

Joncryl® PRD 980-B

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| General | Joncryl® RPD 980-B is a Rapid Property Development (RPD) acrylic polyol for high solids polyurethane coating applications. |
| Key features & benefits | <div>rapid dry through and cure time</div> <div>practical pot life</div> <div>utility as a modifier</div> <div>excellent gloss development</div> <div>suitable for low VOC systems</div> |
| Chemical nature | RPD acrylic polyol |

Properties

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| Appearance | clear liquid |
| Typical characteristics <i>(should not be interpreted as specifications)</i> | <div>non-volatile at 110°C (0.5g, 60 minutes) 79.0 - 81.5 %</div> <div>hydroxyl number 135 - 150</div> <div>viscosity at 25°C ± 0.5°C (Brookfield LV 4#, 60rpm, 30 seconds) 3,600 - 8,000 cps</div> <div>density at 68°F 8.6 lbs/gal</div> <div>equivalent weight as supplied, of solids 500, 400</div> <div>Tg -7°C(19.4°F)</div> <div>flash point 116.6°F</div> <div>solvent n-butyl acetate</div> |

Application

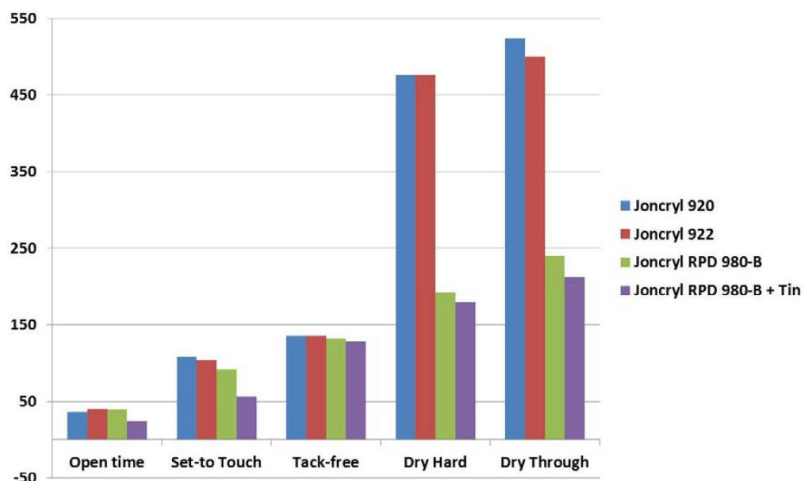
Joncryl® RPD 980-B is an innovative acrylic oligomer for high solids polyurethane coatings, which combines Rapid Property Development with a practical pot life. High solids coatings that are as low as 2.1 lbs/gal (250 g/l) of VOC without exempt solvents, can be formulated to spray by conventional or airless equipment. It displays outstanding viscosity characteristics without the addition of low molecular weight reactive diluents. Joncryl® RPD 980-B should be considered as a candidate for high performance maintenance and transportation coatings as a replacement for conventional solids polyol resins in urethane finishes.

Joncryl® RPD 980-B is recommended for applications such as:

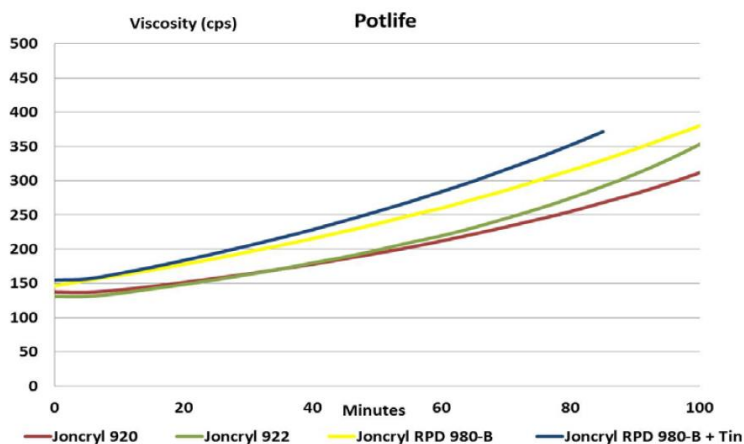
- Interior/exterior automotive refinish applications
- Interior/exterior general industrial coating applications
- Modifier to improve flow and leveling

Cure/Dry Characteristics

The following graph illustrates the dry times/cure rates of a clear formulation based on Joncryl® RPD 980-B. Due to the increased reactivity of Joncryl® RPD 980-B, catalysts are not normally used. If increased reactivity is desired, typical urethane catalysts such as dibutyltin dilaurate can be used. If a catalyst is used, the dry time and the pot life will both be reduced. The pot life of this system will normally be between 1 - 2 hours when pot life is defined as the time to double an initial viscosity of 150 cps.



Evaluations of Gardner dry times are very subjective. The dry times will normally lie somewhere within the area plotted on the chart above.



Color / Clarity

Joncryl® RPD 980-B is very low in color and has excellent clarity. It will provide clear high gloss films.



Formulation guidelines

Crosslinker Selection

For maximum gloss retention properties, aliphatic isocyanates are recommended. The Trimer or Biuret versions of hexamethylene diisocyanate can be used. The Trimer version may give better gloss retention and reactivity. A ratio of 1.05:1 of isocyanate to hydroxyl is normally recommended in the industry.

Solvent Selection

Because the hydroxyl functionality of alcohols and glycol ethers can react with isocyanates, their use should be avoided. Urethane-grade solvents should be used when available. Ketone solvents will give the best viscosity/VOC due to a combination of good solvency and low density. Esters generally provide the next best viscosity/VOC, but do not provide as low of a viscosity/VOC as the ketones due to their higher density. Generally, the lower the molecular weight of the solvent within the family, the lower the viscosity/VOC that is obtainable. Aromatics such as xylene and toluene provide good solvency and can be readily used in combination with the more polar solvents. Glycol ether acetates can be used but normally do not provide as low viscosity/VOC. PM-Acetate exhibits film retention characteristics.

Catalysis

Due to the increased reactivity of Joncryl® RPD 980-B, a catalyst is not normally required. If additional speed of cure is desired, typical urethane catalysts such as dibutyltin dilaurate can be utilized. Catalysis with 0.005% dibutyltin dilaurate on total binder solids is normally recommended. Higher catalyst level will result in shorter pot lives and faster cure rates. Other catalysts such as zinc octoate and other metallic soaps can also be used.

Use as a Modifier

Joncryl® 980-B can be used as a modifier to upgrade the performance of low molecular weight polyester and acrylic polyols. It can be used to lower the viscosity/VOC of higher VOC systems including acrylics and polyesters.

For further detailed application information please contact our Technical Support Department.

Safety

When handling this product, please comply with the advice and information given in the safety data sheet and observe protective and workplace hygiene measures adequate for handling chemicals.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. The agreed contractual quality of the product results exclusively from the statements made in the product specification. It is the responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed.

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