



INDUSTRIAL METAL COATINGS PRODUCT GUIDE

RESINS & ADDITIVES

Lubrizol

Performance Coatings

www.lubrizol.com/coatings



AROUND THE GLOBE, OUR CUSTOMERS SHARE A PRIMARY CONCERN IN DEALING WITH ALL TYPES OF METAL: PROTECTION

- Protection against corrosion
- Protection against loss of color or shine
- Protection against scratches and other defects
- Protection of brand equity
- Protection of manufacturing efficiency
- Protection of workers' health
- Protection of the environment

As a global specialty chemical company, Lubrizol offers raw materials for each stage in the metal protection process. We have an in-depth understanding of customer needs throughout the value chain - from factory to field and back again. By working alongside formulators, chemists and engineers, plus sales, marketing and purchasing professionals, Lubrizol gains insight that adds value, and that value is returned to our customers in new technologies for metal coatings.

As a recognized industry leader in metal protection, Lubrizol offers a broad portfolio of high-performance coating products that provide protection and aesthetic value for the world's industrial, transportation and machinery markets. Leveraging decades of technical and market expertise as well as comprehensive product and applications testing, Lubrizol delivers innovative technologies for corrosion resistance and efficient pigment dispersion that make a positive difference to your business.

Corrosion Resistance

No need is greater among our customers than the need for protection against degradation due to rust and corrosion. That is why we offer a wide selection of corrosion-fighting solutions dedicated to meet the demanding requirements of OEM industrial metal applications - and why we continually invest in the development of new and unique solutions. Our expertise stems from relationships with universities and corrosion experts, innovative and traditional testing methodologies, and vast in-house knowledge of applied sciences.



Temporary Coatings

With global distribution and the high stakes involved with product transport and delivery, temporary coatings have become an area of keen interest and need. Taking advantage of our advanced emulsion synthesis capabilities, Lubrizol offers a portfolio of acrylic polymers that provide effective protection for finished goods or parts/components, whether it is to endure harsh conditions during transport or long-time exposure to the elements during storage. Offerings range from alkali strippable clear coatings to peelable pigmented options.

Efficient Pigment Dispersion and Color Development

Color is a cornerstone of most brands, and product appearance is crucial to acceptance in today's market. Lubrizol hyperdispersants have long been proven to be invaluable resources for customers concerned with a variety of color issues. Our industry-leading Solsperse™ hyperdispersant technologies offer the versatility of processing pigments more efficiently to achieve color match at lower loading levels, with the added benefits of reduced milling time, lower VOC emissions and increased savings in energy costs. Solsperse™ hyperdispersants and companion products can improve such factors as color strength, gloss, haze, brightness and opacity/transparency—without undue impact on viscosity.

Scratch and Mar Resistance

From the first impression to lasting performance, Lubrizol surface modifiers make the difference. They can help create a matting effect, smooth feel, slip resistance, or to make products more resilient against the hazards of use: abrasion, scuffing, scratching and other marring effects.



Flow Control

To protect customers from the damaging effects of surface defects, Lubrizol offers a number of flow control and leveling agents. These are agents specifically developed for solvent-based and high solids systems - effective in the reduction of pinholes, orange peel, craters, air bubbles and other common defects.

For Corrosion Resistance

We offer a wide selection of corrosion-fighting solutions dedicated to meet the demanding requirements of industrial metal applications.

