

INDUSTRIAL FINISHING: LOW VOC WOOD FINISHES

Director of Peinture CanLak says, "Low VOC finish is a real demand on the market now." He adds, "The government regulation is pretty strict for some manufacturers." He says the demand for low VOC finishes at Canlak is steadily increasing and he sees this trend continuing. "Low VOC product is now as good as the regular VOC product," says Lavoie.

www.canlak.csssom

ICA Group, based in Civitanova Marche, Italy, has been designing water-based coating products that combine cutting-edge technological research with a tangible commitment to environmental protection. Over the past 20 years, ICA Group has been engaged in an ongoing research process geared towards the development of coating products that combine low levels of environmental impact with high levels of performance in terms of yield and quality. The water-based cycles designed by ICA Group are capable of delivering the same levels of

chemical and physical performance as solvent-based cycles – actually surpassing solvent-based coatings for pigmented cycles – while also optimizing the cost/benefit ratio.

A fundamental role is played by the studies and product tests that ICA Group conducts on a daily basis in its two research laboratories, where 28 qualified professionals work to ensure that the company's products deploy state-of-the-art technology and deliver excellent chemical/physical performance.

ICA Group's mission to combine high levels of quality with low levels of environmental impact is an objective that it has been actively pursuing since 1983, the year in which it released its first water-based coating products. The decision to concentrate more closely on water-based coatings, which was the result of a rejection of the widespread and deep-rooted conviction that solvents were indispensable to coating performance, has proved to be a challenge that is very much in synch

with the increasing awareness of the public vis-à-vis environmental issues. Moreover, limiting solvent emissions is not just a sign of ICA Group's respect for nature, but also of the company's respect for people – i.e. those who live and work in contact with products onto which ICA-brand coatings have been applied.

The company's bicomponent water-based coatings was awarded the LIFE mark by the European Union in recognition of the "sustainable long-term development" demonstrated by the company in its endeavors to lower atmospheric pollution.

ICA's research in this field was presented to the European Commission as one of the leading practical examples of the LIFE (L'Instrument Financier pour l'Environnement) program, an initiative launched for the purpose of giving financial incentives to organizations involved in "sustainable long-term development". ICA Group's project was the only initiative in the coating-products sector to receive an award:

the products developed by ICA Group were shown to work effectively towards a reduction in atmospheric emissions of Volatile Organic Solvents (VOCs).

ICA Group's products, sold globally, are intended for use by professional users in interior design, carpentry, boatbuilding, exterior fixtures, door and window frames, garden furniture, parquet flooring and musical instruments.

www.icaspa.com

Sansin Corporation with offices in Knoxville, TN and Strathroy, ON, has recently introduced its new Purity Interior Zero VOC Penetrating Stain (0-VOC), the first water-based interior wood stain with a base free from any harmful volatile organic compounds (VOCs) that penetrates both soft and hard woods with consistent, uniform coverage.

Sansin has been a leader in researching and developing environmentally friendly interior and exterior wood stains for a quarter century. The Sansin Purity Interior Zero VOC Stain is available at participating dealers or can be shipped direct from a nearby dealer location.

