

Technical Data Sheet

Re-issued January 2008

EPI-REZ™ Resin 5522-WY-55

Product Description

Clear paints, enamels and primers for metal, concrete or masonry can be formulated with EPI-REZ™ 5522-WY-55 (see Waterborne Starting Formulations). EPI-REZ 5522-WY-55 Resin is a 55 percent nonvolatile dispersion of a modified 1002 type epoxy resin in water and 2- propoxyethanol.

Application Areas/Suggested Uses

This polyfunctional epoxy resin dispersion is intended for use in ambient cure, two-component, water-reducible epoxy coatings formulated for applications requiring a high degree of chemical and corrosion protection. Although EPI-REZ 5522-WY-55 exhibits good compatibility with several amine functional water reducible converters, it is suggested for use with water reducible EPIKURE™ 8290-Y-60 Curing Agent.

Benefits

- Rapid room temperature cure
- Low volatile organic content (VOC)
- Good paint stability
- Performance versatility
- Long-term water and humidity resistance
- Corrosion resistance over a variety of substrates
- Adhesion to damp concrete

Sales Specification

Property	Units	Value	Test Method/Standard
Weight per Epoxide	g/eq	550 - 700	ASTM D-1652
Viscosity	cP	8,000 - 19,000	ASTM D-2196
Solids	%	52 - 55	ASTM D-1259
Particle Size	µm	0.20 - 0.70	SRC00033
Fineness	Hegman	6 min	ASTM D-1210

Typical Properties

Property	Units	Value	Test Method/Standard
Pounds/Gallon			

Solution	lbs/gal	8.9	
Solids	lbs/gal	9.68	
Appearance		Milky	
Flashpoint, Setaflash	°F	>200	

Processing/How to use

General Information

Coatings formulated with EPI-REZ 5522-WY-55 Resin and EPIKURE 8290-Y-60 Curing Agent can be applied to a variety of substrates. These coatings exhibit very strong adhesion and long-term protection. Adhesion is particularly good over damp concrete, an exclusive feature of waterborne epoxy systems. This resin combination may be formulated into sealers, primers and low to high sheen topcoats for various industrial maintenance and specialty architectural applications. EPIKURE 8290-Y-60, the water-reducible amine adduct recommended for cure of EPI-REZ 5522-WY-55, is a highly reactive hardener. Therefore, certain formulating parameters must be considered in order to achieve maximum performance from these coatings.

Performance Properties

The theoretical stoichiometry for this resin system is 79.5 percent epoxy to 20.5 percent curing agent based on resin solids. However, it is recommended that coating stoichiometry be based on intended end uses, since a wide variety of performance properties may be obtained through variation of the epoxy/hardener ratio. As illustrated in Figures 1 and 2, a high degree of hardness development and solvent resistance is achieved at a ratio of 75 percent epoxy to 25 percent curing agent based on solids. For flooring applications, this ratio offers the optimum required physical properties. For a broader spectrum of performance, comparable to a conventional solvent-borne epoxy coating, an 85/15 epoxy to curing agent ratio is suggested. Ratios containing still higher epoxy levels are recommended for applications requiring a high degree of corrosion and humidity protection (see Figures 3 and 4). EPI-CURE 8290-Y-60 Curing Agent levels greater than 25 percent of total resin solids are not recommended due to the short pot life and adverse effects on water and acid resistance.