PRODUCT NAME	PRODUCT TYPE	KEY BENEFITS	PRODUCT USES		
			PRIMER	TOPCOAT	DTM
EMULSIONS					
Carbozet® CR-3090	Styrene Acrylic	Good corrosion and weathering resistance	•	•	•
Carbozet® CR-3100	Styrene Acrylic	Capable of low VOC formulations, corrosion and chemical resistance, adhesion	•	•	•
Carbozet® CR-795	Acrylic Emulsion	Good overall balance of properties	•	•	•
Carbozet® CR-765/CR-765E	Styrene Acrylic	Water and humidity resistance, high gloss, reactive pigment stability, good overall balance of properties	•	•	•
Carbozet® CR-785	Acrylic Emulsion	Gas and solvent resistance, fast dry, impact resistance, water and humidity resistance	•	•	•
Carbozet® CR-760/CR-760RC**	Styrene Acrylic	Wide formulation flexibility, humidity resistance, high gloss, chemical/stain resistance, fast dry, reactive pigment stability	•	•	•
Permax™ 805	Polyvinylidene Chloride Emulsion	Increased shelf life, in-can stability, humidity resistance	•		•
POLYURETHANE DISPERSIONS					
Aptalon™ M8100	Self-crosslinking Polyamide Polyurethane Dispersion	High chemical and hydrolytic resistance; Demanding metal top coat applications; High hardness		•	
Aptalon™ M8120	Self-crosslinking Polyamide Polyurethane Dispersion	Excellent adhesion to metal surfaces and outstanding topcoat properties to deliver a single coat solution for a variety of protective and industrial applications		•	•
Aptalon™ W8030	Self-crosslinking Polyamide Polyurethane Dispersion	Naturally matte finish for low gloss applications, excellent hardness and durability, outstanding chemical and weathering resistance		•	
Sancure® 970	Polyurethane Dispersion	Alkali resistant, abrasion resistant, good chemical resistance in 1K and 2K	•	•	•
THERMOPLASTIC ACRYLIC RESINS					
Doresco® M6A	Thermoplastic Solution	DTM coatings with good hardness and chemical resistance; MMA/BMA	•	•	•
Doresco® CI7208	Thermoplastic Solution	Adhesion on galvanized steel substrates; Multi-purpose primers; Gloss enamels	•	•	•
HYDROXYLATED ACRYLIC RESINS					
Doresco® OH38	Hydroxylated Acrylic (4% OH Solids)	Quick hardening; High solids content; weathering and yellowing resistance; long-lasting gloss; Hydroxyl content (over solids) = 4%	•	•	•
Doresco® OH60	Hydroxylated Acrylic (3% OH Solids)	Adhesion, chemical resistance, high gloss, quick hardening, high resistance to chemicals, light and weathering	•	•	•
Doresco® OH65	Hydroxylated Acrylic (2% OH Solids)	Adhesion, durability, chemical resistance, high gloss, quick hardness, UV and weathering resistance	•	•	•
Doresco® OH66	Hydroxylated Acrylic (2% OH Solids)	Adhesion, chemical resistance, high gloss, quick hardening, high resistance to chemicals, light and weathering	•	•	•
ADHESION PROMOTERS AND FLASH RUSH INHIBITORS					
Lubrizol® 2061	Adhesion Promoter	Used in solvent-based systems, effective thermoset direct-to-metal pre-treatment	•		•
Lubrizol® 2062H	Adhesion Promoter	Direct to metal adhesion promotion with broad resin capability for ferrous metals and aluminum, excellent metallic pigment passivation	•		•
Lubrizol® 2063	Adhesion Promoter	Direct to metal adhesion promotion with broad resin capability for ferrous metals and aluminum, especially in water-based systems; excellent metallic pigment passivation	•		•
Lubrizol® 2064	Calcium Sulfonate Corrosion Inhibitor	Excellent in water-based coatings, excellent corrosion inhibition for metal coatings, functions synergistically with environmentally friendly corrosion inhibitive pigments, does not adversely affect coating storage stability	•		•
Solplus™ AC100	Nitrite-Free Flash Rust Inhibitor	For water-based coatings designed for the protection of ferrous metals. In addition to inhibiting flash rust, it imparts long-term rust prevention	•	•	•

