

Rocky Wall Street West

Partnership smooth as glass

Owens-Illinois' state-of-the-art Windsor plant makes 95% of Anheuser-Busch beer bottles

By Roger Fillion
ROCKY MOUNTAIN NEWS

WINDSOR — The sprawling tan building that rises from the snowy plains houses technology its owners prefer to keep under wraps.

"There are certain things you can't take pictures of," plant manager Dwayne Wendler advises a *Rocky Mountain News* photographer, minutes before leading a tour of the 450,000-square-foot facility.

No, it's not a hush-hush military installation.

It's where beer bottles are born as gobs of molten glass, ready to begin a four-to-five-hour journey to become a Bud or craft-style brew ready for quaffing.

Photos could reveal sensitive bottlemaking technology inside the \$140 million Owens-Illinois Inc. bottle plant — one that O-I's chief executive dubbed "the most advanced and high-tech plant in the country."

Finished in 2005, it's the first such bottle plant in the nation in 25 years — a time when glass plants were shuttered while cans and plastic grabbed market share.

The facility feeds more than 1 billion bottles a year to the nation's largest brewer, Anheuser-Busch Inc.

The maker of Budweiser encouraged O-I to locate the plant near its big brewery up the road in Fort Collins.

While glassmaking has roots dating back more than 2,000 years, the O-I plant relies on technology that early glassmakers could hardly have dreamed of.

Inside, five robotic vehicles use lasers to navigate while they transport stacks of freshly made amber bottles to the warehouse.

Two vast 2,500-degree furnaces melt 800 tons of crushed recycled glass, sand, soda ash and other raw materials — daily.

Such technology has sped up the process. When Dwayne Wendler joined O-I more than three decades ago in Portland, Ore., production of "100 to 150 bottles a minute was fast," he notes.



Bottles speed along a conveyor belt after being filled with beer and capped in January at the Anheuser-Busch brewery in Fort Collins.

Today, the rate is more than 600 bottles a minute for each machine that forms the glass.

Each day, fork-lift operators load the bottles into dozens of tractor-trailer trucks that rumble about 18 miles across the plains to the Anheuser-Busch brewery.

Best of both worlds

It's a mutually beneficial relationship.

O-I, the world's No. 1 maker of glass containers, gets a steady customer for its three styles of bottles.

Anheuser-Busch gets a steady supplier for bottling its 20-plus beers, ranging from Bud Light to a craft-style seasonal brew named Beach Bum Blonde Ale.

The 1-million-square-foot Fort Collins brewery — which uses cans and bottles — relies on the O-I plant for up to 95 percent of its bottleneeds.

"It's not unique but not typical, either," Glenn Wilson, senior plant manager of the Anheuser-Busch brewery, says of the relationship between the two facilities.

O-I has 19 glass plants across the United States. One other is near an Anheuser-Busch brewery, in Toano, Va.

Before stepping onto the Windsor plant's factory floor, Dwayne Wendler advises visitors to don a safety hat, safety glasses and ear plugs.

"You're going to find it's pretty noisy out there," he says.

And busy.

Blue-shirted maintenance employees pedal across the concrete floor on big yellow tricycles, making sure all the machinery is working properly.

Eight robots standing some 20 feet tall stack bottles on big pallets, preparing bulk and carton loads for shipment to the warehouse. The bulk pallets hold more than 4,000 bottles, and each robot can fill such a bulk load in seven or eight minutes.

The five mobile robots, which use laser beams to find their way around, cart the pallets to the warehouse. A Michigan company, Egemin Automation Inc., makes them.

"It won't hit you," Wendler says calmly, just before a hulking robot grinds to a halt a foot in front of him.

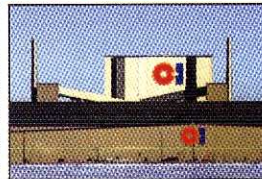
600 bottles a minute

The heart of the operation is two high-temperature furnaces, which melt the raw materials so the four forming machines can shape the bottles.

Each furnace measures 1,400 square feet and stands two stories high. At any time, 500 to 600 tons of molten glass flow like honey from the furnaces to the four forming machines that each shape more than 600 bottles a minute.

Once shaped, they get sent along a conveyor to cool and be packaged for shipment. Along the way, a computerized scanner checks each bottle for defects such as nicks.

1 billion bottles of beer on the wall



▲ Owens-Illinois bottle plant, Windsor

210 employees at the Owens-Illinois plant

1 billion-plus bottles produced annually

75 minutes from molten glass in the forming machine to when a bottle is stacked in the warehouse

30 minutes for a truck to transport a bottle to the Anheuser-Busch brewery in Fort Collins

4-5 hours after birth of a bottle at O-I to when it's filled with beer and sitting at the Anheuser-Busch warehouse or on a truck.

