

STRICTLY COMMERCIAL

By Francis Lestingi

Francis Lestingi, owner of Signs of Gold Inc. (Williamsville, NY), earned a doctorate and taught for 25 years before opening his shop. He fabricates gilded, handcarved, wood signs.



Casting Your Lot

Signs of Gold Inc. owner Francis Lestingi discusses appliqué casting.

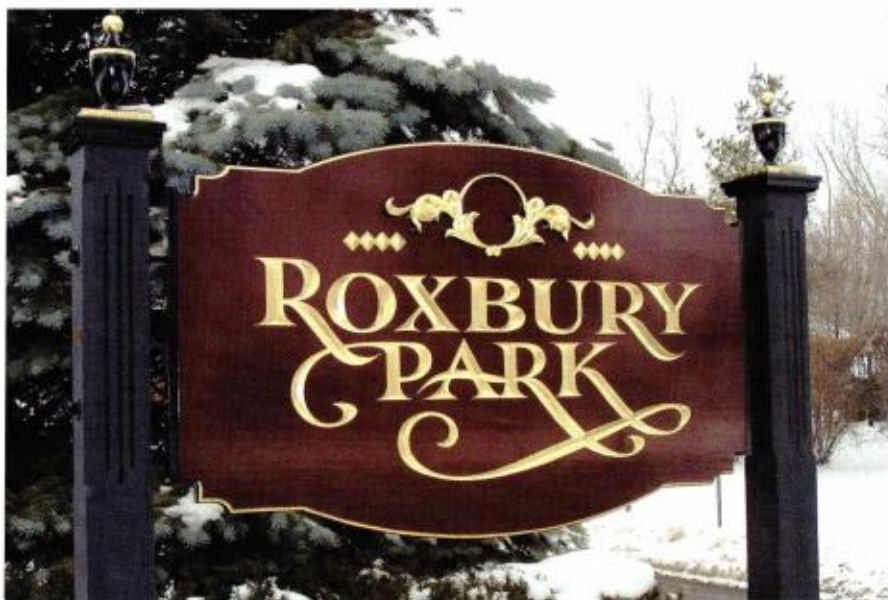
Fabricating two or more identical signs featuring handcarved, relief appliques involves moldmaking and casting. Even if a single sign boasts a unique or extraordinary element, I often make a mold of the original that may be useful for future applications.

I try to avoid the common mistake of letting my custom carvings leave with the sign. Each decorative element represents hours of aesthetic effort. I like to produce molds for a multitude of reasons. If the sign is damaged, I can repair it easily; if a prospective customer wants to see examples of my work, I have them in the shop. If I want to incorporate something into a new design, I have the carving already completed.

This technique is so simple — and the casting process so rapid — that it has become a part of my signmaking routine and has saved me countless hours of work.

Volume decision

I designed a scroll wreath — based on a stained-glass window I photographed — that I applied to two panels for a residential community. After cutting the scroll from high-



Francis Lestingi, proprietor of Signs of Gold (Williamsville, NY), creates cast elements (such as the scroll in this handcrafted mahogany sign) using silicon-rubber and polyurethane-resin materials to replicate a design hundreds of times.

density urethane (HDU) using a saber saw, I handcarved details with various chisels and gouges. Using reverse-mounted screws, I attached the carved scroll to a large piece of MDO board that served as the moldmaking base.

Around the scroll, I assembled a confinement field comprising four 36-sq.-in., MDO walls. I constructed

an inner wall of modeling clay to minimize the amount of moldmaking compound that I would need later.

Estimation and measurement determine the amount of silicone rubber liquid needed to submerge the model in at least ½ in. of liquid. Following one method, I would fill the confinement field with water, then siphon it out and measure its volume.

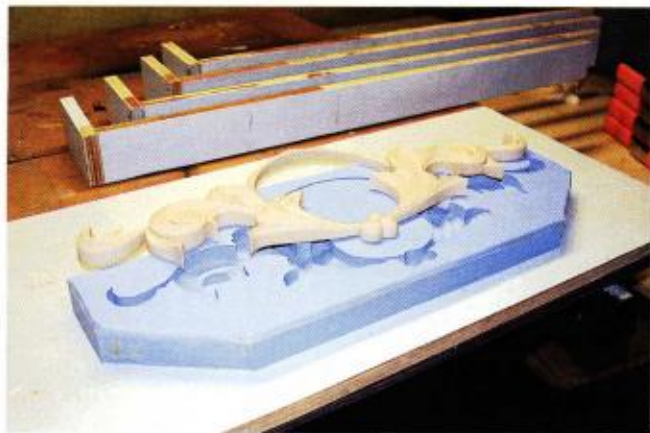


Francis constructed MDO board to form a confinement field, and then created interior walls with modeling clay. Creating clay barriers conserved the amount of molding material by up to 25%.