		PHYSICAL PROPERTIES									
GOOD ADHESION TO	COMPATIBLE WITH	APEO-FREE*	NMP-FREE*	FORMALDEHYDE FREE*	MIFFT (°C)	% WEIGHT SOLIDS	% VOLUME SOLIDS	pH	SPECIFIC GRAVITY	VISCOSITY (cP)	SOLVENT
Cold rolled steel; phosphate; galvanized	DPnB; glycol ethers	•		•	33	45		8.5	1.05	<500	
Cold rolled steel, hot rolled steel, galvanized	DPnB, PnB, Glycol Ethers	•		•	<5	43.5		8.0	1.05	<500	(N/A)
Cold rolled steel; Bonderite 1000; galvanized steel; aluminum; stainless steel	Glycol ethers; water reducible alkyds	•	•	•	24	45.0	43.3	8.3	1.03	75	(N/A)
Cold rolled steel; Bonderite 1000; aluminum; copper; stainless steel	Glycol ethers; alkyds; dibutyl phthalate; butyl benzyl phthalate	•	•	•	34	42.0	40.7	8.2	1.03	75	(N/A)
Bonderite 1000; stainless steel	Glycol ethers; butyl benzyl phthalate; dibutyl phthalate; water-based urethanes		•	•	44	42.5	41.0	8.0	1.03	40	(N/A)
Bonderite 1000; copper; stainless steel	Glycol ethers; dibutyl phthalate; butyl benzyl phthalate; PVDCs		•	•	23	42.0	40.2	8.0	1.03	100	(N/A)
Aluminum; cold rolled steel; Bonderite 1000; ground steel; galvanized steel	Acrylic emulsions	•	•	•	13.5	60	50.4	1.0 - 2.2	1.28	85	(N/A)
Epoxy; acrylic; PU primers	DPnB; DPM; glycol ethers	•	•			33	34.2	8.5	1.04	<500	(N/A)
Cold rolled steel; Bonderite 1000; galvanized steel; aluminum; stainless steel	DPnB; DPM; glycol ethers	•	•		50	37	34.2	8.5	1.05	<500	(N/A)
Epoxy, Acrylic and PU Primers	DPnB, PM, TPnB, PnB, DMM, TPMT, Butyl Cell, N-Propanol, PG, Oxsol® 100, Texanol™, Optifilm™ 400	•	•			35	34.2	7.0		<500	(N/A)
Ferrous and non-ferrous substrates	Isocyanates; aziridines and carbodimides; glycol ethers	•	•			37	41	8.0	1.06	<500	(N/A)
Ferrous and non-ferrous substrates	Chlorinated rubber; vinyls; chlorinated plasticizers				61*	50		(N/A)		800 - 2,500	Methoxypropyl Acetate/Xylene 1:1
Galvanized steel; most metal substrates	Alkyds				(N/A)	49		(N/A)		250 - 1,000	Xylene
Brass; zinc; steel; ABS; noryl; PC; PA	Isocyanates; ketones; esters; glycol ether acetate; aromatics				(N/A)	42		8.5		300 - 700	(N/A)
Galvanized iron; brass; steel	Aromatics; esters; glycol ether acetates				(N/A)	59 - 61	54 - 56	(N/A)	0.96	1,000 - 2,500	Xylene, Methoxy Propyl Acetate
Brass; steel	Isocyanates; ketones; esters; glycol ether acetates; aromatics				(N/A)	59 - 61	54 - 56	(N/A)	0.98	1,000 - 3,000	Xylene
Brass; steel	Isocyanates; ketones; esters; glycol ether acetates; aromatics				(N/A)	59 - 61	54 - 56	(N/A)	0.98	3,500 - 5,000	Xylene
Cold rolled steel; other ferrous metals; aluminum	Thermoset alkyd; acrylic; polyester coatings; epoxy primers	•	•	•	(N/A)	66	(N/A)	(N/A)	1.08	< 17,000	Butyl Cellosolve
Aluminum; cold rolled steel; other ferrous metals	Thermosetting alkyd; acrylic and polyester coatings	•	•	•	(N/A)	61	(N/A)	(N/A)	1.00	<25,000	Isobutyl Alcohol
Cold rolled steel; aluminum; galvanized steel	Alkyd; acrylic; epoxy and polyester DTM coatings	•	•	•	(N/A)	56	(N/A)	(N/A)	1.09	< 3,700	Butyl Cellosolve
Ferrous and non-ferrous metals	Zinc phosphate; styrenated acrylic latexes	•	•	•	(N/A)	60	(N/A)	(N/A)	1.14	60,000	Mineral Oil
Ferrous metals	Acrylic and PVDC dispersions	•	•	•	(N/A)	78	(N/A)	8.5	1.13		Water

For Effective Pigment Dispersion and Color Development

Our Solsperse™ technologies offer the versatility of processing pigments more efficiently to achieve color match at lower loading levels, thus reducing milling time. Lubrizol hyperdispersants can improve such factors as color strength, gloss, haze, brightness and opacity/transparency - without undue impact on viscosity.

PRODUCT NAME	PRODUCT TYPE	SUITABLE FOR SOLVENT-BASED	SUITABLE FOR WATER-BASED	SUITABLE FOR VOC FREE	ORGANIC	INORGANIC	CARBON BLACK
Solsperse™ 5000S	Synergist	•		•	•		•
Solsperse™ 12000S	Synergist	•	•	•	•		•
Solsperse™ 22000	Synergist	•		•	•		
Solsperse™ 13300	Polymeric Dispersant	•			•		•
Solsperse™ 24000 SC	Polymeric Dispersant	•		•	•		•
Solsperse™ 27000	Polymeric Dispersant		•		•		•
Solsperse™ 28000	Polymeric Dispersant	•		•	•		•
Solsperse™ 32000	Polymeric Dispersant	•		•	•		•
Solsperse™ 32500	Polymeric Dispersant	•			•		•
Solsperse™ 32600	Polymeric Dispersant	•			•		•
Solsperse™ 36600	Polymeric Dispersant	•				•	
Solsperse™ 38500	Polymeric Dispersant	•			•	•	•
Solsperse™ 39000	Polymeric Dispersant	•		•	•		•
Solsperse™ 41000	Polymeric Dispersant	•	•	•		•	
Solsperse™ 43000	Polymeric Dispersant		•		•	•	•
Solsperse™ 46000	Polymeric Dispersant		•	•	•	•	•
Solsperse™ 47000	Polymeric Dispersant		•		•	•	•
Solsperse™ 75500	Polymeric Dispersant	•		•	•		•
Solsperse™ 82500	Polymeric Dispersant	•			•	•	•
Solsperse™ 83500	Polymeric Dispersant	•			•		
Solsperse™ 84500	Polymeric Dispersant	•				•	
Solsperse™ 85000	Polymeric Dispersant	•				•	
Solsperse™ 88000	Polymeric Dispersant	•		•	•		
Solsperse™ M385	Polymeric Dispersant	•			•	•	•
Solsperse™ M387	Polymeric Dispersant	•		•	•	•	•
Solsperse™ M388	Polymeric Dispersant	•			•	•	•
Solsperse™ W100	Polymeric Dispersant		•	•	•	•	•
Solsperse™ W150	Polymeric Dispersant		•	•	•	•	•
Solsperse™ W210	Polymeric Dispersant		•				•
Solsperse™ W320	Polymeric Dispersant		•	•			
Solsperse™ WV 400	Polymeric Dispersant		•	•	•	•	•



