

# **LIGHT METAL AGE**

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## Intersecting Art and Anodizing

*Editors Note: Last month, Light Metal Age had the opportunity to tour P.K. Selective Metal Plating, Inc. in Santa Clara, CA, and speak to founder and owner Peter Kellett about P.K. Selective's creative blending of finishing technology and art.*

The lobby of P.K. Selective can only be described as an art gallery. Examples of the company's multicolor/splash anodizing process adorn every wall and display case, including clocks, vases, picture frames, jewelry boxes, Fender guitars, and antique appliances like a toaster and coffee pots (Figure 1). Peter Kellett's office, just off the main lobby, hosts even more pieces, including the bulk of his famous multicolor anodized aluminum Fender guitars.



Figure 1. Multicolor/splash anodizing applied to a toaster and coffee pot.

### Rock and Roll Meets Anodizing Tech

There is no better example of the unique intersection of art and anodizing than Peter Kellett's collector's edition Fender guitars (Figure 2). Kellett started his relationship with Fender by anodizing the aluminum pick guards that appeared on Fender's wood guitars. When he realized that they were a great medium for experimentation, he wrote to Fender to see if they were interested in his evolving splash process. They sent him 20 pick guards to multicolor anodize, and when they started producing aluminum guitar bodies, they sent Kellett a whole guitar, which he engraved and multicolor anodized with an Hawaiian theme.



Figure 2. Three of the collector's edition Fender multicolor/splash anodized guitars by Peter Kellett.

The guitar was a hit, and Fender ending up sending Kellett more than 50 guitars for multicolor/splash anodizing. Today, Kellett's designs are featured on the cover of Fender's custom shop book, and the 50-60 collector's editions can sell for upwards of \$20,000. (Jay Leno reportedly paid \$30,000 for a Harley-themed aluminum guitar). To this day, Kellett still anodizes all of Fender's pick guards, and even designs his own guitars. He performs custom finishing jobs on Strat and Telecaster model guitars with multicolor anodizing or electroless nickel processes. The guitars line the walls of a room in Kellett's office, a fitting tribute to his unique approach: combining his passion for art with his anodizing technology to create innovative finishing options in his full-service Northern California shop (Figure 3).



Figure 3. Kellett's Fender guitar room.

### A Look at the Plant

Tucked into an industrial zone in Santa Clara, bordering the Mineta/San Jose International airport, P.K. Selective evolved from very humble beginnings. As a 23-year-old college dropout, Kellett started the business in 1976 in his parents' Sunnyvale garage, with a single plastic garbage can for anodizing, and the assistance of a rented bead blaster. Today, the company is situated in over 25,000 square feet of shop space in two warehouses, with more than 16,000 amps of rectification.

The company prides itself on its successes in three specific areas: hardcoat anodizing, cosmetic anodizing, and multicolor/splash anodizing. Despite the attention garnered by the Fender guitars, 90% of P.K. Selective's business is still generated from the industrial sector. The constant flow of jobs through the plant include components for the semi-conductor

industry, such as robotic arms, aerospace industry equipment, motorcycle parts, stereo and audio equipment such as speakers, amps, and recording industry control panels, medical implements like saws and reamers, and parts for eclectic products like wheelchairs, hang gliders, and pregnancy tests. Its location in the Silicon Valley supports the company's drive to develop the most impressive hardcoat finishes and create the most sophisticated cosmetic anodizing system for both local and international customers.

#### *Anodizing in Action*

A tour through the heart of P.K. Selective begins in the packaging/racking area, where the frames of dozens of paintball guns are hung, waiting to be splash anodized to customer specifications. The paintball guns, Kellett explains, are a staple of the business. In the late 1980s, a customer asked for a couple of paintball guns to be camouflaged for effect, and when another customer approached Kellett with a desire for a similar effect, but in bright colors, he saw an emerging market for his fledgling splash anodizing process. Sure enough, the wild-looking finish caught on, and the paintball market continues to be a huge customer base.

From the packaging/racking area, a door leads to the main anodizing facility (Figure 4). Nine large anodizing tanks line the length of the warehouse. P.K. Selective offers Type II and Type III hardcoat anodizing, in clear, black, and bright colors, and can customize jobs between the two types without changing tanks, utilizing a sophisticated system. Specialized rectifiers with an inductance bank fitted onto them are controlled by a pulsing system with a unique programmable controller. The system can vary the concentrations of hybrid chemical additives that go into the tanks for different processes, and by changing the temperature and the amps and volts used for a job, it allows Type II and Type III anodizing to be performed in the same tank. Chillers keep the tanks at a constant temperature. The tanks are 12-13 years old and maintained in great condition. The company maintains redundant systems in order to compensate for repairs, maintenance, or large-capacity jobs.



Figure 4. A view of the anodizing tanks inside P.K. Selective's warehouse.

A quick walk to another warehouse reveals the polishing room, with even more paintball gun components waiting to be finished. The sealed polishing facility is surprisingly clean, and Kellett notes that specialized ducts forcibly blow dust directly to the floor to minimize health hazards to the protective-suited workers inside. The second warehouse also hosts the facilities for some of the company's other services. In addition to anodizing, the company also offers alodine, electroless nickel, sealing, electropolishing, masking, and a wide range of cosmetic finishes. Bead blasting and graining facilities are contained in the second warehouse, as well as the paint department, which is only about three years old.



Figure 5. Peter Kellett's anodized art blends technology and imagination.

Here, the powder coating and painting is performed, while another room yields up the multicolor department, where silk screening, multicolor/splash color, and precision masking activities are housed. Examples of Kellett's aluminum artwork adorn the walls and table, including his very first multicolor anodized aluminum "canvases."

#### *Looking Ahead*

Kellett is starting to focus more intently on the art potential of his company (Figure 5). As the economy has worsened, he has had to downsize from 150 employees running the shop 24 hours a day, six days a week, to 45-50 employees operating during more standard business hours. The looming likelihood of major contracts being taken overseas has prompted Kellett to focus on expanding his expertise on an international level, as well. Current projects include anodized aluminum boxes designed to hold jewelry, guitar picks, or other small items (that can be etched, colored, splash anodized, or any combination thereof), and beautiful anodized art panels, with possible applications that range from commercial use to stand-alone art.

On an even grander scale, Kellett's vision has him looking skyward, towards the opportunity of getting his anodized aluminum art into space. If there is going to be art in space eventually, he says, anodized aluminum is the ideal medium, since it is not only lightweight, but can be built-in as part of the construction of a shuttle or space station. The epitome of his business and personal goals is to get a piece of his art into space. "That day," he says, "will be the highlight of my business career."

And he may well be on his way. Some of NASA's traditional anodizing needs are already served by the company. In the meantime, Peter Kellett and P.K. Selective will continue to focus on providing customer service for all kinds of jobs, great and small, industrial and artistic, locally and internationally, continuing to broaden its niche in the anodizing market.