



# THE Sansin Report



## The Inside Scoop On 0-VOC Protection

Introducing the new Purity Interior line-up.



This past year has been incredibly exciting for Sansin. Despite the economic challenges, we've continued to grow and expand our dealer relationships in Canada and the U.S. Our focus on quality, consistency and our core company mission to offer only environmentally friendly wood stains continues to set us apart and allow our dealers to differentiate themselves from the big box stores.

Sansin continues to anticipate and prepare for the ever-increasing demand for truly 'green' products that meet stringent criteria, yet meet performance expectations. Simply put, Sansin designs forward.

One interesting development has been the growth and interest in our interior wood stain line. Sansin expects tougher VOC limits and, in certain states like California, increasingly strict regulations to meet state clean air requirements. These regulations are forcing changes to the coatings industry to improve the indoor environmental aspects of interior coatings. *(Continued inside)*

**Eco-Tone™ Colors:**  
Rich color without the toxicity of dyes.

The industry – and many customers – understands that any stain base, no matter how low in VOCs, will see a spike in VOC content once color is added. As a solution, Sansin has pioneered a whole new color system we call Eco-Tone™ Colors.

Instead of using high VOC dyes to achieve deep, rich tones – as many competitive coatings do – Eco-Tone™ Colors use pure pigments, ground so fine they are able to combine with the Purity® 0-VOC Base. Once applied to a home interior, they penetrate deeply, pulling the pigmentation down into the wood for color that is so vibrant and crisp it has to be seen to be appreciated. *(Continued on back)*



(Continued from cover) Once again, Sansin met this challenge by developing an interior line that is unmatched in durability, beauty and environmental performance.

**Purity Interior: First 0-VOC, Deep Penetrating Wood and Gel Stain.**

Sansin is known for leading the way in lower VOC wood stains. Now, with Purity® Interior 0-VOC Stain and 0-VOC Gel Stain, Sansin brings you the first water-based interior wood stain with a base free from any harmful volatile organic compounds (VOCs) that penetrate both soft and hard woods with consistent, uniform coverage.

Purity® Interior 0-VOC Stain is designed to protect timbers, shelves, doors and really any interior wood surface that calls for a long-lasting, durable finish and unparalleled beauty. Purity Interior Gel Stain is an excellent choice for projects that require a long open time and minimal wetting. Many interior coatings contain harsh solvents that release highly toxic fumes – known as VOCs – into the air long after application. Both Purity® Interior 0-VOC Stain and Gel Stain use only nature’s own solvent, water. Application is simple and trouble-free, with no unsightly splatter or brush marks. With Purity® Interior 0-VOC stain and Gel Stain, customers can apply the stain directly to any wood without purchasing and applying wood conditioners, requiring less stain and labor to deliver vibrant and even wood saturation

with little to no odor and zero VOCs. Sansin’s Purity® Interior 0-VOC Stain and Gel Stain deliver the following benefits:

- Zero VOCs – little to no odor
- Ease of application, with the choice of a wipe or spray stain
- Fast dry time, allowing coating with Sansin’s Interior Clears after only 15 minutes
- Minimum pigment transfer upon top coating
- Excellent penetration
- Excellent lapping performance
- Extremely uniform appearance, even on maple
- Availability in a new line of Micro-Fine Colors, called Eco-Tones™, which deliver the vibrancy and richness of dyes without the high toxicity.



**More about our new Purity Interior product line.**

The Sansin Purity Interior product line has expanded and now includes:

**New Purity Interior Glacier™:** Purity Interior Arctic™, known for its ability to prevent yellowing, has been replaced by a new formula Purity Interior Glacier™. Purity Interior Glacier™, like its predecessor, will prevent yellowing while offering noticeable improvements in clarity and toughness.

Both Purity Interior Clear™ and Purity Interior Glacier™ are suitable for any interior wood sur-



face including windows, trim and surfaces that see high wear and tear or periodic moisture. Purity Interior Glacier™ and other Purity products offer exceptionally low VOCs with actual levels below 100 g/L.

**Natures Oil™ for Timbers, Logs or Rustic Floors:** Finally the rich, wet look of a solvent-based Tung oil is available in a water-based product. High in solids, Purity Interior Nature’s Oil™ is a water-borne formula designed to penetrate wood and protect it with a beautiful natural oil finish. Nature’s Oil™ will define grain and augment the natural colors without using harsh petroleum based solvents. Nature’s Oil™ Industrial is available for wood with a higher moisture content – up to 25%

– and Nature’s Oil™ is for dry wood applications. Natures Oil™ is available in a clear base or in a wide range of intermixable colours. The formula is ideal for rough wood and smooth wood surfaces where controlling color while leaving a rich silky smooth finish is desirable. Purity Interior Nature’s Oil™ should be top coated using any of the Purity Clear Lacquer finishes such as Purity Interior Clear™, Purity Interior Glacier™ or Purity Interior Floor™, but can also be left as a stand alone, low luster natural finish.



# Can heat-treated wood be protected?

## Our research and development center reports.

Sansin's test results confirmed that without suitable coating, heat treated wood is not weather resistant and is particularly susceptible to UV degradation.

For centuries, it has been known that burning lumber with an open torch (fire, flames) makes the wood surface more weather resistant in exterior applications. Even Vikings used to burn wood components to make their "residential" shelters, boats and ships, timber bridges and farm fences more resistant to degradation.

Thermal modification or heat treatment is a technology, which enables the upgrading of lower durability softwood into wood products of constant quality. Research on thermal modification of wood based on heat treatment of wood at relatively high temperatures of 230°C-260°C (436°F-536°F) started as early as the 1950's in Europe. This research led to advancements in the thermal modification processes, to the point where even low-value wood species such as beach, birch, poplar and alder can be modified to become value-added products for safe use in interior and exterior applications. There is a broad range of applications for heat-treated wood products such as millwork, garden furniture, saunas, prefabricated houses, green houses, exterior decking, siding, cladding, flooring, and exterior joinery.