Sources: Owens-Illinois and Anheuser-Busch



▲ Anheuser-Busch brewery, Fort Collins

700 employees, approximately, at Anheuser-Busch plant

1.2 billion bottles of beer brewed at the plant annually

23 brands of beer bottled in locally made Owens-Illinois bottles

60 or so trucks arrive at the brewery daily carrying Owens-Illinois bottles

1,200 bottles a minute are filled and capped at the Anheuser-Busch plant

2,000 feet the distance a bottle travels along the production line

The bottles must be sturdy to survive the 30-minute truck ride to the brewery and other modes of transport. At the brewery, they'll undergo a dizzying two-hour ride on a spinning, winding conveyor.

A shattered bottle can gum up the nearly half-mile conveyor. The shards can get lodged inside.

"It's hard to clean them all out. You have to shut the line down," says Wilson, the Anheuser-Busch senior plant manager.

Anheuser-Busch helped lure O-I to Windsor by highlighting the proximity to the brewery and the availability of a rail line to haul in raw materials.

At the time, the brewer was relying on bottles made more than 600 miles away, in Oklahoma and Minnesota.

"We entered into a long-term agreement with (O-I), which encouraged them to build the facility," Wilson says. The two compa-

nies agreed on long-term pricing, and the brewer agreed to buy a certain volume.

The relationship means that employees from both companies speak frequently by phone to go over the logistics of meshing the bottle operations and the beer-making so there aren't hiccups.

Production of one style of bottle, for example, may need to be boosted to accommodate an increase in output of, say, Bud Light.

"If there's a change in the packaging schedule, they call," says O-I's Wendler.

O-I's quality assurance rep is a frequent visitor to the brewery each week to make sure the bottles are up to snuff for the customer.

To get to know each others' operations, the O-I employees got a tour of the brewery. Anheuser-Busch employees got a similar look at the bottle plant.

Continued on back ►

Partners strike deal on price, volume

"It really helps us understand one another's business," says Anheuser-Busch's Wilson.

Outside of work, the duo partner on charitable events. O-I donates to a local Easter Seals golf tournament that Anheuser-Busch sponsors, for example.

The bottle plant is Windsor's fourth-largest employer. More than 4,000 people applied for jobs at the plant, which employs 210.

Entry-level jobs pay \$10 to \$20 an hour. Workers involved in maintenance and forming the bottles earn in the mid-\$20-an-hour range.

"It's very much an economic benefit to the community," says Larry Burkhardt, CEO of the Upstate Colorado Economic Development.

The plant's first furnace was fired up in August 2005. That followed a rough time for the glass bottle business. According to data supplied by O-I, U.S. industry shipments of glass bottles are about 35 billion a year, down from 47 billion in 1980.

"Part of our strategy across the board is to help our customers go from glass to plastic and metal containers," says Scott McCarty, spokesman for Broomfield-based Ball Corp., North America's largest maker of metal beverage cans.

Owens-Illinois fighting back with technology, as the Windsor plant demonstrates. "We're putting out more product with less people," Dwayne Wendler says.

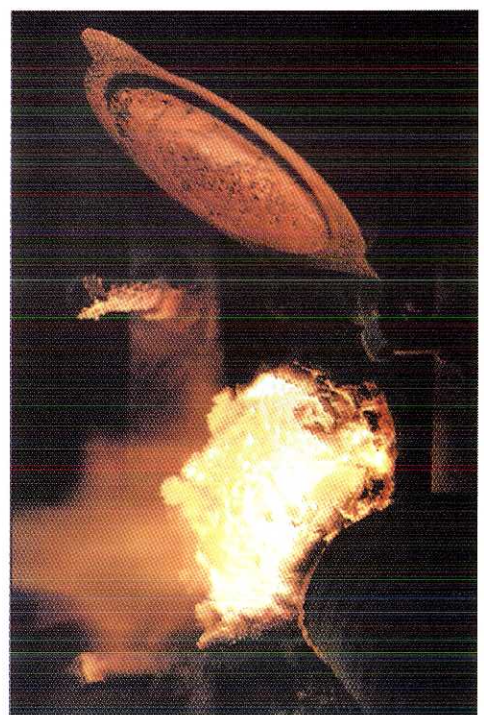


PHOTOS BY DARIN MCGREGOR/ROCKY MOUNTAIN NEWS

▲ Bottles made in Windsor at Owens-Illinois are trucked about 18 miles to the Anheuser-Busch brewery, above, in Fort Collins.



▲ A maintenance worker rides a tricycle through the O-I bottle plant looking for machinery breakdowns.



► Heat blasts out of a peek hole in a furnace that burns at about 2,500 degrees Fahrenheit. Molten glass flows from the furnace to forming machines where bottles are shaped.