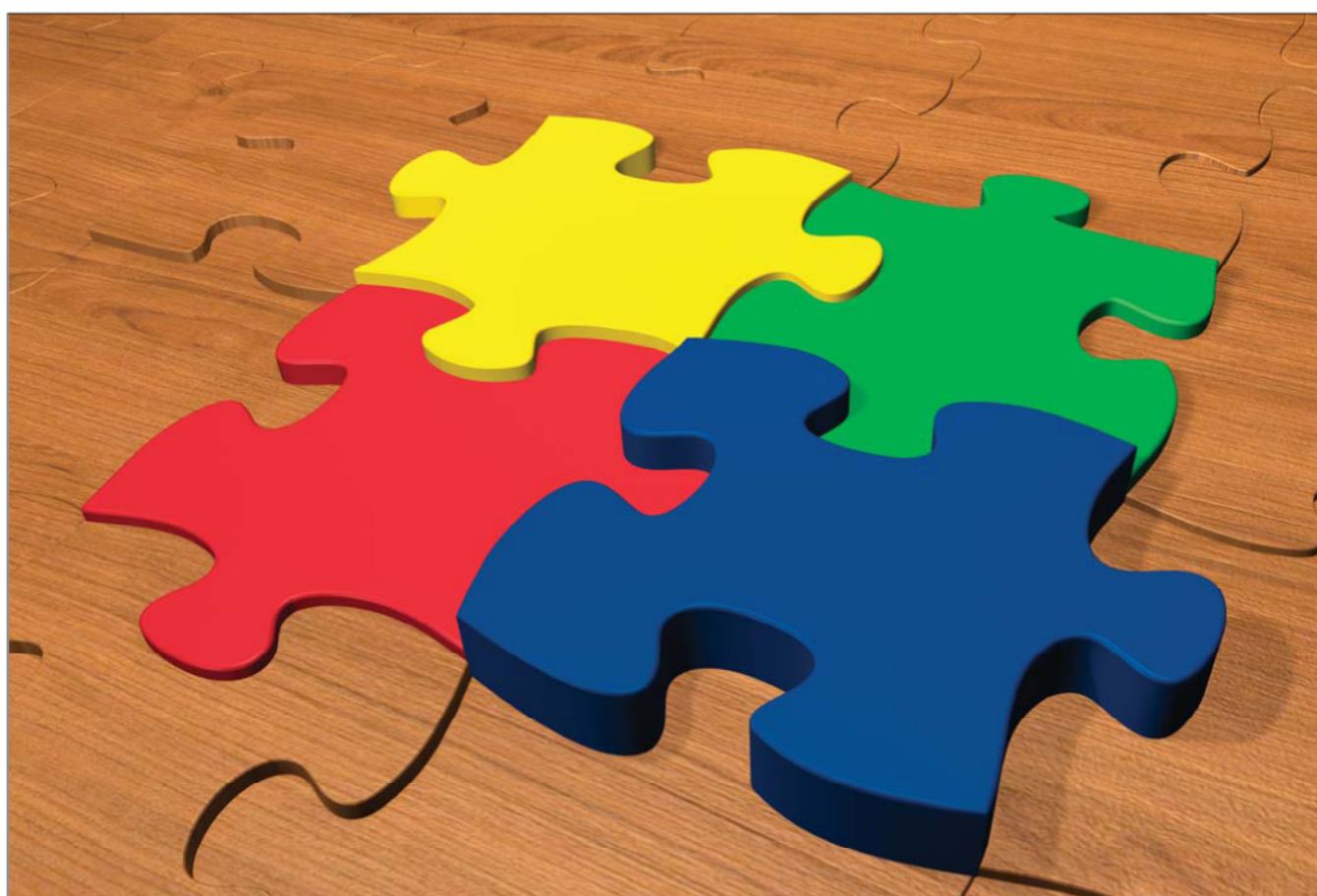
"Our new Purity Interior Stain product line shows that you don't have to compromise performance in a zero base VOC stain," said Sjoerd Bos, Vice President of Sansin Corporation. "We are proud to offer consumers and dealers a penetrating wood stain that delivers the beauty, clarity and long lasting protection that discriminating homeowners, architects and builders expect, but without the toxic indoor fumes."

With Purity Interior Zero VOC stain, customers can apply the stain directly to any wood without purchasing and applying wood conditioners, requiring less stain to deliver vibrant and even wood saturation with little to no odor and zero VOCs. Purity Interior Zero VOC stain is now part of Sansin's flagship interior stain product line.

Sansin's unique non-filming, 'water-borne' alkyd formulas combine the benefits of both oil and water-based coatings, using water as the vehicle to get oil penetration deep into the wood, leading to long-lasting durability and easier maintenance. Traditional film-build coatings don't truly penetrate and can crack or peel. With a range of more than 80 colors with rich, deep hues, Sansin offers stains that naturally protect our greatest renewable resource, wood.

For 25 years, Sansin has been focused exclusively on researching, developing, and introducing environmentally-friendly, 'water-borne' interior and exterior wood products and technologies that deliver outstanding color, durability and performance without the toxicity found in conventional stains. Sansin Enviro Stains use water, not oil, to deeply penetrate and protect wood naturally, from within. Sansin has dealer networks in both Canada and the U.S.

Sjoerd Bos, Vice President of Sansin



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We Bring All the Pieces to the Table

For over thirty years, Chemcraft® has been proudly setting standards for industrial wood finishes. We've earned a reputation for innovative technologies and cost efficient systems; a reputation that will only grow stronger now that we're part of the AkzoNobel family. Our access to a worldwide network of technology and innovation experts will take our products and systems to a whole new level. A large part of that innovation is our eco-strategy; sustainability is a deeply embedded part of our philosophy, and the Chemcraft® brand of products embraces this vision fully. Our eco-friendly products give you lower Volatile Organic Compound (VOC) emissions without sacrificing performance properties and proves that there doesn't have to be a trade off for sustainability. Combine all that with our commitment to superior customer service and support, and you'll see that we have all the pieces in place to continue in our role as the industry leader for years to come. Chemcraft® is the *obvious* choice for industrial wood finishes. Visit www.chemcraft.com to locate your nearest distributor.



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Corporation says, "The response for our zero VOC wood stain has been excellent, since there isn't really a downside from a performance point of view." He adds, "Dealers particularly have been very interested. And after judging our zero VOC Purity Interior Stain for all its performance characteristics, dealers are happy to put it on their shelves."

"The manufacturers we visit with are, by far, open to green alternatives," says Bos. "Some may be forced into it by environmental regulatory agencies or by consumers themselves that are asking 'how green is this product?' Low to zero VOC finishes for wood are now price competitive and they simply perform equal or better than toxic alternatives. So again, no downside."

