

SPLENDOR IN THE GLASS

WHERE DO CATHEDRALS GO FOR THE PERFECT PANE OF TIGHT-RIPPLE FLAMINGO PINK? TO A LEGENDARY KOKOMO GLASSWORKS.

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A window in KOG's office celebrates the company's craft.

LIKE ANY 116-YEAR-OLD

family business, Kokomo Opalescent Glass has seen its share of infighting, insanity and marriages of convenience—and that was just during its first two years.

According to historian Paul Crist, a New York prospector named Charles Henry first set foot in the farming community of Kokomo in 1888. Thanks to a natural-gas bubble discovered two years earlier, the town was offering cheap energy to manufacturers, and Henry, calling himself a maker of “opalescent glass, jewels, tiles, electric light globes, cathedral glass, rondels and colored and stained glass of all descriptions,” fit the bill.

In the beginning, Kokomo Opalescent Glass cranked out electric glass insulators for Edison General Electric, but the company soon turned to the production of opalescent sheet glass—93 combinations of multicolored, swirled stained glass with a milky cast. Kokomo glass became an instant sensation, garnering a gold medal at the Exposition Universelle in Paris in 1889. Louis Comfort Tiffany was an early customer, purchasing high-end mixes like gold ruby, ripple and drapery in large quantities at a discounted rate. At the time, only five other companies, most on the East Coast, made opalescent glass. As demand grew, KOG did too.

The company prospered, receiving orders faster than it could fill them, but all was not well with its founder. Henry became delusional, embarked on a manic international spending spree and bled the factory dry. His partner bought out the business for \$1 on Jan. 29, 1890. Three days later, Henry married the partner's much-younger daughter. Three months later, Kokomo Opalescent Glass went into receivership, and Henry went into the Indianapolis Insane Asylum after writing a \$50,000 rubber check in an attempt to purchase a competitor.

The next 114 years were relatively sedate. Three local investors took over the company, streamlined its operations and quickly made it solvent. Thanks to its embrace of mass production, KOG soldiered on when the market for opalescent glass declined in the wake of World War I. More recently, after some clients who'd mass-produced Tiffany reproductions in China closed their doors, a side project for scrap glass—KOG Hot Glass Studio, whose five glass-blowers craft vases, dishware and gift-shop curios—has helped KOG weather lean times.

“That's business,” says current president Richard Elliott. “You succeed at something for a while, then you find some other niche.” Elliott is the great-great-grandson of one of the businessmen who came to KOG's rescue back in the day; notwithstanding a few outside stockholders, the company has been handed down through generations of the families of those men.

One of the advantages of having surpassed the 100-year mark is the opportunity to profit from restorations: KOG is often called on to replace glass it installed in the 19th century, using time-tested formulas meticulously handwritten in a now brittle and yellowing “recipe” book. In 1896, KOG supplied the glass for the Rose Window in Westminster Presbyterian Church in Minneapolis; 102 years later, using the 1896 recipes, the company manufactured replacement glass for the church's restoration. You'll also find Kokomo glass in Indianapolis's Union Station, the Air Force Chapel in Colorado and a restored 19th-century ferryboat in California.

THE PRODUCT CATALOG

includes both the cathedrals—single, solid colors you can see through—and the streakies—combinations of two or more cathedral colors. KOG also makes a litany of pink combinations,

22,000

Different color and texture combinations available

Basic combinations of pink

27

some declarative, others whimsical, although even the latter have official names like Color 881SP (a combination of Champagne Pink Cathedral, Opal and Flamingo Pink that would better be called Strawberry Smoothie, or maybe Drunken Honeymoon). Pink Bubble Gum and Wispy White—Color 1L BG—are about as inventive as the naming gets.

“We have several hundred base recipes and various ways to mix them,” says Elliott. “And then, with all the different textures”—including Granite Catspaw, Hammered and Flemish—“the possibilities are endless. Even today it’s possible to stumble on something interesting and different. Slap a number on it, and suddenly we’ve got a new one. It happens all the time. Often, it’s a mistake—‘I know the recipe said this, but we got 10 sheets of this.’ It’s pretty neat.”

Reds are the most elusive. “They’re hard to get right,” says Elliott. “They’ll change on you. The pigments are a little less stable, and if you burn it too hot, you end up with burnt orange.”

Such knowledge isn’t taught in college. “We don’t hire people who have these skills,” says Elliott. “This place is a school as much as it is a business. Everybody learns from scratch. The guys who’ve been here many, many years—they’re the ones teaching the stuff.”

In one of the dimmer, less-traveled parts of the factory, a nondescript door opens abruptly into a dazzling colonnade of Wizard of Oz technicolors. Elliott calls it the Rainbow Room. Its real name is Room Four, and it’s where the stockroom managers keep the sheet-glass overrun. Right-after-a-rain greens and pale twilight purples are grouped according to their place in the color spectrum. Glass restorationists are allowed to pore over the collection in search of the perfect shade of yellow for a field of daffodils or just the right gold for the Virgin Mary’s tiara.