KEY BENEFITS AND FEATURES	PHYSICAL DESCRIPTION	% ACTIVE INGREDIENT	SOLVENT
Enhanced performance when used with a hyperdispersant in solvent-based systems; compatible with difficult to disperse organic blue/green, carbon black pigments.	Blue Powder	100	(N/A)
Enhanced performance when used with a hyperdispersant in water- or alcohol-based system; compatible with difficult to disperse organic blue/green, carbon black pigments.	Blue Powder	100	(N/A)
Enhanced performance when used with a hyperdispersant in a solvent-based system; compatible with difficult to disperse organic red, orange and yellow pigments.	Yellow Powder	100	(N/A)
Recommended for use on organic and carbon black pigments in aliphatic solvents. The active dispersant is also available in other solvents.	Amber Liquid	50	Shellsol D40
Suitable for organic and carbon black pigments in aromatic solvents.	Cream to Yellow Granular Powder	100	(N/A)
Recommended for use in resin-containing systems; particularly effective on carbon black and organic pigments; low VOC ¹ .	Pale Yellow to Amber Viscous Liquid	100	(N/A)
For general purpose use with organic and carbon black pigments.	Amber to Dark Viscous Liquid	100	(N/A)
For use with carbon black and organic pigments; high pigment loading; can be used to produce zero VOC ¹ colorants; suitable for use in UV curable systems.	Pale Yellow to Brown Waxy Solid	100	(N/A)
Effective across a wide range of organic and carbon black pigments; high pigment loading.	Pale Yellow to Brown Liquid	40	Butyl Acetate
Effective across a wide range of organic and carbon black pigments; high pigment loading.	Pale Yellow to Brown Liquid	40	Aromatic 100
For use with TiO ₂ and other inorganic pigments; high tint strength and opacity.	Colorless to Yellow Viscous Liquid	50	Aromatic 100
For use with carbon black, organic and inorganic pigments; established product with broad resin compatibility so suitable for colored concentrates/tinters.	Yellow to Brown Liquid	40	PM Acetate
For use with organic and carbon black pigments; high pigment loading; can be used to produce zero VOC ¹ colorants; suitable for use in UV curable systems.	Pale Yellow to Brown Viscous Liquid	100	(N/A)
For use with TiO ₂ and other inorganic pigments; high tint strength and opacity. Monomer soluble, suitable for use in UV curable coatings.	Pale Brown Liquid	100	(N/A)
Recommended for resin-free and resin-minimal dispersions of organic and inorganic pigments.	Pale Yellow Liquid	50	Water
For use in high performance resin-free and resin-minimal dispersions of organic and inorganic pigments.	Pale Yellow Viscous Liquid	50	Water
Recommended for resin-free and resin-minimal dispersions of organic and inorganic pigments.	Amber Liquid	40	Water
Effective across a wide range of organic and carbon black pigments; low viscosity with high pigment loading.	Amber Liquid	40	Butyl Acetate
Effective as general purpose dispersant for solvent-based systems, providing good resin compatibility for use over a broad range of pigments.	Colorless to Yellow Liquid	50	PMA/Butyl acetate (40/10)
Higher performance dispersant effective across a wide range of pigments and systems; particularly effective on organic oranges and yellows.	Colorless to Yellow Liquid	40	PMA/Butyl acetate (40/10)
For use with TiO ₂ and other inorganic pigments; provides high tint strength and opacity.	Colorless to Yellow Liquid	50	PM Acetate
For use with TiO ₂ and other inorganic pigments; provides high tint strength and opacity. 100% active, monomer soluble, suitable for use in UV curable coatings.	Colorless to Yellow Viscous Liquid	100	-
Effective on a wide range of organic pigments but particularly yellows and oranges; can be used to produce zero VOC ¹ colorants; suitable for use in UV curable systems.	Pale Yellow to Brown Viscous Liquid	100	(N/A)
Higher performance dispersant effective across a wide range of organic and inorganic pigments; excellent compatibility in multiple resins and solvents so highly recommended for use in multi-media colored concentrates. Also available as Solsperse™ M386 dissolved at 50% in Aromatic 100.	Yellow to Brown Viscous Liquid	50	PM Acetate
Higher performance dispersant for formulation of multi-media solvent-based dispersions; increased millbase pigment loadings; excellent compatibility in a range of resins and solvents; can be used to produce zero VOC ¹ colorants.	Yellow to Brown Viscous Liquid	100	(N/A)
Higher performance dispersant for formulation of multi-media solvent-based dispersions/concentrates; increased millbase pigment loadings; excellent compatibility in a wide range of resins and solvents; can be used to produce resin free colorants. Also available as Solsperse™ M389 dissolved at 50% in Butyl Acetate.	Yellow to Brown Viscous Liquid	50	PM Acetate
High performance polymeric dispersant; suitable for low-VOC systems; effective on a wide range of organic and inorganic pigments and fillers; significant benefits in corrosion resistance and water sensitivity.	Pale Yellow to Amber Liquid	40	Water
Key Benefits & Features: Flowable, 100% active, biocide-free high performance dispersant, suitable for low VOC systems, effective on a wide range of organic and inorganic pigments and fillers.	Pale Yellow to Amber Liquid	100	(N/A)
Fast wetting dispersant for aqueous dispersions which will improve pigment dispersion (particularly carbon black) and stability in resin-free and resin-containing grinds.	Amber Liquid	100	(N/A)
For use with difficult to disperse and stabilize inorganic pigments such as transparent iron oxide; significant benefits in corrosion resistance and reduced water sensitivity.	Pale Yellow to Amber Liquid	40	Water
Higher performance dispersant for water based; suitable for resin-free and resin-minimal; maximizes pigment loading in the grind stage to improve production efficiency; high degree of viscosity and particle size stability.	Yellow-Brown Liquid	40	Water

