With this device, you remove the grate and install the device.

When I encounter a new innovative device, I often wonder why an individual decided to invent a given product. It takes a lot of time, dedication, knowledge, willpower, and money to introduce a new product. Plus, there is no guarantee that the product will be accepted in the marketplace. The plumbing industry is not one that embraces new concepts with open arms.
I soon found out that I was speaking to Don Huber, the inventor of the device. He invented the device because of the problems he had in the buildings he owned. The floor drain trap seals were constantly evaporating, allowing the escape of sewer gas. Whenever a problem occurred, it would cost him time and money to have someone go to the building to correct the situation.

As the meeting started and we entered the room, I said to Don, “That is a neat invention, you should do well with it. I really like it.”

A few months later, I received a letter from Don asking if I remember him. That followed with a telephone call, and many questions regarding how to get everyone to say, “That is a neat invention,” like I said.

I suggested to Don that he start at ASSE, developing a standard that regulates these devices. Without a standard, there is no assurance that the device is any good. The plumbing industry has come to rely on standards, such as the ASSE standards, for regulating products. A letter was sent to ASSE suggesting a new standard for “Barrier Type Floor Drain Trap Seal Protection Devices.”

Don was not the only person considering an alternative means for protecting the floor drain trap seal. During the same period of time, my good friend Ken Cornwall of Proset was developing a similar type of product.

Like Don, Ken was trying to develop a product that would open with the introduction of a minimal amount of water, and close to seal off the opening and prevent the evaporation of the trap seal. Like his competitor, the device was designed for both new and existing installations.

ASSE formed a Working Group to develop a new standard for this type of product. The beauty of the consensus process is that there is a meeting of the minds of all segments of the industry. Manufacturers, contractors, engineers, inspectors, and test laboratories all sit down at the same table to hammer out requirements for a product.

For this type of product, everyone had a different opinion about what the device needs to do and how it needs to operate. The trap seal is an important part of the plumbing system. It is tantamount to the motto, “Prevention Rather Than Cure.” The trap seal protects public health by keeping the sewer gas in the piping system. This new type of device must protect the trap seal to assure protection of public health.

The most important requirement in the standard remains the evaporation test. With the device installed, the water from the trap seal must be completely protected from evaporation. The evaporation test also determines the device’s performance when a mop strand becomes lodged in the device. The device is only permitted to allow evaporation at a rate of one tenth the rate of a floor drain without a protective device.

Anytime a device is placed in line in the drainage system, it cannot obstruct the normal flow into the drain. An installed device must be capable of allowing the full amount of flow into the drain. This flow rate equates to a drain flowing at half full flow.

One of the additional features of a barrier type floor drain protection device is that it seals off the opening in the event of a loss of trap seal. While this is a nice benefit, it is not a requirement of the new standard. The true purpose of the device is to prevent evaporation. It is the trap seal that should prevent the escape of sewer gas, not the device.

With the completion of the standard, manufacturers will begin to increase their marketing effort for these types of devices. The manufacturers place their trust in the ASSE standards process to develop a standard that will result in a quality product. Once the standard is available they can provide the public with a level of quality in their product.

The device manufacturers can now have their models tested and certified to the new standard. This certification assures that the product meets the minimum requirements of the standard.

The next step is to provide the plumbing codes the opportunity to reference this new standard. Once in the plumbing codes, the designer and contractor will have an additional option for protecting floor drain trap seals.

When encountering an existing floor drain without any protection of the trap seal, consider a barrier type of floor drain trap seal protection. For new installation, these devices are an option along with trap seal primers for providing the necessary protection of the trap seal.