Dow Coating Materials

Putting Innovations on Paper

www.dowcoatingmaterials.com

Dow Coating Materials offers access to a broad portfolio of technologies and chemistries for coated paperboard, SBS paperboard, coated freesheet, coated groundwood and specialty paper. Our brands are well known in the industry and have earned a reputation for excellence and innovation.

Binders

Product	Ionic Nature	Solids %	pH	Brookfield Viscosity cP	Specific Gravity	Tg °C	Features and Benefits	Applications
Styrene Acrylic Binders								
PRIMAL™ P-308MR	Anionic	50	7.5	150	1.04	8	High-strength, medium soft binder; excellent choice for high quality printing. Greatly reduced print mottle. High pick strength facilitates lower binder levels in formulated coating. Excellent compatibility with calcium ions for today's high calcium carbonate pigmented systems. Also available ammonia-free PRIMAL™ P-308-AFR and stripped PRIMAL™ P-308-MS for food packaging applications.	• Coated paperboard • SBS paperboard • Coated woodfree • Specialty paper
PRIMAL™ C-330 RS	Anionic	50	7.5	<500	1.03	22	Hydrophobic binder with good wet and dry strength for offset printing offering excellent heat and light stability. Its higher glass transition temperature contributes to enhanced sheet gloss of the coating on hot soft calendars.	• Coated paperboard • SBS paperboard • Coated woodfree • Specialty paper
PRIMAL™ 325GBR	Anionic	49	6.5	<500	1.03	-25	This very soft acrylic-styrene binder offers excellent rotogravure printability to the paper coating. Missing dots and print mottle are minimized. PRIMAL™ 325GBR provides no thickening capacity to the coating formulation.	• ULWC and LWC rotogravure paper
PRIMAL™ P-376 LO	Anionic	50	8.5	<400	1.04	18	Hydrophobic binder with excellent wet and dry pick resistance for offset printing. Effective in promoting sheet gloss development, glueability properties for packaging, ink/aqueous coating holdout in offset printing. Excellent penetration and water resistance for decor paper.	• Coated paperboard • SBS paperboard • Coated woodfree • Specialty paper
EXP-4346	Anionic	50	6	<400	1.04	22	Self crosslinking hydrophobic styrene acrylic for specialty paper applications. Water and solvent resistance due to self reactive sites. Flexibilizes melamine and urea resins when used in manufacture of decorative finish foils.	• Specialty paper • Decor • Filtration
Vinyl-Acetate Based Binders								
POLYCO™ 4300	Anionic	50	6.5	120	1.08	25	Large particle size latex contributes to improved optical properties. Suggested for many paperboard applications requiring a balance of strength, printability, enhanced optical coverage and glueability. Food contact compliant.	• Coated paperboard (recycled), SBS paperboard
POLYCO™ 4160	Anionic	50	7	30	1.08	37	Carboxylated PVac with excellent mechanical stability. Fine particle size with good pigment binding ability and excellent water resistance. Minimizes "water interference mottle" in offset printing and offers very good flexo print performance, gluability and brightness with very low odor. Food contact compliant.	• Coated paperboard, SBS paperboard
Barrier Dispersions								
RHOBARR™ 110	Anionic	50	9	250	1.05	7	Acrylic copolymer latex designed for use in paper and board coatings offering oil and grease and water barrier properties. Offers low surface tack and good resistance to blocking. Its flexibility gives high resistance to cracking.	• Fast food • Pet food packaging • Bakery
RHOBARR™ 130	Anionic	45	8.5	150	1.01	-10	Acrylic copolymer latex designed for use in paper and board coatings offering oil and grease barrier properties. Offers low surface tack and good resistance to blocking. Heat sealable.	• Fast food • Pet food packaging • Bakery