¹Can be used in coating formulations where low to zero VOC content is desired.

For Temporary Coatings

These Lubrizol temporary coatings offer good adhesion to ferrous and non-ferrous metals. All products may be cured via 1K, air and forced dry systems.

PRODUCT NAME	PRODUCT TYPE	KEY BENEFITS	TYPE OF TEMPORARY COATING SYSTEM
SUITABLE FOR WATER-BASED			
Carboset® PL 3127	Acrylic Emulsion	Corrosion resistance, low VOC capable, fast drying	Peelable
Carboset® 514H	Acrylic Emulsion	Fast dry, hardness, high gloss, adhesion	Alkali strippable
Carboset® 560	Acrylic Emulsion	Water resistance, UV resistance, adhesion, mechanical stability	Alkali strippable
Carboset® PL958 Carboset® PL958B**	Acrylic Emulsion	Solvent resistant, high elasticity, breaking resistant	Peelable
Carboset® 441	Acrylic Emulsion	Good toughness and durability, good balance of adhesion and cohesion for strippability	Peelable

*Ingredients not intentionally contained in the composition, or used in manufacture.

**Carboset® PL-958B is equivalent to Carboset® PL-958. Carboset® PL-958 is produced in North America with domestically-sources raw materials. Carboset® PL-95B is produced in Europe with domestically-sourced raw materials.



				PHYSICAL PROPERTIES						
APEO-FREE*	NMP-FREE*	FORMALDEHYDE FREE*	MFFT (°C)	% WEIGHT SOLIDS	% VOLUME SOLIDS	pH	SPECIFIC GRAVITY	ACID NUMBER (mg KOH/g)	VISCOSITY (cP)	
•	•	•	5	44	42.9	8	1.02	(N/A)	<40	
•	•	•	<10	40	38	7.0	1.05	65	350	
•	•	•	17	27	24.5	7.6	1.03	116	200 max	
•	•		<3	47	43	8.0	1.07	(N/A)	40 - 125	
•	•	•	18	45	42	8.0-9.0	1.04	100	100	



For Scratch and Mar Resistance

Lubrizol's comprehensive wax additive portfolio offers customers the ability to optimize surface protection, slip properties and matting efficiency.