When asked how low VOC products have improved over the years Bos says, "In our case, for 0VOC stains, we see that the workability (how it applies, how it spreads, how it maintains) and beauty have improved." He adds, "You can avoid overlap. You can re-wet the surface. So, the application characteristics have really improved."

"In a stain, workability and uniformity is how you measure performance. And now, you can get a zero VOC wood finish that delivers on performance," says Bos. "Another area of improvement has been in reducing the toxicity of colors added to a zero VOC base." Sansin has developed a way, for example, to make pigments so small that colors can penetrate wood as evenly as a dye – but without the toxic chemicals typically associated with dyes. Also, these new type of pigments offer significantly more color-fastness and long-term performance than dyes.

"This gives the market more options for retailers that want to offer stains with vibrant, dye-like colors yet still keep the VOC level down as far as possible," says Bos.

www.sansin.com

Meanwhile, Schwartz Chemical Corporation offers a specially formulated selection of Waterborne Coatings and Finishes for the wood substrates. Schwartz has a complete line of LEED compliant coatings, finishes and sealers for applications including millwork, furniture, kitchen cabinets and Rebound coatings and sealers for hardwood floors for residential and demanding gymnasium applications.

Terry Butryn of Schwartz Chemical Corporation says, "The response from customers and applicators has been excellent once they try the product." He adds, "One of the biggest hurdles has been misperceptions of product performance and application based on the early history of waterborne coatings for wood applications."

Butryn says some finishers may have tried early versions and had issues with abrasion resistance, application, grain raising, adhesion and tannin blocking.

"New technology addresses all these

issues and provides an excellent alternative to traditional oil based coatings while offering Low VOC, low odor, superior abrasion resistance and a friendlier product for the environment."

"Better resins and technology has evolved to address issues such as grain raising, tannin blocking and abrasion," concludes Butryn.

Schwartz waterborne coatings exceed the most demanding requirements for VOC compliance and offer the benefits of single component, safe handling, low odour, outstanding wear and durability, and ease of application similar to traditional oil based coatings. All products are available in gloss, semi gloss and satin finishes that can be sprayed, rolled or brushed onto any wood substrate.

www.schwartzchem.com

David Kennedy, Market Director for Kitchen Cabinets at Sherwin-Williams, Chemical Coatings Division says Sherwin-Williams continues to focus on low VOC products, utilizing new technologies and improving existing technologies.

"Two newer low VOC products we are excited about include two waterborne systems," says Kennedy. "Our clear and pigmented Kem Aqua Plus is a low VOC product that is formaldehyde hazard free. Our clear and pigmented UltraCure Waterborne Sprayable UV is super low VOC and formaldehyde hazard free with unbeatable performance."

Kennedy adds, "Low VOC finishes, utilizing both waterborne and solvent-based technologies, are a predominant focus for new product development. Waterborne UV has been one of the fastest growing technologies; it provides a far superior finish with excellent chemical and physical properties, but with the added advantages of being a near-zero VOC, formaldehyde-free product, and easy reclaim / reuse."

"Ever increasing demands to lower VOCs and the various green initiatives (LEED, NAHB Green, etc.) are the primary drivers, and we can expect that VOCs will be continually targeted for reduction throughout North America." Kennedy continues, "The ongoing implementation of VOC reductions of AIM (architectural and industrial maintenance) coatings and the regulations related to the automotive industry in Canada are indicative of the reductions expected in other markets."

He says customers are also insisting on the use of environmentally friendly finishes on the products they buy, and manufacturers are going to need to have green offerings or risk losing customers.

"The green revolution, led by the USGBC LEED Ratings, will continue to expand and increase the demand for more products and finishes that offer better indoor air quality benefits to end users," predicts Kennedy. "The overall benefits with waterborne coatings are hard to ignore, and include low VOC, soap-and-water clean up, potentially

lower insurance rates, employee safety, formaldehyde hazard free and greatly improved performance properties."

David Kennedy of Sherwin-Williams sums it up when he says, "Expect continued growth in waterborne finishes - manufacturers are more readily choosing waterborne technology, and more importantly their customers are increasingly interested in green finishing options."

www.sherwin-williams.com

Superior Finishes based in Winnipeg, MB, has been producing ultra durable W/B coatings for over 13 years and has invested over \$5 million into research and development of its niche products.

Their newest products include:

- An ultra low VOC clear coating that passes Green Guard and is rated by two of the top office furniture manufacturers in the world as having the best hardness and finished look on an

air dry system.

- A W/B texture system that is rated by one of the largest office furniture manufacturers in the world as having the best performance and ease of application.
- A WB/UV curable coating with under 10%/L VOC that is proven to have better clarity, hardness and chemical resistance than those commonly found in the market today.

Superior finishes says response to its low VOC products in the wood industry has been very good with comments from some of the largest office furniture manufacturers such as:

- "This is the only water base that has the appearance of a solvent base finish."
- "This is the only ISO free water base air dry that we can pass Green Guard and still achieve the hardness and scratch resistance needed."

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