Binders

Product	Ionic Nature	Solids %	pH	Brookfield Viscosity cP	Specific Gravity	Tg °C	Features and Benefits	Applications
100% Acrylic Binders								
PRIMAL™ I-545 ER	Anionic	40	8.5	900	1.06	65	All acrylic aqueous vehicle for overprint varnishes and for flexographic and gravure inks, offering good gloss, fast drying, and good block, heat and water resistance.	• Specialty paper • Inks • Overprint varnishes
PRIMAL™ ECO-16	Nonionic	45.5	2.6	380	1.06	35	Firm binder with excellent wet and dry durability. Self crosslinking. An excellent binder for strength and durability in specialty paper applications.	• Specialty paper • Nonwovens
PRIMAL™ HA-12S	Nonionic	45	2.6	280	1.06	19	Aqueous emulsion enhances wet strength of latex in the coating formulation.	• SBS paperboard • Coated freesheet • Specialty paper
PRIMAL™ GL-618L	Anionic	47	8.6	95	1.07	36	Excellent hot and wet tensile strength, excellent mechanical stability, low foaming and excellent chemical stability.	• Specialty paper • Nonwovens
PRIMAL™ ECO-358 ER	Nonionic	57	7	<1600	1.06	0	Self-crosslinking polymer offers excellent strength and solvent resistance to both durable and disposable nonwovens. It also has excellent wet and dry tensile strength with excellent mechanical stability.	• Specialty paper • Nonwovens
PRIMAL™ I-2183N	Anionic	30	8.6	450	1.03	70	Modified aqueous acrylic polymer for use as an overprint varnish and general ink letdown vehicle. Hard film former offers superior heat resistance without the use of zinc or zirconium additives, and has excellent transfer and printability.	• SBS paperboard • Coated freesheet • Specialty paper
PRIMAL™ I-1955 SF	Anionic	38.5	4.5	75	1.07	25	Alkali soluble emulsion polymer, supplied unneutralized. Readily neutralized, highly dilutable and can be used as sole vehicle or letdown resin. Because of its flat solids/viscosity profile, it is especially suggested for corrugated substrates. May be used in formulations with high levels of extender pigments.	• Specialty paper • Decor paper • Flexo inks
PRIMAL™ I-2350	Anionic	30	8.5	1000	1.04	65	Versatile, aqueous all-acrylic offers good scuff resistance, higher inherent CoF, very good heat resistance, excellent clarity over offset inks and good film gloss.	• Specialty paper • Overprint varnishes
PRIMAL™ SP-100	Anionic	44	5	50	1.06	33	100% self-crosslinking acrylic binder. Ultra-low formaldehyde, self reactive latex. Offers mechanical stability, runnability and when catalysed with potassium hydroxide will crosslink at temperatures above 160°C without generating foam. It is carboxyl functional, therefore, can react with external crosslinkers at lower temperatures.	• SBS paperboard • Coated freesheet • Specialty paper
PRIMAL™ ECO-15R	Nonionic	46	6.2	45	1.06	1	Crosslinkable acrylic binder with excellent mechanical stability and runnability. Suggested for general coatings applications where strength, durability, and flexibility are required. Particularly effective in applications where scorecracking resistance or heat-sealability is desired. Offers excellent flexographic and rotogravure printability with little or no ink mottle.	• Coated paperboard • SBS paperboard • Coated freesheet • Specialty paper