Figure 1 / Hardness Development

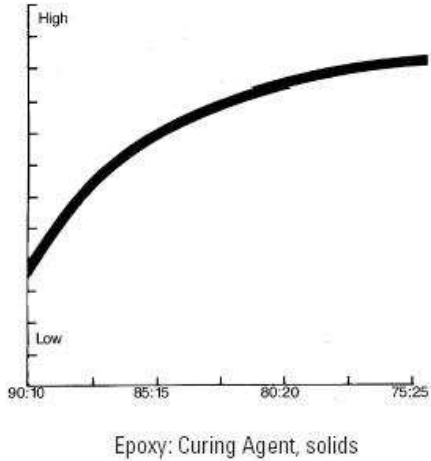


Figure 2 / Solvent Resistance

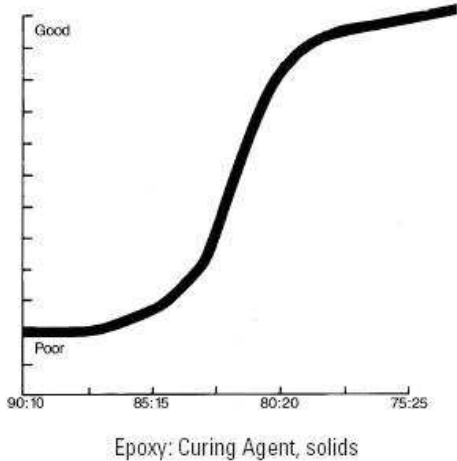


Figure 3 / Acid Resistance

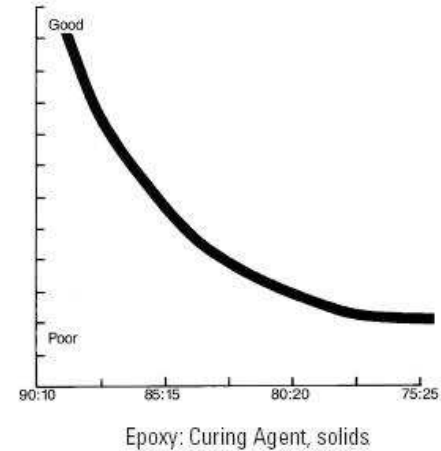
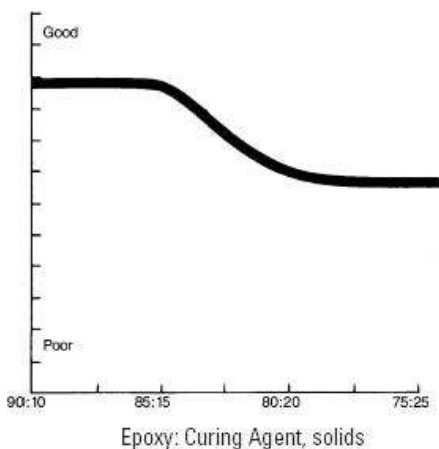


Figure 4 / Salt Fog Resistance



PIGMENTATION

When pigmenting EPI-REZ 5522-WY-55 based coatings, the formulator has the option of pigmenting either or both components. Due to the rapid reactivity of EPIKURE 8290-Y-60, a relatively small amount of this resin is utilized in most formulations. Pigments with a lower vehicle demand will aid in achieving higher extender loadings, higher solids and lower VOC. Therefore, pigments with high oil and water absorptions and high pigment volume concentrations (PVC) should be avoided to reduce the pigment demand on the EPIKURE 8290-Y-60. Pigmentation of this component may be facilitated through moderate additions of cosolvent or water in the grind portion of the high speed dispersion process. Optimum pigment dispersing in the EPI-REZ 5522-WY-55 component is obtained by pebble milling. Pigmenting this component allows for formulation of a convenient 4:1 package ratio, as well as high PVC due to the greater amount of binder available for pigment wetting. In preparation of primer formulations, high speed dispersion of additives in either component is usually effective. In white enamel formulations, improved gloss may be achieved through use of a high surface treated, easy dispersing grade of rutile titanium dioxide. Due to the cationic nature of EPIKURE 8290-Y-60, standard anionic additives or dispersants can severely shock the system. Nonionic paint additives are recommended when applicable. The selection of extender pigments and corrosion inhibitors should also be made carefully as the pH of these materials can play a major role in stability and performance. Extremely basic or acidic pigments can interact destabilize EPIKURE 8290-Y-60 paint components.

Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

Please refer to the Hexion web site for Shelf Life and recommended Storage information.

For ease of handling and optimum shelf life, epoxy dispersions should be stored in tightly sealed containers at temperatures between 50 °F (10 °C) and 100 °F (37.8 °C). Do not allow the product to freeze. To prevent skinning or surface drying, do not leave the product uncovered for extended periods of time. If the need arises to store partially filled drums, replace the plastic top-sheet onto the surface of the liquid product.

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and

equipment, and adherence to proper handling procedures. **None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them.** Questions and requests for information on Hexion Inc. ("Hexion") products should be directed to your Hexion sales representative, or the nearest Hexion sales office. Information and MSDSs on non-Hexion products should be obtained from the respective manufacturer.

Packaging

Available in bulk and drum quantities.

Contact Information

For product prices, availability, or order placement, please contact customer service:

www.hexion.com/Contacts/

For literature and technical assistance, visit our website at: www.hexion.com

© and ™ Licensed trademarks of Hexion Inc.

DISCLAIMER

The information provided herein was believed by Hexion Inc. ("Hexion") to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. All products supplied by Hexion are subject to Hexion's terms and conditions of sale. **HEXION MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY HEXION,** except that the product shall conform to Hexion's specifications. Nothing contained herein constitutes an offer for the sale of any product.

PDS-4133- (Rev.7/15/2015 11:21:14 AM)