

RESINS

PHENOXY™ PK RESINS FOR ADVANCED COATING PERFORMANCE



GABRIEL

PRODUCT REFERENCE GUIDE

Gabriel Phenoxies: SOLID STANDARD GRADES (EW OH=284)

	Visc. ¹	MW ²	M.I. ³	Features	Applications
PKHA	100-179	25,000	65	Long chain linear polyhydroxyethers (PHE) available in different molecular weights giving excellent adhesion, impact and abrasion resistance, flexibility and chemical resistance. Preferred toughener for epoxy and phenolic resins. X-linked Phenoxy Resin gives excellent heat resistance and solvent resistance. The standard polymer = PKHH, other grades available at customer's request.	Coatings: <ul style="list-style-type: none"> • 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 Composites: <ul style="list-style-type: none"> • Prepregs • Preforms • Sizing • Fabric impregnation Plastics: <ul style="list-style-type: none"> • Compatibilizer • Molding & Extrusions Adhesives: <ul style="list-style-type: none"> • Structural adhesives • Hotmelts Films: Available as requested
PKHB	180-280	32,000	60		
PKHB+	281-409	37,000	<30		
PKHC	410-524	43,000	<15		
PKHH	525-715	52,000	4		
PKHJ	600-775	57,000	<4		
PKFE	600-895	60,000	<4	Micronized powder version of PKHH	
PKHP-200	475-715	52,000	4		

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

Gabriel Phenoxies: STANDARD SOLUTION GRADES

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

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

**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

PKHW-34, PKHW-35, PKHW-38, PKHW-39, PKHW-40, PKHW-41, PKHW-42, PKHW-43, PKHW-44, PKHW-45, PKHW-46, PKHW-47, PKHW-48, PKHW-49, PKHW-50, PKHW-51, PKHW-52, PKHW-53, PKHW-54, PKHW-55, PKHW-56, PKHW-57, PKHW-58, PKHW-59, PKHW-60, PKHW-61, PKHW-62, PKHW-63, PKHW-64, PKHW-65, PKHW-66, PKHW-67, PKHW-68, PKHW-69, PKHW-70, PKHW-71, PKHW-72, PKHW-73, PKHW-74, PKHW-75, PKHW-76, PKHW-77, PKHW-78, PKHW-79, PKHW-80, PKHW-81, PKHW-82, PKHW-83, PKHW-84, PKHW-85, PKHW-86, PKHW-87, PKHW-88, PKHW-89, PKHW-90, PKHW-91, PKHW-92, PKHW-93, PKHW-94, PKHW-95, PKHW-96, PKHW-97, PKHW-98, PKHW-99, PKHW-100							
	Phenoxy	Viscosity	Solids (Wt%)	Particular size (μ)	OH (EW)**	Co-solvents	Amine
PKHW-34	PKHB	800-1600	34±1	0.5	405	n-BuOH; PnP	DMEA
PKHW-35	PKHH	1500-4000	31±1	1-3	312	EB	DMEA
PKHW-38	PKHC	200-400	38±1	0.5	405	n-BuOH; PnP	TEA
Features				Applications			
Excellent emulsion stability. Hydroxyl and carboxyl functionality. High strength, stiffness, Tg and ductility. Tough and thermally stable films. Complies with FDA 175.300.				High resistant WB coatings 2 pack PU: rolling equipment, industrial floors, kitchen cabinets, etc. Can & Coll coating. Metal Primers. Coated abrasives. Fiber sizing. Fabric impregnation. Laminating adhesives and film lubricants.			
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

	Visc. ¹	OH (EW)	Features	Applications
PKHM-301	100-300	162	Excellent flexibility and formability even after X-linking, high chemical resistance by maintaining durability and toughness.	Protective coatings for use in flexible and rigid food packaging.
¹ Viscosity in Cp at 25°C, 20% cyclohexanone				

Gabriel Phenoxies: EPOXY/PHENOXY BLENDS

	Viscosity in cP	% Phenoxy	EEW	Features
LER-HB	20,000-50,000 ¹	10 PKHB	202-214	In single-package epoxy formulations with latent hardeners, will yield improved toughness and adhesive strength.
LER = liquid epoxy resins ¹ Brookfield viscosity				

In wind power turbines Phenoxy enables lighter weight composite to be used while retaining the strength and impact resistance required for the windmill.



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 resins can be used for a number of different specialty applications in automotive composites.



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.

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.

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