



Dow Construction Chemicals

High-Performance Nonwovens

AQUASET™ and RHOPLEX™ Technology

Leading the Way in Environmentally Advanced Binders and Coatings for High-Performance Nonwovens

Better Building Starts Here

Dow Construction Chemicals' reputation for innovative technical excellence in the industrial nonwovens field was established in the early 1970s when it introduced the first two acrylic-based binders for a variety of industrial mat



applications. Today, Dow Construction Chemicals continues to lead the way in the development of environmentally advanced waterborne acrylic binders and coatings that meet the needs of the rapidly evolving industrial mat industry.



RHOPLEX™ Binders

Dow Construction Chemicals' extensive experience in the chemistry and manufacturing of emulsion binders enables the rapid development of customer-specific products that meet challenging product attributes. In fact, key properties such as water and solvent resistance, mechanical and chemical stability, hand, strength and flow can be easily modified to meet individual requirements.

RHOPLEX Coatings

Equal formulation flexibility is offered by Dow Construction Chemicals for the development of coatings for industrial mat substrates. In this case, the company leverages more than 50 years of extensive experience as a recognized leader in acrylic innovation, to achieve the right balance of product properties while helping to maintain trouble-free operation at fast line speeds.

AQUASET™ Thermoset Binders

Zero-formaldehyde* AQUASET™ technology continues to find new applications in a variety of industrial mat and insulation applications where a favorable environmental profile is desired. AQUASET technology is an excellent alternative for customers looking for ways to reduce plant emissions or to develop low-VOC emitting products. In particular, materials that go into interior applications, where indoor air quality (IAQ) is an important selection criterion, can benefit from being formulated with AQUASET binders.

In addition to its product portfolio for industrial mat applications, Dow Construction Chemicals also offers a wide portfolio of high-quality additives, including rheology modifiers, dispersants and biocides that help customers develop a more robust formulation.

The tables on the back describe some of the key products for high-performance nonwovens and are just a small sample of the wide range of products that Dow Construction Chemicals offers to the industry.

High-Performance Nonwovens – Binders and Coatings Selection Guide

Product	Uses and Benefits	Properties				
		T _g °C	pH	Viscosity cP	Solids %	Ionic Charge
Fiberglass Mat Emulsion Binders						
RHOPLEX™ GL-720	<ul style="list-style-type: none"> Bonding wet laid glass and/or polyester fiber mats used in built-up roofing (BUR) and asphalt shingles. Exceptional tensile strength, wet and dry; excellent runnability; lower mat caliper. 	+95	>7.0	50	45.0	Anionic
RHOPLEX™ GL-618	<ul style="list-style-type: none"> Bonding wet laid glass and/or polyester fiber mats used in specialty mat applications (i.e., facer mats, filters and geotextiles) and roofing shingles. Excellent hot tensile strength; outstanding mechanical and chemical stability; low foaming. 	+36	>7.0	95	47.0	Anionic
RHOPLEX™ HA-16	<ul style="list-style-type: none"> Bonding of industrial nonwovens based on glass or polyester. Excellent acid resistance; exceptional runnability. 	+35	2.6	350	45.5	Anionic
Fiberglass Mat Coatings Binders						
RHOPLEX™ NW-1845K	<ul style="list-style-type: none"> Utilized as a superior specialty coating vehicle. Ultra-low formaldehyde polymer; hydrophobic; excellent balance of soft hand and strength; formulation flexibility. 	-21	6.7	85	44.0	Anionic
RHOPLEX™ E-940	<ul style="list-style-type: none"> Recommended for specialty coatings due to outstanding hydrophobicity properties. Excellent balance of soft hand, strength and water resistance; high durability. 	-20	9.5	150	45.0	Anionic
RHOPLEX™ E-693	<ul style="list-style-type: none"> Recommended for specialty coating applications where good solvent resistance and high strength are major requirements. Exceptional solvent resistance; high mechanical stability; good formulation versatility. 	+30	5.5	60	50.0	Anionic
Environmentally Advanced Solution Binders – No Formaldehyde*						
		Type	pH	Viscosity cP	Solids %	Ionic Charge
AQUASET™ 100	<ul style="list-style-type: none"> Binder for fiberglass webs used in roofing, flooring, specialty mats, and HVAC filters. It can also be used for bonding other substrates such as cellulose, carbon, ceramic and high-temperature polyester fibers. 	Thermoset	3.8	500	53	Solution Polymer
AQUASET™ 529	<ul style="list-style-type: none"> Recommended when the lowest possible VOC level is required (i.e., oven insulation). It can also be used in specialty mat applications, and cellulosic-based pressure laminates. 	Thermoset	2.6	200	50	Solution Polymer
AQUASET™ 600	<ul style="list-style-type: none"> Binder for building and specialty insulation applications. Excellent wet and dry strength; exceptional flow; high solids; B-stageable. 	Thermoset	2.5	200	54	Solution Polymer

High-Performance Nonwovens Additives Selection Guide

Product	Uses and Benefits	Properties				
		Density lb/US gal	pH	Viscosity cP	Solids %	Ionic Charge
Acrysol Thickeners and Synthetic Rheology Modifiers						
ACRYSOL™ ASE-60	<ul style="list-style-type: none"> Short, buttery, non-Newtonian rheology; crosslinked and swellable. 	8.8	2.9	<20	28.0	Anionic
ACRYSOL™ ASE-95NP	<ul style="list-style-type: none"> Long, leggy, non-Newtonian rheology; alkali soluble and not crosslinked. 	8.8	2.9	<20	18.0	Anionic
ACRYSOL™ 8306	<ul style="list-style-type: none"> Sodium polyacrylate solution. Maintains constant viscosity with age and at moderately elevated temperatures. 	8.9	9.0	21,000	13.5	Anionic
ACRYSOL™ RM-5	<ul style="list-style-type: none"> Elevates high-shear viscosity. Generally recommended for use with the ACRYSOL™ ASE thickeners; not typically used as a primary thickener. 	30.0	3.3	<15	30.0	Anionic
Dispersants						
TAMOL™ 731A	<ul style="list-style-type: none"> Versatile dispersant; particularly effective with inorganic compounds. No formaldehyde. 	9.2	10.0	80	25.0	Anionic
ACUMER™ 9300	<ul style="list-style-type: none"> Highly-effective dispersant for calcium carbonate and pigments. Promotes low initial viscosity and maintains it during storage at elevated temperatures. Efficiency highly dependent on formulation. 	10.8	7.3	1,000	45.0	Anionic

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*AQUASET™ thermosets are made without formaldehyde or formaldehyde-generating materials and do not release formaldehyde under normal operating conditions.

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