He poured equal amounts of the two-part molding compound, Smooth-On's OOM00-30, into the field; one part serves as the molding base, while the other functions as the curing agent.

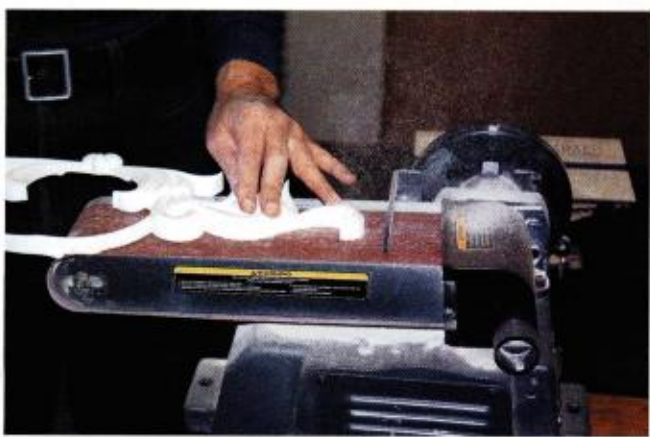
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The mold takes 16 hours to cure at room temperature. In warmer temperatures, it will cure more quickly, but curing below 65°F is not recommended.



Francis poured in the casting material. Like the mold material, it contains two components. It's vital that the mold is free of moisture before casting; otherwise, the casting mixture causes a heat-emitting reaction that vaporizes water, leaving hollow spots.



After the casting is removed — the process typically only takes roughly 10 minutes — there are typically ridges that form around its edges. Francis used a power sander to smooth the edges.



Francis began decorating the casting by applying Krylon™ automotive primer, then allowed 30 minutes to dry. Next, he used several coats of black Krylon spraypaint.

Here's another, more mathematical, approach: Make length measurements of the irregular, clay box and calculate the volume ($V = l \times w \times b$) within its confines, then subtract the model's volume.

Making the cast

Once I determined the volume, I was ready to mix and pour the liquid silicone rubber that produced the mold. I used a two-part product called Smooth-On (Easton, PA) OOMOO-30. Part A is the molding base; Part B serves as the curative agent. After stirring together equal amounts of each part, I poured the silicone rubber over the model. A great feature of Smooth-On's casting material is that it requires no mold-releasing agent.

The silicone rubber requires a cure time of 16 hours at 77°F. The

higher the temperature, the faster the mold cures. In 125°F, a mold can cure in four to five hours. However, it's not recommended to cure in a temperature below 65°F.

After the curing process, I removed the confinement box and inner clay walls. I finished the demolding process by removing the reverse screws holding the model to the base.

Once I've produced a mold, hundreds (if not thousands) of castings or exact reproductions can be generated. I use Smooth-On's Smooth Cast 300 casting material, a two-part, liquid, polyurethane resin.

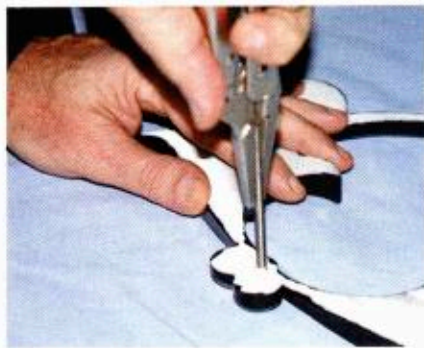
To determine the model's volume, I used water displacement. In a pan of water, I marked the initial water level with masking tape. Then, I completely submerged the model and marked the new, higher water

level. After removing the model from water, I poured water from a graduated container until the second marker was reached. The volume of water added to the pan equaled the model's volume.

After determining the volume, I mixed equal amounts of the resin's component parts. The first part forms the mold's base, while the second part cures the mixture. It's very important to remove all moisture from the mold before the casting process begins, because mixing the components causes an exothermic, or heat-emitting, reaction that vaporizes water droplets and leaves hollow spots in the casting.

Next, I mixed the plastic resin for three minutes and began pouring at the mold's deepest point. By pouring in the mold's lowest part, the liquid plastic forces air out and pre-

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Using a vice grip, Francis twisted threaded studs into the holes.

vents air pockets.

