

# Technical Data Sheet



Willamette Valley Company

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Partnering through service,  
innovation, and integrity

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# E-851 Epoxy - Thin

## Two-component epoxy used to fill wood defects

### DESCRIPTION

E-851 is a two-component polyamine hardened epoxy used for the repair of defects in wood. Used in the wood products industry; it can be applied by meter or cartridge and spread with a putty knife on an assembly line operation. The thinner viscosity reduces mounding which reduces the amount of epoxy used, which in turn requires less sanding. The thinner viscosity also enables the epoxy to flow into narrow/thin defects very well. The product sets up in about 90 seconds, depending on temperature of the wood and the volume of the defect. Once cured, E-851 Epoxy can be easily sanded, planed, cut, stained, painted and drilled. E-851 Epoxy is also free from the irritating odors of unsaturated polyester and mercaptan cured epoxies.

### WHERE TO USE

- Dimensional Lumber
- Laminated Beams
- Wood Flooring
- Fir and Cedar Siding
- Unrouted and Routed Defects in Plywood
- Molding, Furniture

### FEATURES AND BENEFITS

- Can be Sanded, Stained, Painted & UV Cure Coated
- Zero VOC – 100% Solids
- Thin Viscosity: Use Less Epoxy
- Less Mounding: Less Sanding
- Can be Applied in Hot or Cold Temperature Wood
- Outstanding Adhesion to Wood
- Great Moisture Resistance
- Fully Cured Epoxy is Crack and Shrink Resistant

### PACKAGING

Cartridges  
5-gallon pails (18.93 L)  
55-gallon drums (208.2 L)

### SHELF LIFE

12 months when properly stored.

### STORAGE

Store this product in a clean, dry, shaded or covered environment above 45°F (7.2°C). DO NOT FREEZE.

## TECHNICAL INFORMATION

### TYPICAL PROPERTIES

<b>Solids</b>		100%
<b>Density – lbs./gallon (kg/L)</b>	<b>Part A</b>	10 (1.20)
	<b>Part B</b>	12 (1.44)
<b>Consistency</b>		Thick Fluid
<b>Viscosity – centipoise at 77°F (25°C)</b>	<b>Part A</b>	35,000 cps
	<b>Part B</b>	75,000 cps
<b>Pot Life: at 77°F (25°C) in 100 mls or ½ cup (varies with quantity and temperature)</b>		90 seconds
<b>Color (other colors available upon request)</b>		Black
<b>Hardness – Shore “D” (on fully cured material)</b>		65

### CURE TIME

Remember that epoxy is exothermic when curing, so the larger the mass the faster it will cure. Avoid filling larger voids in one pour as it may become extremely hot as it cures. Allow epoxy to cure for 30 minutes before sanding. Epoxy will fully cure within 24 hours.

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## APPLICATION

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E-851 can be applied by mechanical or hand methods:

**Mechanical** – Use a Willamette Valley Company metering system . Please contact your Willamette Valley Company Representative for information on using a metering system.

**Cartridges** -

1. E-851 can be dispensed from cartridges with a side-by-side manual or pneumatic gun. A 24-30+ -element nozzle with a 10 mm diameter is required to achieve a sufficient mix.
2. Use a 1-to-1 manual dispenser.
3. Remove the retaining nut and caps from the cartridge.
4. Keep the cartridge upright during assembly.
5. Place mix tube on top of the cartridge and secure by hand tightening the retaining nut.
6. Point cartridge upward and load into applicator gun.
7. While pointing cartridge upward, trigger handle to remove any air trapped in cartridges.
8. Point cartridge over waste container and dispense an initial amount of material (e.g. approximately 20mL).
9. Flood defect but avoid overfilling. Use a flexible blade putty knife to spread the epoxy further reducing the amount of epoxy used and the amount of post-cure sanding needed.

**NOTE:** Application by cartridge must be performed continuously. Stopping before the cartridge is completely dispensed will result in the material setting up in the mix tube. Partially used cartridges may be reused by placing a new mix-tube on top of the cartridge.

**Hand Method** – By hand, mix the two-components at a 1:1 ratio by volume. After hand mixing, apply using a flexible blade putty knife to spread the epoxy.

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## ADDITIONAL FEATURES AND BENEFITS

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The E-851 Epoxy can be used to repair numerous types of wood products such as:

- ✓ Upgrading dimensional lumber and plywood
- ✓ Filling Defects in Laminated Beams
- ✓ Correcting imperfections in fir and cedar siding
- ✓ Repairing unrouted plywood defects up to 1.5" (3.81 cm)
- ✓ Repairing routed plywood defects up to 2.25" (5.72 cm)
- ✓ Fixing Defects in Molding and Furniture

Part "A" and Part "B" of E-851 Epoxy have similar viscosities and therefore accommodate easy mixing. In addition E-851 has been formulated with specific thixotropic agents which allows it to be easily mixed and applied on hot or cold temperature wood.

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## NOTES

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As it is true with most epoxies, prolonged exposure to direct sunlight will cause the cured epoxy to yellow and degrade over time. Avoid applications of E-851 Epoxy in areas where direct exposure to sunlight is expected.

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## HEALTH AND SAFETY

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Before handling, you should become familiar with the Material Safety Data Sheet (MSDS) regarding the risks and safe use of this product. To obtain an MSDS please call 800-333-9826 or send an email to: [msds@wilvaco.com](mailto:msds@wilvaco.com).

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## CLEAN-UP

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Use soap and water before the material solidifies.

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## CONTACT INFORMATION

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Please see the side bar on the front page for the Division nearest to your location.

### WILLAMETTE VALLEY COMPANY

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