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## Coating Business Grows 26% During Recession

### Who said UV powder was dead?

Longtime readers of UV Spectrum may recall that a company called Decorative Veneer installed the first North American UV powder coating line for medium density fiberboard (MDF) in April 2001. The UV business was spun off as an independent company named DVUV in 2005. We recently spoke with DVUV to find out how the UV powder business has changed and how they are doing, especially during this recession.

#### Powder challenge

Decorative Veneer provided vinyl thermoformed MDF parts to customers in the furniture, cabinetry and healthcare markets. In April of 2001 when they installed their UV powder coating line, a handful of powder formulating companies were developing UV powders. These formulators saw UV powder as a higher, value-added product that could help them expand beyond their mature thermoset powder markets.

However, in very short order the situation changed. The dotcom bust and post-9/11 recession essentially eliminated the office furniture market, which was the primary focus for UV powder, and dried up any new investment capital.

As a result, the formulators all but abandoned UV powder.

#### A new source

Mike Knoblauch, founder and president of DVUV says, "We were in a tough situation. Only one formulator continued to manufacture UV powder. Their commitment to the technology was minimal and we weren't getting the support we needed to meet our customers' needs. If we truly believed in this technology and wanted to grow our business, we realized we would have to formulate the powder ourselves."

So in late 2006, DVUV founded Keyland Polymer, Ltd. as the first company dedicated solely to the development, formulation and production of UV-curable powder coatings. They established the company in Birmingham, UK where they had found a chemist with the knowledge required to do basic research on UV powders. Once the initial research was complete and the base formulations were ready, the operation was moved to DVUV's Cleveland headquarters.

#### Critical test

DVUV now had an alternative powder formulator. But would they succeed?

UV-cured powder finishes typically compete against legacy materials such as high-pressure laminates, wet paint, melamine, papers and vinyl. These materials have broad and mature distribution channels and are readily available. Finish selection consists of simply choosing an existing chip or pattern and securing a sample for prototyping.

In contrast, DVUV uses the speed and flexibility benefits of UV powder to offer custom finishes with powder formulated to customer specifications. To compete successfully, Keyland must complete color matches and provide new formulations rapidly so that DVUV can quickly provide samples and prototypes to customers accustomed to

the ready availability of stock finishes.

DVUV began using Keyland for custom formulations in early 2007 and by the fall, Keyland became the company's primary powder supplier. This in-house powder capability gave DVUV a huge advantage in the marketplace because now they could provide UV powder coated samples formulated to specific customer requirements in just a week as opposed to the month or more that had been required with their original 3rd party formulator. As Mr. Knoblauch says, "Having a responsive UV powder formulator has made all the difference." DVUV's sales nearly doubled in the first year after Keyland was up and running. And 2009 sales are up 26% over the prior year – despite the recession.



### **Primary markets**

DVUV's primary markets for their UV powder coated MDF parts are healthcare, retail and specialized furniture applications. One longtime customer, a leading healthcare equipment manufacturer, switched from Decorative Veneer's vinyl product to a UV powder coated finish early on. They remain so pleased with UV powder and the company that they have parts finished by DVUV here in the States and then ship the components to China for final assembly and shipment to customers around the world.

Retail store fixtures and point-of-sale displays have also been a big success. One reason for this is the aesthetic appeal that UV powder delivers -- the variety of colors, edge treatments and contours that are possible. In addition, the finishes hold up in retail environments where the displays are placed in high-traffic areas and subject to the inevitable wear and tear of daily interaction with customers and store personnel. And UV powder coated parts are also suitable for work surfaces, such as kiosk-type store displays with writing surfaces.

Another interesting product DVUV supplies is the base for a printer stand that their customer, a contract manufacturer, builds for a prominent office equipment supplier. DVUV worked through two years of design and finish reviews with the customer to develop the product. The base component is a complex CNC-routed part that could only be finished with UV powder because of its challenging contours.

DVUV's entire finishing process requires just 17 minutes to transform a raw MDF part into a fully cured, ready-to-ship component. The actual cure takes place in a matter of seconds. In contrast, while low temperature thermoset powders have nearly reached the low cure temperatures of UV powders, they will never offer the production speeds of UV powders since the thermal powders require 10 to 30 minutes to completely cure.

### **New UV possibilities**

In the two and a half years since its founding, Keyland Polymer has expanded to include a dedicated research chemist and full production staff. With a full complement of development, testing, formulation and manufacturing capabilities, they produce a broad line of UV powders from pigmented opaques to multi-component finishes and special effects. Their materials have been independently tested and passed a 1000-hour salt fog test, mandrel bend test, UV stability tests and others.

Keyland has created some especially interesting and unusual UV powders. For example, Ryan Schwarb, UV Cured Powder Formulation and Production Manager at Keyland, noted, "By mixing a variety of pigments, we created a multi-component UV powder that looks like a solid surface material." Keyland also successfully created yellow and red powders, previously thought to be impossible with UV because the yellow and red pigments absorb most of the UV energy. "We can create a UV powder to meet nearly any request. The variety of colors, effects, textures and properties possible is much more extensive than most people imagine," said Ryan.

### **The future**

DVUV is currently getting parts qualified for institutional furniture applications and thinks this will be yet another area of growth for the company. Mike Knoblauch firmly believes there is an opportunity for more capital investment in UV powder coating lines. He expects the segment to continue to grow because of the unique benefits the

technology offers including short lead times, durability and customization of designs – benefits not possible with traditional finishing materials such as laminates or vinyls. He commented, “We need to add more UV powder applications for MDF and also for other substrates such as metal and plastic composites.”

In addition to moving beyond MDF to other heat-sensitive substrates, DVUV will be exploring UV powders that can be used for exterior applications. Though 95% of Keyland Polymer’s current business is with DVUV, they plan to provide UV powders to other applicators in the future as more companies adopt the technology and install UV powder finishing lines.

#### **UV powder benefits even stronger**

As it has from the beginning, UV powder offers design flexibility, single-coat processing, excellent material properties, and most importantly, high-speed production. What has changed is that rising energy costs and increasing environmental regulations are adding even more value to the UV powder benefit equation.

UV cured powder coating is in a unique position to respond to the growing worldwide demand for environmentally friendly and energy efficient coatings. Investments in UV powder coating chemistries and application systems offer investors the opportunity to achieve higher economic returns than other coating materials and processes. Mark Twain once said, “The reports of my death are greatly exaggerated.” Perhaps the same could be said about UV powder!

Visit [DVUV's](#) website for more information about the company. For more information about UV Powder coating including case studies visit [www.fusionuv.com/applicationsolutions](http://www.fusionuv.com/applicationsolutions).

**DVUV's Keyland division has developed UV-curable powders that coat wood with vibrant colors including reds, oranges and yellows plus multi-pigment solid surface look finishes.**