The casting process required only 10 minutes of curing time before removal from the mold. Because silicone rubber molds require no casting-release agent, the casting is ready to be coated without cleaning.

Finishing touches

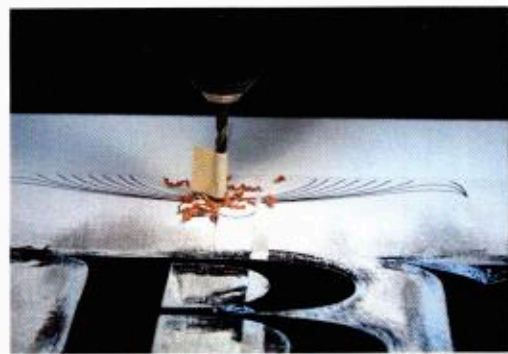
Sanding the backs of castings is usually necessary, because a ridge tends to form around the edges



To determine the casting's location on the sign, he used a template that he positioned amidst the sign's other elements. By pressing on the scroll firmly, the studs slightly imprint the mahogany's surface, leaving drilling marks.

during the curing. For this task, use a handheld or power sander. The sandpaper's grit should be coarse — I recommend 80 or 100 grit.

After I've sanded off the rim and removed the shavings with a vacuum, the casting is ready for coating. I applied Krylon® automotive primer and allowed 30 minutes drying time. I like Krylon's primer because it contains acetone and toluene, which "bite" into the resin's surface.



Francis drilled $\frac{1}{8}$ -in.-wide holes $\frac{3}{8}$ in. deep into the mahogany's surface. After removing the substrate's vinyl mask, he beaded the casting's back with clear silicone and caulk. Then he inserted the back into the sign's silicone-filled holes.

After priming, I applied several coats of high-gloss, black Krylon spraypaint. If spraying doesn't quite cover some of the deeper crevices, I typically brush them over with Ronan black, bulletin paint.

Before sizing and gilding, I prepared the casting for later attachment to the substrate. I drilled three, $\frac{3}{8}$ -in. holes $\frac{3}{8}$ in. deep into the scroll's reverse side. Steel or aluminum $\frac{3}{8}$ -in.-diameter studs will self-tap into the plastic resin. Then,



After applying slow size to the casting and letting it cure for 48 hours, Francis used a gilder's tip to apply looseleaf, 23k, double gold.

with a vice grip, I twisted a threaded stud into the holes. After inserting the studs, I snipped off the excess, leaving $\frac{3}{8}$ in. protruding.

I found the appliqué's exact location using a template I carefully positioned amidst the layout's other components. By pressing down firmly on the scroll, I caused the studs to slightly mar the substrate surface. I always use mahogany as my substrate, but this technique



The finished cast. And the beautiful part of the process is, Francis's handiwork doesn't leave with the sign. With his mold, he can recreate this cast hundreds, if not thousands, of times.

works equally well with HDU or redwood.

The imprints I created served as markers for drilling $\frac{1}{8}$ -in.-diameter holes to $\frac{3}{8}$ -in. depth. Later, once I've removed the substrate's vinyl mask, the casting's back was beaded with clear silicone and caulk and inserted into the silicone-filled holes.

Whenever I design a high-relief, handcarved appliqué, during sizing, I incorporate a black, ungilded, ver-

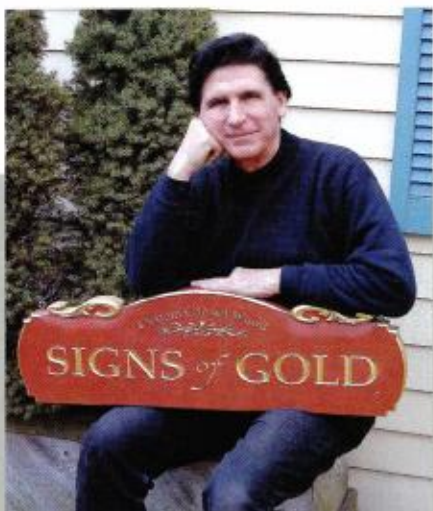
tical edge around the casting's periphery. The rationale is both aesthetic and pragmatic. The black edging adds depth and accentuates the appliqué, making it more attractive. On a practical level, the edge provides a convenient place for handling the appliqué after gilding.

To prepare for the gilding process, I sized the painted casting with LeFranc Charbonnel's slow size. Because size is clear and virtu-

More on Francis

Signs of Gold Inc. (Williamsville, NY) owner Francis Lestingi, a Queens, NY, native, taught himself pen calligraphy and brush lettering during his youth. By high school, he'd learned how to gild and hand-letter storefront paper signs.

