SEEING THE LIGHT

Laser technology takes Thomas Dailing and Jaime Enriquez in award-winning directions

BY GERRY DAVIES

Laser welding technology has not yet permeated the jewelry industry. Smaller shops in particular have often held off on making the investment, which typically runs into five figures. But for an idea of what lasers can do for a jewelry maker, one need only look at the work of Thomas Dailing and Jaime Enriquez, winners of the 2007 MJSA Vision Awards Laser Distinction Category, which was sponsored by Crafford—LaserStar Technologies.

Lasers welding's contributions, indeed, permeate their works.

Both designers attest to its labor- and time-saving benefits. Enriquez, of Calgary, Alberta, Canada, estimates that his second-place "Constellation" brooch would have taken two-thirds longer to assemble using only traditional fabrication methods. Even more notable, however, are the possibilities lasers created for Dailing and Enriquez to push the design envelope.

Dailing, of Lee Ayers Jewelers in Stevens Point, Wisconsin, considers himself an "old-school" jewelry maker: He got into the business 21 years ago, starting with repair work—a must, he believes, for jewelers who want to understand the ergonomics of jewelry and how to create items that will last—and he still uses old tools while making some of his own. But he also looks to new tools and technology that will allow him to take off in different directions with his creative, high-karat creations.

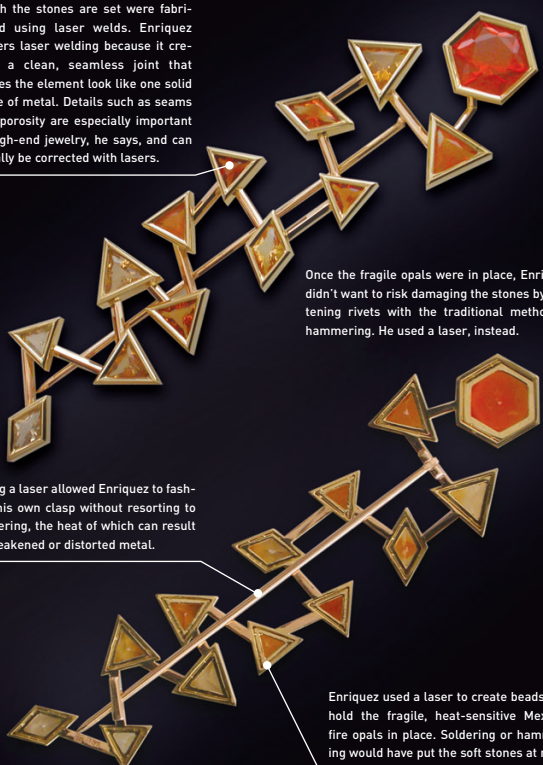
"When lasers came along, I realized we could start pushing designs further," he says. "We can apply it to just about everything, and now I can incorporate [laser capabilities] into the designing process."

A designer since 1989, Dailing has won nine national awards in recent years.

"I'm always working to make more difficult pieces," he says. "It's a professional and creative challenge, and it also helps fight knockoffs. Most of the time I was looking at [the citrine that is the brooch's centerpiece], I was thinking that I wanted to conceive a piece that people would look at and go, 'How did they make this thing?'"

Laser welding (which is done by a Lee Ayers shop assistant) allowed him to create an 18k white and yellow gold pendant

Jaime Enriquez's "Constellation"



The triangles and other shapes in which the stones are set were fabricated using laser welds. Enriquez prefers laser welding because it creates a clean, seamless joint that makes the element look like one solid piece of metal. Details such as seams and porosity are especially important in high-end jewelry, he says, and can usually be corrected with lasers.

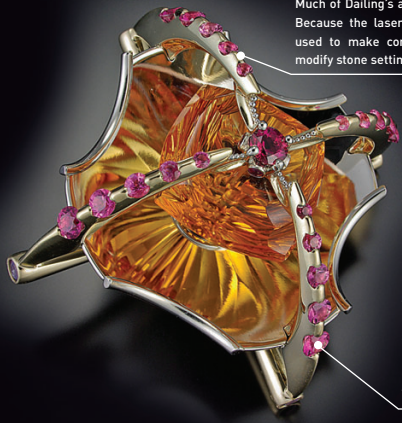
Once the fragile opals were in place, Enriquez didn't want to risk damaging the stones by fastening rivets with the traditional method of hammering. He used a laser, instead.

Using a laser allowed Enriquez to fashion his own clasp without resorting to soldering, the heat of which can result in weakened or distorted metal.

Enriquez used a laser to create beads that hold the fragile, heat-sensitive Mexican fire opals in place. Soldering or hammering would have put the soft stones at risk.

PHOTO BY RALPH GABRINER.

Thomas Dailing



Much of Dailing's assembly was done with laser welds. Because the laser generates minimal heat, it can be used to make connections right next to gemstones, modify stone settings, and perform other delicate tasks.

Laser welding allowed the citrine and accent stones, such as the pink tourmalines in the arches, to be securely set with minimal metal showing. It looks like they must be free-floating or glued in place, Dailing says, but they're all set properly.

Lasers were put to use even when traditional soldering was done. Dailing would have parts tacked in place with a laser to secure them for accurate soldering.

Laser welding allowed Dailing and his gem cutter to create a new setting technique for his centerpiece gemstone—what Dailing calls a suspension intrusion setting. A hole was drilled through the center of the gemstone, through which a white gold rod runs. "I realized we could run a setting device through it from the back side," he says. "But how do you connect it? Citrine won't survive soldering, so in comes the laser."

that should prompt just that question. The 47.83 carat square, cushion-cut citrine sits in a suspension INSERTION setting, which involves drilling a hole through the center of the gemstone, inserting a white gold rod, and attaching it to the surrounding metal with a laser welder. The central stone is accented with pink tourmaline, pink and purple sapphires, diamonds, and a lazulite. Stone setting with a laser, which is extremely accurate and exposes stones to minimal heat, allowed Dailing to use techniques

"I was thinking that I wanted to conceive a piece that people would look at and go, 'How did they make this thing?'"

that "look like glue had to be used, but everything is properly done."

For Enriquez, who's been designing jewelry for 11 years and does his own laser work, that stone-setting capability was even more important. His pendant features a series of Mexican fire opals, which are notoriously sensitive to heat and vulnerable to fractures.

Besides allowing him to safely set his stones, Enriquez also put the laser to work making a clasp, fastening rivets, fashioning and assembling the triangles, diamonds, and other shapes that serve as settings, and joining all the pieces together with gold bars.

Laser welding was integral to his process—which was no problem for Enriquez.

"After three years of using it every day, it's probably in my mind while I'm designing," he says. "I don't even think about it." ◆

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