PHENOXY™ PK RESINS
FOR ADVANCED COATING PERFORMANCE
### Gabriel Phenoxies: SOLID STANDARD GRADES (EW OH=284)

<table>
<thead>
<tr>
<th>Visc.¹</th>
<th>MW¹</th>
<th>M.I.¹</th>
<th>Features</th>
<th>Applications</th>
</tr>
</thead>
</table>
| PKHA   | 100-179 | 25,000 | 65 | Long chain linear polyhydroxylethers (PHE) available in different molecular weights giving excellent adhesion, impact and abrasion resistance, flexibility and chemical resistance. | Coatings:  
- Wire coatings  
- PCB coatings  
- Coatings for flexible and rigid packaging  
- Can & Coil coatings  
- Pipe coatings  
- Metal primers  
- Tie layers  
- Clear wood coatings  
- Plastic coatings  
- Glass coatings |
| PKHB   | 180-280 | 32,000 | 60 |  | |
| PKHB+  | 281-409 | 37,000 | <30 | Preferred toughener for epoxy and phenolic resins. | Composites:  
- Prepregs  
- Preforms  
- Sizing  
- Fabric impregnation |
| PKHC   | 410-524 | 43,000 | <15 | X-linked Phenoxy Resin gives excellent heat resistance and solvent resistance. The standard polymer = PKHH, other grades available at customer’s request. | Plastics:  
- Compatibilizer  
- Molding & Extrusions |
| PKHH   | 525-715 | 52,000 | 4 |  | Adhesives:  
- Structural adhesives  
- Hotmelts |
| PKHJ   | 600-775 | 57,000 | <4 |  | Films:  
- Available as requested |
| PKFE   | 600-895 | 60,000 | <4 |  | |
| PKHP-200 | 475-715 | 52,000 | 4 | Micronized powder version of PKHH |  |

¹ Visc. = Viscosity in Cp at 25°C, 20% solution in cycloexanone  
² MW = Molecular weight (Daltons)  
³ M.I. = Melt index at 200°C in g/10 min

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### Gabriel Phenoxies: STANDARD SOLUTION GRADES

<table>
<thead>
<tr>
<th>Product</th>
<th>Viscosity, cP at 25°C</th>
<th>Solids, (wt. %)</th>
<th>Mn (av.), daltons</th>
<th>Mw (av.), daltons</th>
<th>Boiling Pt., °C</th>
<th>Flash Pt, °F</th>
<th>Solvent CAS #</th>
<th>Specific Gravity</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PKHS-30PMA</td>
<td>5,000-15,000</td>
<td>29.0-31.0</td>
<td>11,000</td>
<td>43,000</td>
<td>145</td>
<td>114</td>
<td>PM acetate [180-65-6]</td>
<td>1.03</td>
<td>Solution of PKHC grade Phenoxy</td>
</tr>
<tr>
<td>PKHS-40</td>
<td>4,500-7,000</td>
<td>39.0-41.0</td>
<td>13,000</td>
<td>52,000</td>
<td>80</td>
<td>21</td>
<td>MEK [78-93-3]</td>
<td>0.965</td>
<td>Solution of PKHH grade</td>
</tr>
</tbody>
</table>

Standard characteristics: Color, Gardner 1 max.  
Haze, % 15 max.  
All are in viscous liquids.

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**GET IN TOUCH WITH GABRIEL**

For further information and sample materials, please get in touch on:

customerservice@gabrielchem.com  
Phone: 866-800-2436 (chem)(toll free)  
www.gabrielchem.com
### Gabriel Phenoxies:
**WATERBORNE COLLOIDAL DISPERSIONS (PH 6.8-7.8) EMULSIFIER FREE**

<table>
<thead>
<tr>
<th>Phenoxies</th>
<th>Viscosity (cP)</th>
<th>Solids (%)</th>
<th>OH (EW)**</th>
<th>Co-solvents</th>
<th>Amine</th>
</tr>
</thead>
<tbody>
<tr>
<td>PKHW-34</td>
<td>PKHB 800-1600</td>
<td>34±1</td>
<td>0.5</td>
<td>405 n-BuOH; PnP</td>
<td>DMEA</td>
</tr>
<tr>
<td>PKHW-35</td>
<td>PKHH 1500-4000</td>
<td>31±1</td>
<td>1-3</td>
<td>312 EB</td>
<td>DMEA</td>
</tr>
<tr>
<td>PKHW-38</td>
<td>PKHC 200-400</td>
<td>38±1</td>
<td>0.5</td>
<td>405 n-BuOH; PnP</td>
<td>TEA</td>
</tr>
</tbody>
</table>

