

Breakthrough in Fire Safety: SIOResin's WRS-1002 Water-Based Intumescent Resin Delivers Exceptional Expansion & Clarity

WRS-1002 achieves exceptional fire resistance with 100x expansion, crystal-clear transparency, and compliance with indoor environmental regulations.

NEW YORK, NY, UNITED STATES, February 11, 2025 /EINPresswire.com/ -- SIO New Material ([SIOResin®](https://www.sioresin.com)) proudly introduces WRS-1002, a next-generation [water-based intumescent fireproof resin](#) designed to revolutionize fire protection coatings. With an outstanding 100x expansion rate, exceptional transparency, and environmentally friendly composition, this innovative formulation is tailored for manufacturers developing transparent fire-retardant coatings for wood materials.



SIOResin's WRS-1002 Water-Based Intumescent Fireproof Resin

Details: <https://www.sioresin.com/other-resins/wrs-1002-fire-retardant-resin-for-wood-fireproof-paint.html>

Unmatched Fire Protection with High-Expansion Technology

SIOResin® WRS-1002 is engineered to provide exceptional flame resistance and thermal insulation. When exposed to heat, the resin rapidly carbonizes and expands, forming a thick insulating layer that effectively blocks oxygen and heat from reaching the substrate. This intumescent reaction is the key to its superior fireproof performance, allowing coated surfaces to withstand extreme temperatures and delay combustion.

With an expansion rate exceeding 100 times, WRS-1002 ensures comprehensive fire protection while maintaining a clear and smooth surface finish. Unlike traditional fireproof coatings, which often compromise aesthetics, this advanced resin allows for decorative transparency, making it ideal for wood coatings where natural grain visibility is desired.

Effortless Formulation for Coating Manufacturers

A major advantage of WRS-1002 is its simple and adaptable formulation, making it highly accessible for coating manufacturers looking to develop fire-retardant paints with minimal adjustments. The resin features:

- 1 Room temperature curing for convenient application
- 2 Low viscosity with high solid content, ensuring smooth blending and application
- 3 Excellent compatibility with common coating additives and binders



To assist manufacturers in formulating expansion-type transparent fireproof coatings, SIOResin provides the following recommended starting formula:



Outstanding environmental performance! It meets strict indoor air quality standards, has no odor, and forms a smooth, transparent surface after curing, making it ideal for high-end wooden surfaces."

*Asian Fireproof Coatings
Factory*

Expansion-Type Transparent Fireproof Coating Primer –
Formulation Guide

Ingredient	Ratio (%)
Resin (WRS-1002)	100
Defoamer (Degussa 2290)	0.1
Wetting Agent (Degeo 245)	0.1
Thixotropic Agent	Appropriate amount
Water, Alcohol, or Mixture	Appropriate amount

Formulation Process:

1. Add WRS-1002 to the mixing container and start stirring.

2. Gradually introduce additives (defoamer, wetting agent) while maintaining medium stirring speed for 15 minutes.
3. Check for shrinkage holes using a scraper; continue stirring if necessary.
4. Adjust viscosity by adding water or alcohol, ensuring uniform distribution.
5. Filter and package the final product for application.

Eco-Friendly and Safe for Indoor Use

As a pure water-based resin, SIOResin® WRS-1002 meets strict indoor environmental standards, with formaldehyde emissions below 0.1 mg/m³, making it a safe choice for residential and commercial applications. Free from harmful solvents and VOCs, it aligns with sustainable manufacturing practices while ensuring top-tier fire protection.

Endorsement from SIOResin's CEO, Mr. Zhang

"We are thrilled to introduce WRS-1002, a breakthrough in intumescent resin technology," said Mr. Zhang, CEO of SIOResin. "Its ability to expand over 100 times, maintain crystal-clear transparency, and comply with eco-friendly regulations makes it an exceptional choice for coating manufacturers looking to innovate in wood fireproof solutions."

Availability

SIOResin® WRS-1002 is available in 200KG packaging and offers a shelf life of 12 months when stored under appropriate conditions.

WRS-1002 is now available for sampling and testing. For more information or to request a sample, please contact SIOResin today.

About SIOResin®

SIOResin® is a leading manufacturer specializing in innovative waterborne raw materials, offering comprehensive solutions for R&D, production, sales, and services. With a market-driven approach and a commitment to continuous innovation, SIOResin serves a wide range of industries including coatings, cosmetics, textiles, biology, machinery, construction, and medicine. Their product extensive product line includes water-based Polyurethane, waterborne Acrylic Resin, water-based Additives, [Silicone Resin](#), Silicone Rubber, and waterborne curing agents, etc. Supported by a team of experts and multiple national patents, provide high-quality, competitive solutions that help clients succeed.

More Products:

<https://www.sioresin.com/silicone-resin.html>

<https://www.sioresin.com/water-based-polyurethane.html>

<https://www.sioresin.com/uv-cure-resin.html>

<https://www.sioresin.com/waterborne-acrylic-resin.html>

<https://www.sioresin.com/additives.html>

For more information or to request samples, please visit <https://www.sioresin.com> or contact sales@sioresin.com

Blog: <https://www.sioresin.com/blog/>

Sam Ng

SIO New Materials

+13037222576 ext.

sales@sioresin.com

Visit us on social media:

[LinkedIn](#)

[YouTube](#)

[TikTok](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/784622085>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable

in today's world. Please see our Editorial Guidelines for more information.

© 1995-2025 Newsmatics Inc. All Right Reserved.