

# WRS-1010 Fire-Retardant Resin

## Product Description

WRS-1010 is a fire-retardant resin dispersion with excellent flame resistance, non-combustibility, and fireproof properties. It can undergo crosslinking reactions with specific resins at room temperature to form a transparent adhesive film. When exposed to heat, the film rapidly carbonizes and expands, reaching over 100 times its original volume.

This expansion effectively isolates oxygen and heat transfer to the substrate, forming an effective fireproof and thermal insulation layer. It is an environmentally friendly product that meets indoor air quality requirements and is suitable for the formulation of fire-retardant coatings.

WRS-1010 needs to be combined with H-1474 flame-retardant curing agent (phosphate resin) to form a 2K system ambient-cure fireproof coating.

## Physical Properties

Property	Value
Appearance	White viscous liquid
Viscosity (25°C, s)	1000±500
Solid Content (%)	75±2
pH Value	7.0—9.0
Density (kg/L, 25°C)	1.20-1.25
Formaldehyde emission (mg/m <sup>3</sup> )	≤0.1

## Features

- Safe, non-toxic, and eco-friendly
- Flame-retardant and fireproof

## Applications

- Water-based coatings
- Fireproof coatings for wood materials

## Precautions

1. Avoid contact with strong electrolytes to prevent demulsification.
2. Conduct compatibility tests before mixing with other resins.



**Storage & Packaging**

1. Store in a cool, dry, and well-ventilated place at temperatures between 5°C-30°C.
2. Keep in a sealed container. If the resin is not used up at once, ensure the lid is tightly closed.
3. **Packaging options:**
  - 50kg/drum
  - 200kg/drum
4. **Shelf life:** 12 months from the production date.

**Performance Advantages**

1. Cures at room temperature.
2. Low viscosity with high solid content.
3. Easy application with low environmental requirements.

**Expandable Transparent Fireproof Coating Primer – Mixing Process & Material Ratio**

**Formulation & Ratio**

Component	Ratio (Parts)
Resin (WRS-1010)	100
Defoamer (TEGO 2290)	0.1
Wetting Agent (TEGO 245)	0.1
Thixotropic Agent	Appropriate Amount
Water or Alcohol	Appropriate Amount

**Mixing Process**

1. Add the resin into the container and start stirring.
2. Under medium-speed stirring, add the additives in sequence.
3. Stir for 15 minutes, then check for shrinkage cavities using a scraper.
  1. If shrinkage cavities are present, continue stirring.
  2. If no shrinkage cavities are observed, reduce the stirring speed.
4. Add water for viscosity adjustment and mix until uniform.
5. Filter and package the final product.