*Examples of Heat Treated Wood Applications – Oostvaarders Haus, Netherlands*



The main benefits gained by heat treatment of wood are reduced hygroscopicity, improved dimensional stability, and increased resistance to microbial attack and biodegradation without the use of toxic chemicals. However, some side effects are undesired, such as a loss of strength and increased brittleness due to the high temperatures involved. Traditionally these side effects were cited as the main objections for the overall commercial utilization of heat-treated timber. Ongoing research and development of suitable thermal modification techniques have focused on the optimization of the process for a maximum increase of the dimensional stability and durability, while minimizing the decrease in strength.

Different methods of thermal modification of wood have been developed in Finland, the Netherlands, Germany, and France based on the use of materials (wood species, moisture content, dimensions, green or dry wood), conditions of different application processes (wet or dry process, different use of sheltering gas, cooling times), as well as equipment use. Treatment specifications are registered in several European and U.S. patents.

A substantial decrease of the hygroscopicity and improvement of the dimensional stability are the main effects of heat treatment. As a result of the increased temperature during the heat-treatment process some polymer bonds within the wood substrate (cellulose, hemicelluloses and lignin) are affected. Lignin in the wood becomes especially prone to UV degradation and if not protected, the wood cells (mainly composed of cellulose) will become faded and loose, and subsequently the erosion of the wood surfaces is inevitable.

Therefore, proper finishing and coating of heat-treated wood with a high quality wood finish is an essential step in ensuring the longevity of the wood in both interior and exterior applications.

### Sansin Test Results

Under the direction of Dr. Nenad Vidovic, the Sansin Research & Development team conducted extensive testing of Sansin's core line up of products in a variety of heat-treated wood applications. Untreated test panels and low-build solvent based products were also tested for comparative purposes. Tests were conducted using Sansin's UV Weather Cabinet, as well as through outdoor exposure.

Samples of heat treated wood, modified according to different thermal modification technologies were obtained from European and Canadian suppliers. In all cases physical and chemical transformations are visible in the wood members received for experimental coating applications. Samples show reduced hygroscopic behavior compared to natural wood, confirming better dimensional stabilization (conforms to ASTM standards). Mycological testing confirmed resistance that subterranean termites couldn't feed on heat treated substrates.

Sansin's test results confirmed that without suitable coating, heat treated wood is not weather resistant and is particularly susceptible to UV degradation. Initial fading, graying, cracking on untreated samples was observed as early as 7 days (on soft hardwoods) to 21 days (on pine species) after outdoor exposure. Erosion of exposed heat treated wood is found to occur up to 4 times faster than non-heat treated wood.

Our test results also confirmed that superior protection was achieved through using modified versions of Sansin SDF™. SDF-HT proved the most resistant to UV degradation and natural weathering. With a proper maintenance coat the ongoing and continuous protection of heat treated wood can be achieved, while providing for a highly pleasing aesthetic appearance. SDF-HT is a high quality coating engineered to protect the wood, offering superior performance against the natural elements.

(Continued from cover) Not to mention longer-lasting color performance with 1/10th the VOC level of dyes!

**Customer Service Tip:** To achieve desirable luster, use Purity Floor, Glacier or Clear formulas as the top coat for our 0-VOC stain. Customers can select from 16 color offerings, or dealers can mix custom colors on-site for customers.

**Recommended for:** Customers that demand intense, clear color but want to use sustainable alternatives that minimize VOC levels.

## Sansin Microfines offer outstanding beauty and uncompromising performance.



### Regional Dealer Program

Sansin has embarked on a new direction in its distribution model designed to improve market presence, professional service, and customer experience related to Sansin products. The Sansin regional dealer will provide all of this and more! Regional dealers are Sansin distributors who have committed to make Sansin the lead wood care product line in their location by increasing their inventory to reflect the full line of the Sansin family of products. These dealers have earned a reputation for excellence in service and are leaders in providing personal attention and service to their customers.

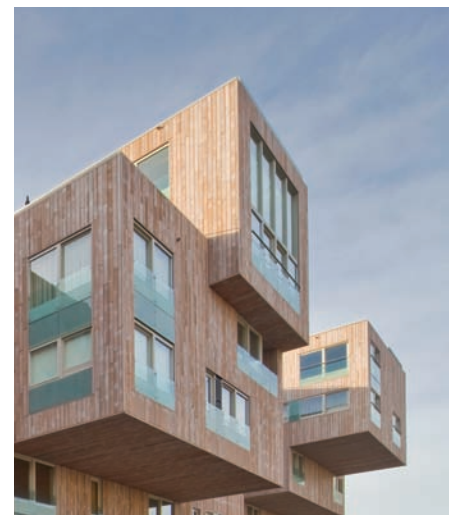
The customer experience is further enhanced through merchandising and product knowledge with a commitment to training. The relationship is a real win-win

for clients and dealers as it enables other Sansin direct accounts to pick up product from a local source. Credit established customers will be billed directly by Sansin allowing them to maintain their direct relationship with Sansin when necessary. We are really excited to announce this relationship with many new stores.

See our website for a regional dealer near you.

### Featured Residence

Project name: Crystal Court  
City: Amsterdam, Holland  
Architect: Tangram Architekten  
Contractor: Hillen & Roosen  
Product Used: Sansin SDF™



### Upcoming Shows Where You Can Find Sansin

- Cowboy Christmas, December 2-11, Las Vegas
- GreenBuild – November 16-19, Chicago
- Cottage Country Home Show, February 10-13, Montréal