



what's cool

Products that are smart, make your tasks easier and provide cost or labor savings

Bill Pregler

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Canning Line Operations, Quality Control and Certification

LAST MONTH I DISCUSSED the benefits of aluminum cans, their history and how they are made. This month I focus on the individual components of a new canning line installed at **Free Flow Wines** and their protocol for maintaining strict quality control standards, the compliance certification of “can-to-product” as required by **Ball Beverage Packaging** (the makers of aluminum cans), and I’ll address the interior coating of cans and concerns people have about epoxy and BPA (Bisphenol-A).

When viewing the line at Free Flow Wines, my primary attention was on the similarities and differences between a canning line versus a bottling line. What was really cool was that all of the individual vendor technicians for all of the different components were on hand in Napa that day and amenable to all my questions.

The system integrator for the project was **Codi Manufacturing** of Golden, Colorado, which has years of experience in both machinery design and fabrication. For an overview I spoke with the owner, **Jared Jones**.

The Canning Line

The line begins with the Codi Model DPL-250 automatic depalletizer, the canning line’s version of a dump table for bottles. It is rated to set the pace at about 50 to 60 cans per minute. In “can world,” there are no 12-pack boxes of empties (as in glass), and all cans arrive on slip sheets, separating multiple layers of cans stacked on a pallet. For the 250 ml can, the machine holds a pallet that accommodates 21 layers of 389 cans each. The unit will handle cans up to 500 ml in size. An automated sweep-arm pushes rows of cans onto a conveyor that leads to the filler. As the cans head to the filler, they are rotated 360 degrees in a corkscrew motion and blasted by an ionized air-rinser to remove any static charge in the can, which can hold dust. In contrast, a blast of air into an open-top

can is far superior to a blast into a narrow-necked bottle—hence why many bottlers use rinsers.

Next is the Codi Model CCL-45 filler-monoblock, which reminds you of a traditional bottle filler except it seams a lid instead of driving a cork or spinning a screw cap. The precautions against O₂ pickup are the same: sparging, filling, sparging again and sealing the package. It is a compact unit with all 304 stainless steel construction. As it normally processes beer, which is full of proteins, it has all the necessary sanitary precautions and protocol, utilizing fully enclosed CIP systems. Currently, they use 185° F water with the ability to run caustics. I suggested they start considering steam in the future.



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The largest machine in the canning line is the Codi Depalletizer, which immediately leads to the filler.

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After the Codi counter-pressure filler, the highly compact canning line quickly transits from seamer to rinser, labeler to heat tunnel.

After filling, a final dose of N₂ is applied, and the lid is immediately secured. The cans exit the filler to a washer, which removes any residual wine on the outside. Next, they go through a series of air knives to dry the can and then, like a bottle, head toward the labeler.

When considering your can's artwork, there are two options: direct printing onto the can by the can manufacturer or applying a 360-degree, pre-printed shrink sleeve over the can. Ink printing directly on the can is generally for larger quantities, into the hundreds of thousands and above, and the lead times from the manufacturer are often counted in months. Such is the business of cans.

For smaller quantities and quicker turnaround times, printed shrink sleeves are the alternative of choice. Sleeves are typically printed on the underside of the clear material, protecting your art from scuffing. Because the cans are metallic silver, the sleeve imagery is either metallic, non-metallic or a combination of both.

Hands-down, sleeves are the best option when starting your can program. First, you do not need to worry about large minimum orders as with pre-printed labels, and you also get all the fantastic benefits of digital printing. At Free Flow, sleeves are printed on high-speed HP-Indigo presses at **Multi-Color Corporation**, under the direction of **Dan Welty**, digital print manager. By now, digital labeling is also mainstream. By far its major appeal is its flexibility and ease in making last-minute graphic adjustments. This is especially cool when introducing a new SKU, adjusting colors or fine-tuning a new design. Digital also has no color limitations, is not restricted by Pantone inks