Additives

Product	Ionic Nature	Solids %	pH	Brookfield Viscosity cP	Specific Gravity	Features and Benefits	Applications
Dispersants							
OROTAN™ N-4045	Anionic	45	7	1000	1.31	Sodium salt of polyacrylic acid. Extremely low VOC (< 50 ppm). Excellent for maintaining low viscosities in coating colors and pigment slurries at both ambient and elevated temperatures. Contributes to excellent viscosity stability upon initial formulating and over extended periods.	• Coated paperboard • SBS paperboard • Coated groundwood • Coated woodfree • Specialty paper
OROTAN™ 165	Anionic	21.5	8.5–9	160–400	1.1	Ammonium salt of a hydrophobic copolymer dispersant. Offers enhanced water resistance properties, excellent gloss and color acceptance. Highly compatible with HEUR rheology modifiers.	• Coated groundwood • Coated woodfree • Specialty paper
OROTAN™ 731	Anionic	25	10–10.5	20–130	1.1	Hydrophobic copolymer polyelectrolyte. Extremely versatile. May be used for acrylic, butadiene/styrene, vinyl acetate/ethylene and vinyl-acrylic binders. Offers high-efficiency performance, exceptional gloss development, excellent pigment wetting capability, excellent overall compatibilty; good compatibility with HEUR rheology modifers.	• Coated groundwood • Coated woodfree • Specialty paper
Rheology Modifiers							
PRIMAL™ ASE-75ER	Anionic	40	3	50	1.06	Alkali-swellable acrylic emulsion. High solids, general purpose rheology modifier with a good balance of thickening efficiency and water holding. Suggested for applications where coat weight build or high solids coating is desired.	• Coated paperboard • SBS paperboard • Coated groundwood • Coated woodfree • Specialty paper
PRIMAL™ ASE-95NP	Anionic	18	3	25	1.06	High molecular weight alkali-swellable acrylic emulsion. Suggested for specialty applications or in conjunction with other acrysol thickeners to build viscosity at high shear rates. Not suggested as primary thickener in most applications.	• Coated paperboard • SBS paperboard • Coated groundwood • Coated woodfree • Specialty paper
PRIMAL™ TT-935 ER	Anionic	30	3	20	1.04	Hydrophobically modified alkali-swellable emulsion (HASE). Good combination of efficiency and water holding. Offers excellent runnability in high-speed coating applications. Particularly good in lightweight coatings and under conditions of high shear.	• Coated paperboard • SBS paperboard • Coated groundwood • Coated woodfree • Specialty paper
PRIMAL™ RM-232 DE	Anionic	28	5.4	30	1.04	Hydrophobically modified alkali-swellable emulsion (HASE) supplied as a shear-stable, low-foam emulsion. Relatively high pH (as supplied) facilitates formulating into a coating with minimal shock. Good combination of efficiency and water holding; offers excellent runnability in high speed coating applications. Particularly good in light weight coatings and under conditions of high shear.	• Coated paperboard • SBS paperboard • Coated groundwood • Coated woodfree • Specialty paper

Polyolefin Dispersions

Product	Carboxyl Content	Solids %	pH	Brookfield Viscosity cP	Melting Point (°C)	Tg °C	Features and Benefits	Applications
HYPOD™ 8501	Medium	42–46	9–10.5	<500	63	-53	Ethylene copolymer. Offers excellent heat seal properties, high gloss. Facilitates barrier to oil, grease and solvents. Excellent adhesion to aluminum and other polar substances. Good stability when blended with inorganic pigments such as clay and talc. Good mechanical stability.	• Coated paperboard • SBS paperboard • Specialty paper
HYPOD™ 8502	Low	48–52	9–10.5	<1000	63	-53	Ethylene copolymer. Offers excellent heat seal properties and high gloss, good resistance to water absorption and water vapor transmission (wvtr). Facilitates barrier to oil, grease and solvents. Excellent adhesion to aluminum and other polar substances. Good stability when blended with inorganic pigments such as clay and talc. Good mechanical stability.	• Coated paperboard • SBS paperboard • Specialty paper
HYPOD™ 8503	High	40.5–43.5	9.2–10.5	<500	63	-53	Ethylene copolymer. Offers excellent heat seal properties. Facilitates barrier to oil, grease and solvents. Excellent adhesion to aluminum and other polar substances. Good stability when blended with inorganic pigments such as clay and talc. Good mechanical stability.	• Coated paperboard • SBS paperboard • Specialty paper
HYPOD™ 1001	Medium	40–44	9–10.5	<500	85	-26	Propylene copolymer. Offers excellent heat seal properties, good resistance to block, water absorption and water vapor transmission (wvtr) and excellent repulp characteristics. Facilitates barrier to oil, grease and solvents. Excellent adhesion to aluminum and other polar substances. Good stability when blended with inorganic pigments such as clay and talc. Good mechanical stability.	• Coated paperboard • SBS paperboard • Specialty paper
HYPOD™ 1000	Low	54–58	9–10.5	300–1800	63	-32	Propylene copolymer. Offers excellent heat seal properties and repulp characteristics. Facilitates barrier to oil, grease and solvents. Excellent adhesion to aluminum and other polar substances. Good stability when blended with inorganic pigments such as clay and talc. Good mechanical stability.	• Coated paperboard • SBS paperboard • Specialty paper
HYPOD™ 2000	Low	54–58	9–10.5	300–1800	85	-26	Propylene copolymer with high melting point. Offers excellent heat seal properties and repulp characteristics. Facilitates barrier to oil, grease and solvents. Excellent adhesion to aluminum and other polar substances. Good stability when blended with inorganic pigments such as clay and talc. Good mechanical stability.	• Coated paperboard • SBS paperboard • Specialty paper
HYPOD™ 9105	Low	42–45	8.5–10.5	<1000	63/85	-42	Ethylene propylene copolymer. Offers excellent resistance to water absorption and water vapor transmission (wvtr); heat seal and blocking properties. Facilitates barrier to oil, grease and solvents. Good stability when blended with inorganic pigments such as clay and talc. Good mechanical stability. Ready to use formulated coating.	• Coated paperboard • SBS paperboard • Specialty paper