PRODUCT NAME	PRODUCT TYPE	SUITABLE FOR WATER-BASED	SUITABLE FOR SOLVENT-BASED	KEY BENEFITS
Lanco™ 1380 F	Modified Polypropylene Wax	•	•	High burnishing resistance, excellent abrasion resistance, matting and gloss control with less silica sedimentation
Lanco™ PP 1350 F	Modified Polypropylene Wax	•	•	Excellent scratch resistance, matting, metal mark resistance, anti-blocking properties
Lanco™ TF 1720 C	PTFE-Modified PE Wax	•	•	Scratch resistance, abrasion resistance, slip; improved vs. PE and PP waxes
Lanco™ TF 1788 C	PTFE-Modified PE Wax	•	•	Scratch resistance, abrasion resistance, slip; improved vs. PE and PP waxes
Lanco™ TF 1778 C	PTFE-Modified PE Wax	•	•	Scratch resistance, abrasion resistance, slip; improved vs. PE and PP waxes
Lanco™ TF 1780 C	PTFE-Modified PE Wax	•	•	Scratch resistance, abrasion resistance, slip; improved vs. PE and PP waxes
Lanco™ Glidd 3520	PTFE-Modified PE Wax		•	Superior surface slip, excellent scratch and abrasion resistance; little influence on gloss, porosity and transparency
Lanco™ Glidd 3540	PTFE-Modified PE Wax	•		Provides slip, toughness and abrasion resistance in a wide variety of water-based coatings; APE free and FDA compliant under specific use applications and post addable
Lanco™ Glidd 4832 LF	PTFE-Modified Wax Compound		•	Superior surface slip, excellent scratch resistance; easy to handle, provides very good stability in the final coating
Lanco™ Glidd 6148	Polyolefin Wax	•		Scratch resistance, matting, improved water resistance, soft and silky feel; easy to handle, provides good stability in the final coating
Lanco™ Matt 2000	Wax Treated Silica	•	•	Highly efficient matting with excellent dispersability, scratch and mar resistance; in-can stability, will not hard-settle like many untreated silica matting agents
Lanco™ LiquiMatt 5730	Polyolefin Silica Compound		•	Excellent surface feel and matting; easy to use, post-addable, flexible; eliminates need to use different powders to achieve a balanced mix of properties
Lanco™ LiquiMatt 6375 AF	Polyolefin Silica Compound	•		Uniform matting, scratch resistance, soft feel, easy to use, post-addable

*Ingredients not intentionally contained in the composition, or used in manufacture.



	EFFECT ON			PHYSICAL PROPERTIES						
	ADHESION	CHEMICAL RESISTANCE	MATTING EFFICIENCY	FORMALDEHYDE FREE*	PARTICLE SIZE DV50 (µm)	PARTICLE SIZE DV90 (µm)	DENSITY (g/cm ³) @ 20 °C (68 °F)	MELTING POINT °C (°F)	SOLVENT	SOLIDS (%)
	■	■	Medium	•	<9	<22	0.95	150 (302)	Micronized Powder	100
	■	■	Medium	•	<9	<22	0.94	150 (302)	Micronized Powder	100
	■	■	Low	•		<6	1.02	125 (257)	Micronized Powder	100
	■	■	Low	•	<6	<14	1.04	102 (216)	Micronized Powder	100
	■	■	Low	•	<6	<14	0.98	102 (216)	Micronized Powder	100
	■	■	Low	•	<6	<14	1.07	102 (216)	Micronized Powder	100
	■	■	Low	•	3.5	7	0.92	102 (216)	Aromatic/ Butyl Glycol	20
	■		Low	•	9.5	20	1.1	111 (232)	Water	35
	■	■	Low		4.5	8	0.91	100 (212)	Aromatic Hydrocarbon, Butyl Glycol	32
	■	■	Medium	•	9	22	0.96	105 (221)	Water	53
	■	■	High	•	6	(N/A)	2.0	(N/A)	Micronized Powder	100
	■	■	Medium		5.5	10	0.94	(N/A)	Xylene, Butyl Acetate	24
	■	■	Medium		7.5	16.5	1	(N/A)	Water	50

No negative effect ■



For Flow Control

Lubrizol flow control and leveling agents are effective in the reduction of pinholes, orange peel, craters, air bubbles and other common defects. All products listed here are APEO-free, NMP-free and formaldehyde-free¹. *