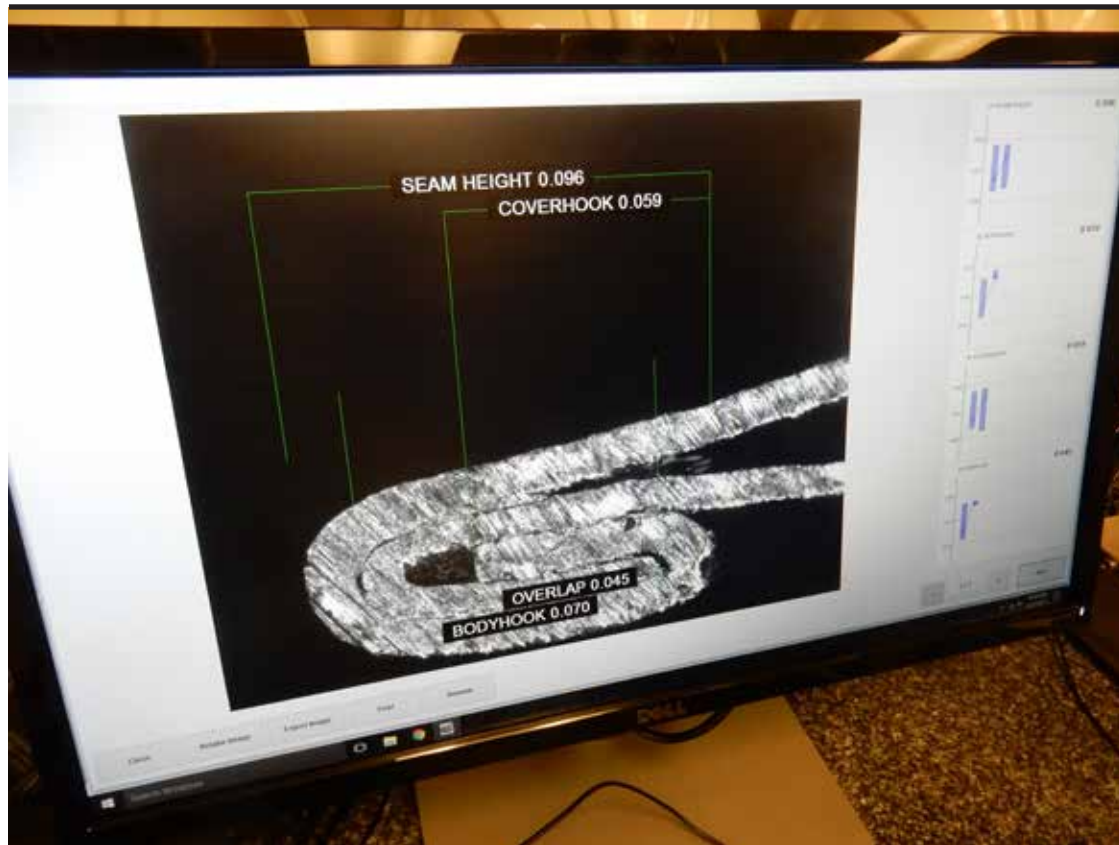
and uses highly refined 210 line resolution. Order turnaround is usually weeks instead of months and, again, there are no minimum orders.

The sleeving machine was supplied by **Pack Leader USA** of Grandview, Missouri. I spoke with company owner **Karl Lavender** about the easy



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The final stage is from pack-off to semi-automatic stretch-wrapping of cardboard trays. Wineries can specify package sizing with/without can handles.



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Part of the quality control protocol is to measure lid-to-can seaming as specified by the can manufacturer. Permanent records are stored for the winery and by Free Flow Wines.

learning curve of the touch screen controls, which offers quick set-up with job memory and quick trouble-shooting menus. Naturally, it is also built of 304 stainless steel as a nod to the cellar's corrosive environment. Free Flow uses the Model SL-10, which will handle up to 200 CPM, depending on size of can. Like PS labels, shrink sleeves come on a roll but are cut with rotary blades. Machine speed is based on length of sleeve, which is based on the height of the can.

Similar to bottling lines that use shrink foils, this line moves through a heat tunnel to secure the sleeves. Interestingly, it uses steam and not electric heat. One nice thing about steam is that it creates an environment of constant temperature. Often operating at much higher temperatures, electric tunnels may result in hot spots, which can distort shrink labels. The cans pass through very quickly, dispelling any concerns about heating the wine in the can.

The last link in the chain is the semi-automatic stretch wrapper/bundler from **EDL Packaging** in Green Bay, Wisconsin. I spoke with **Matt Tresp**, regional sales manager, who told me it requires hands-on operator loading of cans onto cardboard trays, which is followed by a wrap of plastic stretch-wrap. The machine can be upgraded to accommodate growth, all the way to fully "lights-out automation"—an expression I like. There are a variety of packing configurations available, from four-packs to 24-packs, all specified by the winery.