After high school, Lestingi entered the Christian Brothers religious teaching order, where he earned physics degrees from Catholic University and Rensselaer Polytechnic Institute. Later, he taught physics, chemistry and theology at high schools in Rhode Island and throughout several New York City boroughs. During his tenure, Harvard University hired him to design transparencies for a high-school physics



course the school developed for the National Science Foundation.

After leaving the Order, he earned a doctorate at the University of Wisconsin, and taught physics and scientific history at SUNY-Buffalo, earning the President's and Chancellor's Awards for Excellence in Teaching.

Ten years ago, while still teaching, Lestingi decided to return to the "lettering arts" and founded Signs of Gold. Because he enjoyed his work so much, he took early retirement and began carving full time. Despite his status as a "recovering college professor," he garnered two first-place awards in 1999's and 2002's USSC Sign Design Competition.

ally invisible, I added a small amount of 1Shot metallic-gold lettering enamel. Using a 1/8-in. lettering brush, I carefully covered only the scroll's face, avoiding its vertical edges. For a truly brilliant gild, I let the size cure for 48 hours. Using a gilder's tip, I applied looseleaf 23k double gold.

After I'd affixed the scroll wreath appliqué, and carved and gilded both panels, it was time to install my creation for public consumption. I post-mounted both signs, detailing the two, 6-in. x 9-ft., Southern yellow pine posts with fluting and chamfering on the front face and rounding over the other sides.

Pressure-treated posts are difficult to paint, so I coated them with three coats of solid-color stain — two in the shop and the third onsite. I inserted the posts 3 ft. into the ground using handcrafted, steel-channel brackets with threaded rods to secure the sign-face to the posts. I crowned the posts with painted, gilded finials and caps.

The project's final step is basking — that is, basking in the joy and pride of having produced an elegant, artistic appliqué that has the potential to enhance and beautify projects again and again. Incorporating cast elements into your hand-carved signage benefits both you and your clients. ■

Equipment and Materials

Brush: 1/8-in., soft, flat lettering brush, from Andrew Mack & Son Brush Co. (Jonesville, MD), (517) 849-9272.

Caulk: Silicone clear caulk and gun, available from Chemical Concepts (Philadelphia), (800) 220-1966.

Casting: Smooth-On OOMOO-30 moldmaking and Smooth Cast 300 casting material, available from Smooth-On Inc. (Easton, PA), (800) 762-0744.

Clay: Roma Plastilina modeling clay, from Hyatt's — All Things Creative (Clarence, NY), (716) 632-0001.

Gilding: LeFranc Charbonnel slow size, from LeFranc & Bourgeois Inc. (René, France); 23k Ducate, looseleaf, double gold, from Barclay Leaf Imports (Elizabeth, NJ), (908) 353-5522.

Paint: Krylon automotive primer and high-gloss, black spraypaint, available from home-improvement stores; Ronan bulletin enamel, from T.J. Ronan Paint Corp. (Bronx, NY), (800) 247-6626; 1Shot® metallic-gold lettering enamel, from 1Shot Corp. (Gary, IN), (219) 949-1684. Ronan and 1Shot materials were purchased from Garston Sign Supply (Rochester, NY), (800) 825-8808.

Posts: Pressure-treated, Southern yellow pine posts, available from lumber yards and home-improvement centers; solid-color stain, available at home-improvement stores; mahogany finials and redwood caps, available from Island Post Caps (Montgomery, AL), (800) 555-3694; handcrafted channel brackets, available from The Old Dutchman Wrought Iron Works (Getzville, NY), (716) 688-2034, or your local blacksmith.

Studs: Aluminum or steel studs, available from Gemini Inc. (Cannon Falls, MN), (800) 538-8377.

Substrates: 18-lb. Sign•Foam 3, available from Sign Arts Products Corp. (Dana Point, CA), (800) 338-4030 or Garston Sign Supply; 1/8-in. MDO board, available from Garston Sign Supply; mahogany sign blank, from KenCo Wood Products (Buffalo, NY), (800) 757-9142.

Tools: Various chisels and gouges, available from WoodCraft (Parkersburg, WV), (800) 225-1153; Visegrip®, drills and bits; power sander; snips; bolt cutter; jigsaw; and 80-, 100- and 220-grit sandpaper, available from home-improvement and building-supply stores.