**PRODUCTS FOR ADHESIVES AND SEALANTS**

Georgia-Pacific Chemicals has been one of the leading suppliers of phenolic resins for a multitude of adhesive and sealant uses for over 30 years. Our broad portfolio includes resoles, etherified and novolac resins. Both water-based and solution-based products are available. Our Research and Development team has years of technical experience with these materials and can design products to meet our customers’ individual formulations and needs.

Phenolic resins are used to formulate thermoset protective coatings for rigid substrates. Often used as the sole resin, GP® phenolic resins can be modified with epoxy, vinyl or any other hydroxyl-containing polymer to optimize chemical resistance and flexibility.

Major applications for these products include coatings for drums, pails, pipes, coils, as well as tank and railcar linings and general metal protection. These products feature substrate adhesion properties as well as chemical resistance and corrosion resistance needed for these demanding applications. Specialty products are appropriate for rubber-to-metal adhesion.

Some of our phenolic resins are compliant with components of FDA 21 CFR 175, 176 and 177.

A few of our most popular products are:

**GP® 4003** resin, a heat-reactive waterborne dispersion containing co-solvents, designed as a modifier for latex and phenoxy resins to improve chemical and corrosion resistance and adhesion for coatings on rigid substrates. It is an effective crosslinker of polymers containing hydroxyl moieties.

**GP BKUA-2370** resin, a heat-reactive waterborne dispersion formulated to improve chemical resistance and adhesion of latex and phenoxy polymers.

**GP BLS-2700** solution resole, a heat-reactive phenolic resin solution in ethanol for coatings of rigid metallic substrates. It is effective as a metal or wash primer and as a crosslinking agent for polyvinyl butyral where it is used to manufacture crater-free films with enhanced flexibility.

**GP BRSD-2112**, a liquid heat-reactive phenolic based resin solution, is used in rubber-to-metal adhesive applications.

**GP BKR-2620**, a solid resole resin for nitrile adhesives and films used for intercoat adhesion to vinyl organosols. It is used with epoxy, vinyl and acrylic polymers to improve performance without sacrificing flexibility and provides excellent wetting characteristics. In addition to the metal protective coatings described above, it is also used in plastisol primers.

**GP BKUA-2353**, a waterborne dispersion for acrylic latex adhesives that, among other benefits, provides improved adhesion and green strength.

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<thead>
<tr>
<th>Water- and Solvent-Based Phenolic Resins</th>
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<tr>
<td><strong>% Solids</strong></td>
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<tr>
<td>GP 4003</td>
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<tr>
<td>GP BKUA-2370</td>
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<td>GP BLS-2700</td>
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<td>GP BKUA-2353</td>
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These products represent just some of the off-the-shelf products we supply to the adhesives and sealants industry. We know that every application and every formulation is different. Our knowledge of these resins provides us the foundation for determining or developing the product that will meet your specific need.
Why Work with Georgia-Pacific Chemicals?

Our customers tell us four things make us different from other chemical suppliers.

• **EXPERTISE** – Experts to customize products for the unique chemical demands of the adhesives and sealants industry.

• **RESOURCES** – Analytical and technological capabilities to evaluate the best products to meet your needs.

• **RELIABILITY** – Consistent, dependable quality stemming from a corporate principle of operational excellence.

• **INNOVATION** – A diverse line of innovative products designed for performance and value creation.

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