Polymeric Matting Agents

Product	Ionic Nature	Solids %	pH	Brookfield Viscosity cP	Specific Gravity	Features and Benefits	Applications
OPULUX™ 3500	Anionic	30–33	7–9	<500	1.05	Stabilized acrylic dulling agent. Confers excellent matting and clarity along with soft, pleasant feel. At high use levels, may perform as sole duller in finishing compositions, offering exceptional softtouch aesthetics, clarity and burnish resistance. At lower levels, may be used in combination with conventional silica dullers, imparting very low gloss and high abrasive wear resistance. Prepared without use of NMP or other solvents. Resists settling during storage. May be used for overprint varnish.	• Coated paperboard • Coated freesheet • Specialty paper • SBS paperboard

Synthetic Pigments

Grade	Ionic Nature	Solids %	pH	Brookfield Viscosity cP	Specific Gravity	Diameter (µm)	Void Volume %	Features and Benefits	Applications
ROPAQUE™ AF-1055 ER	Anionic	26.5	7	80	1.02	1	55	Excellent for sheet gloss, opacity and brightness development.	• Coated paperboard • Coated groundwood • Coated woodfree • Specialty paper
ROPAQUE™ AF-1570	Anionic	20	8	100	1.02	1.5	65	Thermal insulation given by high void fraction. Alternative to calcined clay in thermal paper.	• Thermal paper

About Dow

Dow (NYSE: DOW) combines the power of science and technology to passionately innovate what is essential to human progress. The Company is driving innovations that extract value from the intersection of chemical, physical and biological sciences to help address many of the world's most challenging problems such as the need for clean water, clean energy generation and conservation, and increasing agricultural productivity. Dow's integrated, market-driven, industry-leading portfolio of specialty chemical, advanced materials, agrosciences and plastics businesses delivers a broad range of technology-based products and solutions to customers in approximately 180 countries and in high-growth sectors such as packaging, electronics, water, coatings and agriculture. In 2014, Dow had annual sales of more than $58 billion and employed approximately 53,000 people worldwide. The Company's more than 6,000 product families are manufactured at 201 sites in 35 countries across the globe. References to "Dow" or the "Company" mean The Dow Chemical Company and its consolidated subsidiaries unless otherwise expressly noted. More information about Dow can be found at www.dow.com.

Picture credits

© iStockphoto LP:
P. 1, P. 2, P. 7

For more information please consult our web site

www.dowcoatingmaterials.com

Dow Europe GmbH

Bachtobelstrasse 3
CH-8810 Horgen
Switzerland
Phone: +31 115 672626

Form No. EUR-843-02199-0217-EN-CDP