**Features**

**Applications**

**Notes**
- PnP = Propylene glycol n-propylether
- DMEA = dimethyl ethanol amine
- **Eq. weight on solids
- TEA = Triethylamine
- EB = ethylene glycol n-butyl ether

### Gabriel Phenoxies:
**SOLID PHENOXY/POLYESTER BLENDS**

<table>
<thead>
<tr>
<th>Viscosity</th>
<th>OH (EW)</th>
<th>Features</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>PKHM-301</td>
<td>100-300</td>
<td>162</td>
<td>10 PKHB</td>
</tr>
</tbody>
</table>

**Features**
- Excellent flexibility and formability even after X-linking, high chemical resistance by maintaining durability and toughness.

**Applications**
- Protective coatings for use in flexible and rigid food packaging.

**Notes**
- Viscosity in Cp at 25°C, 20% cycloexanone

### Gabriel Phenoxies:
**EPOXY/PHENOXY BLENDS**

<table>
<thead>
<tr>
<th>Viscosity in cP</th>
<th>% Phenoxies</th>
<th>EEW</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>LER-HB</td>
<td>20,000-50,000¹</td>
<td>10</td>
<td>PKHB</td>
</tr>
</tbody>
</table>

**Notes**
- LER = liquid epoxy resins
- ¹ Brookfield viscosity

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**Phenoxy™: For improved fiber lay up**

Phenoxy is used in composites as an effective sizing agent to maintain the fiber bundle and prevent fraying. Its exceptional adhesion properties also enable it to bind fibers more effectively in the desired orientation prior to impregnation with the resin system.

Phenoxy sizings offer excellent compatibility with epoxy-based matrix resins, with vinyl ester based resins and product enhancing chemistries such as UV stabilizers.

**Phenoxy™: For greater process flexibility and efficiency**

Phenoxy resins can be used across a broad spectrum of formulations and temperature profiles. For pre-pregs and increasingly for preform composites, Phenoxy can help enable greater process flexibility and efficiency.

In automotive applications, Phenoxy resin can be used to improve the surface aesthetics of composite parts.

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Phenoxy resins can be used for a number of different specialty applications in automotive composites.
PHENOXY™ OUTPERFORMS OTHER COATING TOUGHENERS

Phenoxy™ is a linear high molecular weight Polyhydroxylether (PHE) – thermoplastic and thermoset formulations available. Phenoxy resin is a tough and ductile thermoplastic engineered to improved the performance of coatings, composites, adhesives and a growing variety of other materials. Gabriel Phenoxies are thermally stable and can be processed rapidly and at high temperatures. They can be used in electrical coatings, adhesives, automotive, metal primers, wind turbines.

PHENOXY™ PK RESINS
Phenoxy PKHH is the staple of the Phenoxy line. This linear, high molecular weight resin is tough, ductile and has excellent thermal stability, adhesive strength and vapor barrier properties. PKHH meets USFDA requirements for use in food contact and packaging applications. It is sold in pellet form and is indefinitely stable in unopened containers under normal warehouse conditions. It can be compounded, dissolved, ground, and melted to meet your application needs.

PHENOXY™ RESIN PRODUCTS CATEGORIES:
• Standard Solid Grades
• Standard Solvent Solution Grades
• Waterborne Colloidal Dispersions
• Phenoxy / Polyester Hybrids
• Liquid Epoxy / Phenoxy Hybrids

PRODUCTS
Our product range includes more than two dozen forms of Phenoxy Resin and related compounds, including:
• Epoxy-phenoxy blends
• Phenoxy-polyester hybrids
Our high performance resins enhance the properties of coatings, adhesives, inks, composites, fibres, plastics, electronic components and more. New uses are being discovered all the time.

GET IN TOUCH WITH GABRIEL
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