Quality Control Testing

Throughout canning day, the Free Flow laboratory folks are constantly checking the quality of cans after the filler. Using specialized lab equipment, the can integrity and wine inside are checked, and records are stored permanently in computer files for both Free Flow and the winery. Naturally, the physical parameters of the cans' integrity are determined by Ball.

The lids are checked for consistency of depth and alignment. Thereafter a special tool slits the can to check for the thickness and integrity of the seam between the outer can surface and the applied lid. This is photographed for documentation.

The wine is also checked for both DO and SO₂, and Free Flow again works directly with the winemaker to establish the limits of both.

Coatings, Wine Certification and BPA

Probably one of the most important aspects of canning science is the liner inside the can. For obvious liability reasons, Ball is very particular about what people put into their cans, and every product must pass its package-product compatibility tests. I hear there are literally thousands of different coatings to accommodate the different corrosive levels of products, from tomatoes, fish, pickles and fruit drinks to sports drinks, beer and now wine.

An uncoated aluminum can full of cola will disintegrate in three days, for example—remember, you can also use it to clean your battery terminals.

Per directions from Free Flow, wineries will submit samples of their wines to the laboratories at Ball, and their chemists will determine the aggressiveness of the product. According to **Heather Clauss**, VP of marketing at Free Flow, they will be looking at total alcohol content, pH, free SO₂, copper and DO, among others. Ball then issues a certificate of compliance, which is a warranty on the

structural integrity of the can. The winery presents this documentation to Free Flow prior to filling. That certifies the integrity of the can—but what about the integrity of the wine?

BPA, or Bisphenol-A, is a resin that is often a component of interior coatings. In the past, people may have heard BPA is an endocrine-disrupter. I spoke with **Melanie Virreira**, director of marketing for Ball Packaging, who has been developing the wine-in-can market for the last three years. Ball has already dealt with the issue, and its proprietary coatings are now available throughout its 40 plants around the world.

I spoke with **Ben Parsons**, winemaker at the **Infinite Monkey Theorem Winery** in Denver, Colorado, as one of the first wineries to successfully market canned wine. He worked closely with Ball's testing protocol. Together they conducted tasting panels for more than a year prior to the product's release. Currently, his SKUs include a red (Merlot) blend, a Chardonnay, Rosé, a cider and a soon-to-be-released carbonated white.

Canning Goes Mobile

I suggest wineries start by giving cans an exploratory try. To make it even easier, there are mobile canners on the road. They started a few years back for the small craft breweries and are already moving toward wine. My last stop when writing this article was to visit with **Eric Holthouse**, supervisor of operations at **Foley Family Wines** (**Sebastiani**, **Guenoc**, **Firestone**, etc.) in Sonoma. I had received an invitation to visit **Lindsey Herrema**, owner and "can wrangler" of mobile company **The Can Van**. I hope to have a follow-up What's Cool article on mobile canning within the next few months. By now Foley Family Wines is comfortable with cans and will soon be putting their Guenoc wines in cans using the new canning line at Free Flow.

What's Cool:

As to be expected while writing this article, I heard lots of chatter about cans replacing glass. That is ridiculous. Please remember that aluminum cans, like stainless steel kegs in restaurants, are nothing more than an opportunity for wineries to diversify and get their product into the hands of more customers. That is totally cool.



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The opportunity to sell wine in glass-free environments, like public spaces, from pools to NASCAR races and concert arenas, is one of the advantages of packaging wine in cans.

Successful packaging is when form (design) and function (ease) are perfectly aligned to accommodate a specific application. For example, a 19.6-liter keg of premium wine is perfect for large venues, like country clubs hosting weddings or fine restaurants with wine-by-the-glass programs. At 58 pounds and 24 inches tall, a keg probably will not work inside your home refrigerator.

Bottles are great in dinner settings where one might want the “pop” of the cork and the romance, but probably not important while backpacking, where weight matters. Meantime, the can is great for venues that don’t allow glass.

If I were a winery and knew the next annual wave of wine was headed my way post-crush, I would make certain to offer my customers any and all alternatives to help deplete my inventories: by selling them a bottle from the tasting room AND a four-pack of cans with the same wine for their next fishing trip.

In the words of Oregon-based **Union Wine Company**, “We believe the contents are more important than the container; that a good wine should be able to go anywhere.” As a spoof to many in the wine world, a line on their can states, “We love our wine, we just don’t drink it with our pinkies in the air.” [WBM](#)

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