PRODUCT NAME	PRODUCT TYPE	KEY BENEFITS
SUITABLE FOR SOLVENT BASED		
Lanco™ Flow AC196-1	Acrylic Surface Modifier	Eliminates surface defects such as pinholes, orange peel, craters and air bubbles.
Lanco™ Flow L	Acrylic Surface Modifier	Eliminates surface defects such as pinholes, orange peel and air bubbles. High solids, high resistance to sweating out.
Lanco™ Flow S	Acrylic Surface Modifier	Eliminates surface defects such as pinholes, orange peel and air bubbles. High resistance to sweat out, easy to incorporate.
Lanco™ Flow U	Acrylic Surface Modifier	Eliminates surface defects such as craters, pinholes, orange peel and fish-eyes; solvent-free, maintains recoat adhesion, post-addable, improves substrate wetting.
Lanco™ Flow UA 50	Acrylic Surface Modifier	Eliminates surface defects such as craters, pinholes, orange peel and fish-eyes; high compatibility, maintains recoat adhesion, post-addable, improves substrate wetting.
Lanco™ Flow U-MPA 60	Acrylic Surface Modifier	Eliminates surface defects such as craters, pinholes, orange peel and fish-eyes. Easy to incorporate, maintains recoat adhesion, post-addable, improves substrate wetting.
Lanco™ Flow UX 80	Acrylic Surface Modifier	Eliminates surface defects such as craters, pinholes, orange peel and fish-eyes. Easy to incorporate, maintains recoat adhesion, post-addable, improves substrate wetting.

*Ingredients not intentionally contained in the composition, or used in manufacture.



	EFFECT ON			PHYSICAL PROPERTIES			
	CORROSION RESISTANCE	ADHESION	GLOSS	DENSITY (g/cm ³) @ 25 °C (77 °F)	ACID VALUE	SOLVENT	SOLIDS (%)
■	■	■	May slightly increase	0.96	(N/A)	Xylene	60
■	■	■	May slightly increase	1.03	≤2	Xylene	95
■	■	■	May slightly increase	0.95	<2	Xylene	50
■	■	■	May slightly increase	1.02	(N/A)	Solvent-Free	100
■	■	■	May slightly increase	0.93	(N/A)	Aromatic 100	50
■	■	■	May slightly increase	0.98	(N/A)	Methoxypropylacetate	60
■	■	■	May slightly increase	0.98	(N/A)	Xylene	80