A SET OF STAIRS TAKES

you two stories below the factory floor, where a decades-old flame burns at 2,550 degrees Fahrenheit in the belly of one of the company’s two furnaces, fed by a natural-gas combustion that’s been stanchd only once in 25 years. The inferno leaps up through a crater in the shop floor, where it’s contained by the “beehive”—a many-sided brick oven resembling a mud hut on a sci-fi moon, dotted with primitive, punched-out windows and coated with a protective covering of clay. “There are guys here all night long babysitting it,” Elliott says. “Like sitting around a campfire.” Their weary faces have a dirty yellow effulgence, like the peasants’ in Van Gogh’s *The Potato Eaters*.

Behind each square beehive window rests an enormous 1,900-pound clay pot, inside of which stews “batch”—the raw ingredients for a glass batch of a certain color: soda ash, silica sand, feldspar and crushed limestone to start with, plus minute quantities of pigmentation minerals.

Each clay pot can hold some 1,200 pounds of batch. Each batch of batch cooks for 17 hours. Every so often, a pot shatters, forcing the furnace man to descend into the “eye” to clean up the mess—hundreds of pounds of molten glass, plus the pot’s shattered pieces. Meanwhile, screaming, yelling and swearing, the workers upstairs go into pot-replacement mode, using metal bars to bash in brick and clay around the beehive window, lowering a fireproof curtain and setting in a new pot with a forklift. The new pot must be inserted slowly or it will go into thermal shock and shatter. When the task is complete, workers rebrick the oven. “It requires everybody working together to get it right,” says Elliott. “There’s some real choreography involved.”

THE MOST BRUTAL JOB

belongs to the ladlers. These mountainous,

2,550°

Temperature reached inside
the 12-pot furnace

Seconds it takes for fresh-from-the-furnace
glass to become too cool to work with

15





begoggled young men regularly confront the maw of the furnace, thrusting a giant's version of a measuring scoop into the bright amber glow, sinews straining as they bring forth a radiant mass of molten glass.

Then, in a Brobdingagian version of an egg-and-spoon race, the ladlers rush to the mixing table with up to 40 pounds of white-hot magma. To keep the glass from cooling prematurely, they bounce as they run, making the workday a strange and constant dance as ladlers hotfoot it to and fro, depositing differently hued glass gobs on the steel stand where the tableman toils.

The tableman has 15 seconds to blend the discrete gobs. With a double-pronged fork, he flicks at the annealing mixture as though he were fluffing eggs. "It's hard work," says Elliott. "It takes a certain finesse to gather it up, mix it and toss it into the hot rollers. You've really got to have a feel for what that stuff is doing. The guys in those spots haven't been here any less than five years."

Every ladler's dream is to be a tableman, the coloratura of glass-wranglers. "But it's very demanding," says Jon Wolfe, who heads KOG's Hot Glass Studio. "The physical life span of a tableman isn't more than five years. They get carpal tunnel syndrome, rotator cuff problems. It's really sort of crippling." Indeed, during an eight-hour shift, a tableman will alternate 30 minutes at the table with 30 of light labor. And five years as a tableman virtually guarantees you can spend your remaining years at the factory performing comparatively nonstrenuous tasks—sorting and inventorying cullet as manager of the scrap room, or inspecting glass sheets as they come off the conveyor and trimming uneven edges smooth.

Many men work their entire careers at KOG. "We hire one or two guys a year," says Elliott, noting that the recruiting-and-hiring process is rather informal. "The trick is to make sure we hire people strong enough to handle the work.

Usually, it's 'Hey, you got a brother? You got a friend who'd like to give colored glass a try?'"

GLASS BREAKS. THERE'S no getting around it. Roughly 20 percent of KOG's product is ruined in the factory before being shipped. But the other 80 percent almost always gets to the customer intact.

After a "gather" of newly mixed glass is pressed into sheets by traveling through a series of metal rollers and cooled on a temperature-controlled conveyor, it's carefully inspected for manmade flaws. Natural impurities are desirable, but nicks and smudges from the glass sticking to the rollers are not.

If a sheet passes muster, it's trimmed into a neat rectangle, with the excess saved and sorted for use in "pony cases"—stained-glass variety packs sold in hobby shops. As for the sheets themselves, 40 percent go to international customers, while the rest is destined for distributors, studios and independent shops in the United States.

Workers in the plant's "staging area" build customized wooden crates for each shipment and pack the glass inside on a bed of wood shavings. Because the crates are too heavy to ship cost-effectively by air, overseas orders typically travel by truck and barge; shipments to Europe take two to three weeks, to China, a month.

Back at the plant, the challenge is to recycle the ever-encroaching mounds of scrap glass, called cullet. "It's a really wasteful business," says Elliott. "We try to minimize that." Some cullet is melted back into raw materials and reused; some goes to the aforementioned hobby shops. And "when it really gets down to the nitty-gritty," Elliott says, "it ends up getting crushed. It's used as road base, or as fill." From that point, it's only a matter of time before it someday breaks down into sand—the essential ingredient of glass—again. ●

8 Workers directly involved in the production of a single sheet of glass

Square feet of sheet glass produced in a single day

5,000