

SECOND ANNUAL BOTTLES AND LABELS ISSUE

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# Retrofitting Winery Floor Drains

 [winesandvines.com/template.cfm](http://winesandvines.com/template.cfm)

Digging the channel for a slot drain required the greatest amount of time for this project.

Water is one of the most ubiquitous materials in a winery. Show me a winery that has moved into a barn, warehouse or some other industrial space, and you will usually find places where you think you are “walking on water”—and not in a good way. We all know that floor drainage is a problem even in wineries that have a pretty good layout. Our winery is no exception. Even though we at Tamanend Winery took over a



building that had the remnants of floor drains, we had certain locations where the drainage was not good. After years of wet floor areas, we decided to add additional drainage to take care of the problem.

What drain to put in? The answer to that question is partly philosophy as well as some science and a lot of engineering. As a general rule, I am not a fan of box drains in all but the dirtiest locations in a winery, because box drains are open trenches that are terrible to keep clean enough in the indoor parts of the winery. (See “Installing box drains in a retrofit” on page 75.) For new floor installations, I prefer circular drains where each drain covers about a 20-square-foot area. In these cases you can minimize the drain’s exposure to the winery environment, and P-traps can minimize odors in the winery. Unfortunately for retrofit areas, this is the most costly to install and, unless you are a skilled mason, it is the most difficult for winery personnel to finish the floor correctly. In addition, the more the circular drain must deal with heavy solids, the less advantageous the circular drain is.

## HIGHLIGHTS

- Circular styles can minimize the drain's exposure to the environment, but they require professional assistance to install in existing structures.
- Opening the floor and digging out the channel requires the greatest amount of time during the drain-creation process.

- Box drains can handle large amounts of solid materials, while modular slot drains handle less solid materials but are easier to keep clean.

Some drains can be installed competently by winery staff during a retrofit situation. The purpose of such drains will be to remove liquids (cleaning water with its chemicals or small amounts of spilled wine), yeast, seeds and small amounts of skins.

### **Modular slot drains**

In reviewing the available alternative solutions, I had heard of Slot Drain Systems, a company that specializes in prefabrication of drainage systems. This system appealed to me as a potential DIY project. The first task is to lay out the drain in linear feet. In our case, we needed a 45° angle to capture the area with most of the pooled water and then bring both arms into the collection box.

The company responded with a diagram laying out the pieces and supplied the generic cross section of their slot drain. After approving their design, within two weeks we received a 2-foot x 2-foot x 12-foot crate containing the drain that was ready to be installed.

Installation of the slot drain at Tamanend Winery is shown in the center photo on page 73. To set the drain in place, the channel was cut and dug similar to a box drain. Opening the floor and digging out the channel required the greatest amount of time, by far, for this project. Then the drain was assembled and rolled into place using four black dollies. The support beams were placed temporarily on the dollies, which allowed for the final positioning of the entire drain system prior to installation in the floor. Removal of the dollies allowed the anchoring of the drain in its final location. Anchoring the drain is an absolute must, because if the drain is not anchored, it will float in the concrete.

The distance from the rails to the edge of the channel is the same for the box drain, but the amount of floor opened up is less because the drain starts in the center and widens below grade. So it takes less concrete, and the amount of slope is much easier to control for less experienced winery staff concrete “masons.” Depending on the volume of water and/or solids that you anticipate, the width of the slot can be adjusted up to about 1 inch. We chose a space of half an inch.

The construction material of the drain is either fiberglass or stainless steel. The wash-down material did not justify the expense of stainless steel, so we opted for fiberglass. The drain comes with a unique scraper that is curved to fit the bottom of the drain. To eliminate any solids buildup in the drain, one slides the scraper into the slot length-wise and then turns it 90°. Once in the drain, the solids can be pushed into the collection box for removal. Since the slot is narrow and the drain is full port into the collection box, I anticipate the drain would never get completely clogged.

The photo at right on page 73 shows the narrow, stainless steel-lined slot as the only element visible in the finished floor. The entire drain is forklift-safe. It won't bend, flex or break, and it has been the easiest drain system to maintain that I have experienced.

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