No negative effect ■

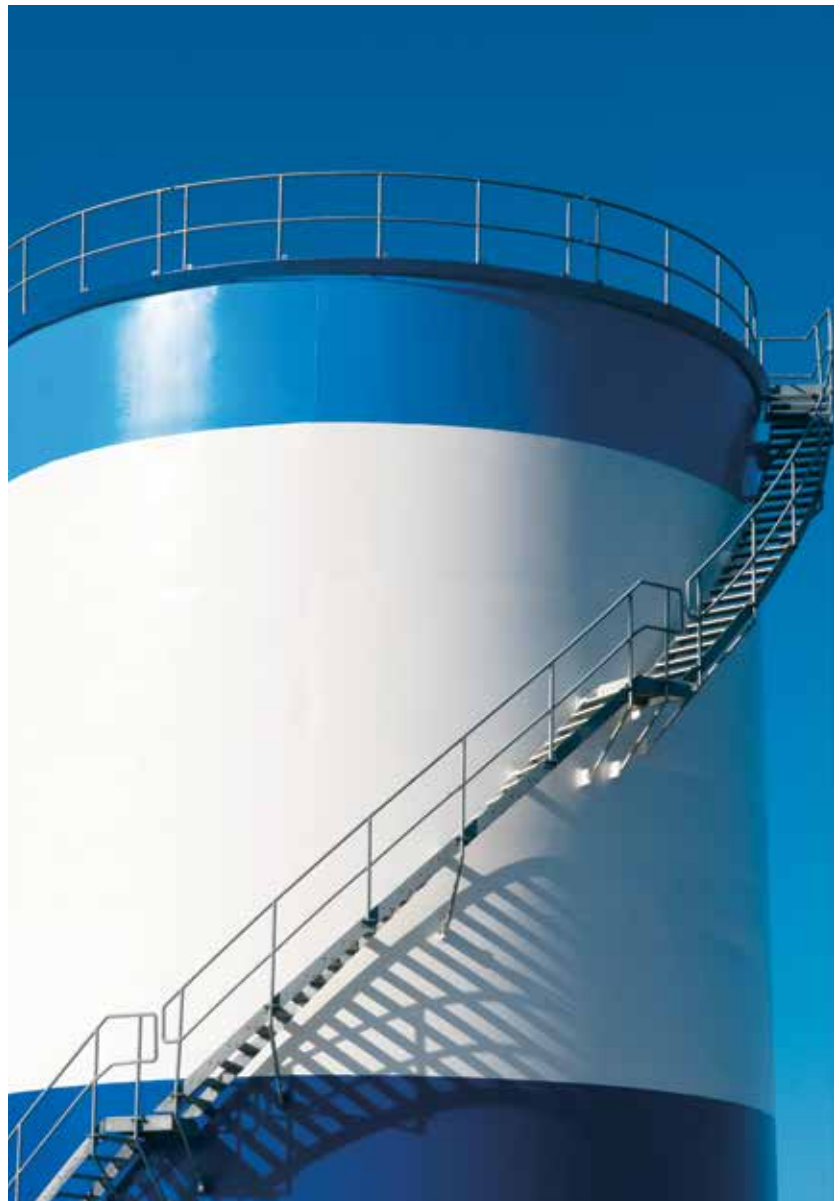


For Flow Control

PRODUCT NAME	PRODUCT TYPE	KEY BENEFITS
Solthix™ 250	Rheology Modifier in Methoxy Propyl Acetate	Sag control and suspension aid, can be used in high gloss applications, effective for post addition to the final paint, excellent performance in high solids systems, prevents hard pigment settling. Excellent package stability. Recommended for spray applications.
Solthix™ A100	Hydrophobically Modified Alkali Swellable Acrylic Emulsion Thickener	Lower dosage levels compared to competitive thickeners, improved gloss of the finished coating, improved flop index when used in metallic basecoats. Effective and stable suspension aid for effect pigments, rapid viscosity response when using direct addition method.



PRODUCT FORM	WATER-BASED	SOLVENT-BASED	ROLE IN COATING SYSTEM	PHYSICAL PROPERTIES		
				DENSITY (g/cm ³) @ 25 °C (77 °F)	SOLVENT	% ACTIVITY
Liquid		•	Rheology Modifier	1.01	PM Acetate	40
Liquid	•		Rheology Modifier	1.06	Water	30



Lubrizol Locations

NORTH AMERICA

Lubrizol Advanced Materials, Inc.
9911 Brecksville Road
Brecksville, OH 44141 USA
+1.888.234.2436

EUROPE

Lubrizol Deutschland GmbH
Max-Planck-Str. 6
27721 Ritterhude Germany
+49.421.69333

ASIA-PACIFIC

Lubrizol Specialty Chemicals
(Shanghai) Co., Ltd
10/F, Park Center International
No. 1088 Fang Dian Road
Shanghai 201204, PR China
+8621.3866.0366

SOUTH AMERICA

Lubrizol do Brasil Aditivos Ltda
Avenida Nove de Julho, 3653
Jardim Paulista
Sao Paulo – SP
01407-000
+55.11.4097.0250

Lubrizol Performance Coatings is a market-driven innovator of specialty chemicals for advanced coatings, inks, and composites. Our portfolio of resin and additive technologies solve challenges across a wide range of markets and applications. Formulators choose Lubrizol to achieve unique performance, productivity, and sustainability benefits. More than just a supplier, we are a collaborator with extensive experience in surface protection, dispersion, adhesion, and barrier properties – working closely with customers to explore and develop truly differentiated solutions.



Performance Coatings

Lubrizol Advanced Materials, Inc. ("Lubrizol") hopes that you have found the information provided helpful, but you are cautioned that this material, including any prototype formulas, is for informational purposes only and you are solely responsible for making your own assessment of appropriate use of the information. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAWS, LUBRIZOL MAKES NO REPRESENTATIONS, GUARANTEES, OR WARRANTIES (WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE), INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR REGARDING THE COMPLETENESS, ACCURACY, OR TIMELINESS OF ANY INFORMATION. Lubrizol does not guarantee how the materials referenced herein will perform in combination with other substances, in any methods, conditions, or processes, with any equipment, or in non-laboratory environments. BEFORE COMMERCIALIZATION OF ANY PRODUCT CONTAINING THESE MATERIALS, YOU SHOULD THOROUGHLY TEST SUCH PRODUCT, INCLUDING HOW THE PRODUCT IS PACKAGED, TO DETERMINE ITS PERFORMANCE, EFFICACY, AND SAFETY. You are solely responsible for the performance, efficacy, and safety of any products you manufacture. Lubrizol shall not be liable, and you shall assume all risk and responsibility for, any use or handling of any material. Any claims may not be approved in all jurisdictions. Any entity making claims related to these products is responsible for complying with local laws and regulations. Nothing contained herein is to be considered as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner, and it is your sole responsibility to determine if any issues related to patent infringement of any component or combination of components relating to the information provided exists. You acknowledge and agree that you are using the information provided herein at your own risk. If you are dissatisfied with the information provided by Lubrizol, your exclusive remedy shall be to not use the information.