



Coatings and LEED EQ 4.2

An overview of finishes that comply with LEED requirements.

by Tim Woolery

There is much misunderstanding about which coatings comply with LEED EQ 4.2. To clear up some of the confusion for finishers, this article will present some of the facts.

LEED EQ 4.2 for New Construction requires that clear wood finishes applied to interior elements do not exceed the VOC content limit established by the South Coast Air Quality Management District (SCAQMD) Rule 1113 for architectural coatings, which went into effect on January 1, 2004. These limits are: Clear wood finishes — varnish 350 g/l, lacquer 550g/l; sanding sealers, 275 g/l, and stains, 250 g/l.

For a finisher wondering, “What are my coating and stain options?” here are some suggestions.

- **Stains** — Water-based or 250 g/l VOC stains are your only choice. Most coating manufacturers are currently manufacturing water-based stains, so many options are available. Solvent-based 250 g/l are more limited in availability, as the options for available solvents to meet these restrictions are limited.

- **Clear Coats** — There are several options available to the finisher when it comes to topcoats and sealers: Water-based, 550 g/l lacquers, 350 g/l conversion varnish and polyester coat-

ings.

- **Water-based Coatings** — Water-based coatings have made significant improvements in the last few years. Color and clarity of these coatings is now comparable with solvent-based coatings. The availability of raw materials has increased, and this has brought the price of these coatings more in line with their solvent-based counterparts.

The typical VOC range of these coatings is 100-300 g/l. Most water-based coatings use a solvent that is miscible with water to help with the coalescing of the resin system. These coatings have become easier to apply and make an excellent choice for on-site application due to their low odor.

- **550 g/l Lacquers** — There are many available low-VOC solvent-based products on the market today. Nitrocellulose lacquers, water white lacquers, pre-catalyzed and catalyzed lacquers can all be formulated to fall into this category. Depending on performance requirements, using a 550 g/l solvent-based coating is a good option, as these coatings apply and perform similar to their higher VOC counterparts that are currently being used in many finishing shops across the country.

- **350 g/l Conversion Varnish** — Even though most conversion varnishes are formulated for higher solids, they still are not formulated for 350 g/l



Cavalieri Finishing Co. of Amityville, NY, uses LEED-compliant polyester finishes, with beautiful results.



that the LEED requirement calls for. Your coating supplier has to formulate a low-VOC conversion varnish to meet these criteria.

These popular coatings, used mainly in the kitchen cabinet industry, make for high-quality and extremely durable architectural coatings. However, if they are applied on site, their potentially stronger odor can raise other issues. The low-VOC formulated products tend to have a lower odor, due to the available solvents used, making them a good choice for complying with LEED.

- **Polyesters** — Polyesters are very high-solids clear and pigmented coatings that easily comply with LEED EQ 4.2. These multi-component coatings begin at 98% solids before application and, after adding the other components, apply at 77-84% solids, putting their VOC at approximately 160 g/l. Polyesters easily produce the “closed pore” finishes that are used in many high-end applications, and their durability is excellent. These coatings are best when they are applied in the shop. However, they can be applied on site by using plural-component application equipment.

To recap, your choices for LEED-compliant finish coatings are only limited by your performance requirements, and there are many options from which to choose. All of the coatings mentioned above are available in clear and pigmented versions. Stains, on the other hand, have a more limited offering. Your coating supplier can work with you to develop a stain system that will comply.

It is also important to mention that under LEED EQ 4.2 for New Construction, a building can only receive its 1 point for Interior Paints and Coatings when they are applied on site. However, many LEED projects are still requiring that all of the paints and coatings used comply with EQ 4.2. Some LEED APs (Accredited Professionals) are using these shop-applied special finishes to apply for an Innovation in Design credit. So it becomes possible to get a point for

them anyway.

And now you know that you have many options available to you.

Tim Woolery is Vice President of Marketing and Product Development for Gemini Coatings. For additional information, contact him direct at (405) 345-2032 or via e-mail to timw@gemini-coatings.com.