



## POWDER COATINGS PRODUCT GUIDE

***Lubrizol***

**Performance Coatings**

[www.lubrizol.com/coatings](http://www.lubrizol.com/coatings)





## COLLABORATING FOR SUCCESS

As a global specialty chemical company, Lubrizol offers effective solutions to help powder coatings manufacturers enhance performance with an additives portfolio that empowers formulators to improve a broad range of functional and aesthetic properties. Our advanced technologies strengthen numerous powder coatings performance properties, such as gloss and matting, scratch and mar resistance, texturing, degassing and flow. We dedicate our global expertise to providing the powerful additives that give our customers a competitive edge when entering new markets and growing business in their existing areas of focus.

# LUBRIZOL TECHNOLOGIES

## Innovative Products

Our surface modifiers, flow modifiers and hyperdispersants provide manufacturers with the means to meet a diverse range of performance and production benchmarks. We can help manufacturers achieve diverse powder coatings needs with increased durability, enhanced appearance and adherence to regulatory compliance.

Our team of technical service experts have decades of experience and offer invaluable formulation insights to tailor solutions to unique applications. Additionally, Lubrizol specializes in comprehensive development and testing to ensure reliable performance and manufacturing efficiency.



## Trusted Supplier

Lubrizol powder coating specialists have a long track record of working side-by-side with customers to create individualized formulations for their needs. The result is an expansive product line and a wealth of knowledge that offers effective solutions for your company.

Not only does Lubrizol deliver outstanding additives, we offer the reliability every operation needs from its suppliers. From product availability to timely delivery, our global network offers the distribution and service that manufacturers require to thrive in today's competitive business environment.







# LUBRIZOL ADDITIVES FOR POWDER COATING APPLICATIONS

## Matting/Gloss Control

### PowderAdd™ 9025/9027

Polyolefin waxes that produce good matting while also offering increased scratch resistance and improved slip.

### PowderAdd™ 9094

A pure polypropylene wax with very good matting which supports adhesion of coating layers on top of the matted powder surface, such as silicone sealants, adhesives, or liquid paints. It also provides surface hardness and increased coefficient of friction (anti-slip) compared to conventional wax additives.

## Scratch/Mar Resistance

### Lanco™ 1900 MF

This polymer compound provides both scratch and mar resistance and reduction of coefficient of friction (COF). Lanco™ 1900 MF offers minimal loss of gloss and minimal haze formation, with negligible impact on distinctness of image (DOI).

### Lanco™ PP 1350 F

This PP modified polyethylene delivers high abrasion and scratch resistance, excellent scuff resistance.

### Lanco™ TF 1720 C

A PTFE modified PE that increases scratch and abrasion resistance as well as slip properties. Lanco™ TF 1720 C is an economical grade that offers good hardness.

### Lanco™ TF 1778 C

This PTFE modified PE increases scratch, scuffing and abrasion resistance. It also provides excellent slip.

### PowderAdd™ 9078 C

This PTFE modified PE delivers excellent scratch and abrasion resistance as well as good slip and very good gloss retention.

## Degassing Agents

### Lanco™ SM 2003

A modified PE wax providing excellent degassing properties and enhanced air release to prevent cratering during curing. Lanco™ SM 2003 also increases slip and reduces yellowing versus amide waxes.

## Powder Coating Solutions

### Scratch Resistance

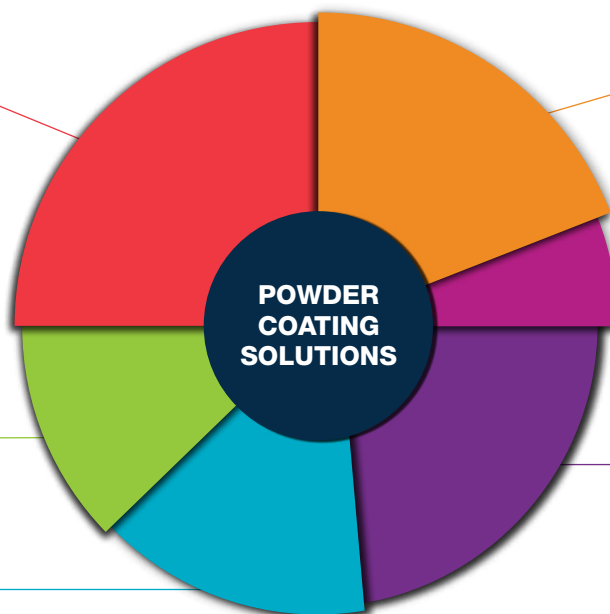
Lanco™ 1900 MF  
Lanco™ PP 1350 F  
Lanco™ TF 1720 C  
Lanco™ TF 1778 C  
PowderAdd™ 9078 C

### Matting

PowderAdd™ 9025  
PowderAdd™ 9027  
PowderAdd™ 9094

### Specialties

Lanco™ Flow P 30  
Lanco™ Stat 308  
PowderAdd™ 9016  
PowderAdd™ G 130  
Solpus™ L 400



### Fine Texturing

Lanco™ TF 1830 N  
PowderAdd™ 9082  
PowderAdd™ 9083  
PowderAdd™ 9084  
PowderAdd™ 9085  
PowderAdd™ 9567  
PowderAdd™ 9680

### Coarse Structure

PowderAdd™ 9080  
PowderAdd™ 9081

### Degassing

Lanco™ SM 2003  
PowderAdd™ 9060  
PowderAdd™ 9062  
PowderAdd™ 9421  
PowderAdd™ 9423

### PowderAdd™ 9060

This amide wax ensures excellent degassing properties and enhanced air release to prevent cratering during curing. PowderAdd™ 9060 also acts as a process aid and significantly enhances slip.

### PowderAdd™ 9062

This modified polyethylene wax provides excellent degassing properties and reduced coefficient of friction (COF) at an excellent cost/performance ratio.

### PowderAdd™ 9421

This proprietary blend is designed to improve the degassing properties of powder coatings, especially of low cure systems. It provides good flow properties and enhances surface slip.

### PowderAdd™ 9423

A proprietary blend, PowderAdd™ 9423 promotes effective degassing and adhesion (e.g., silicone sealants). It also offers good gloss retention and low haze.

Wax Additives for Powder Coatings															
Lubrizol Product	Scratch Resistance					Matting Efficiency					Degassing				
Lanco™ 1900 MF															Yes
Lanco™ PP 1350 F															Yes
Lanco™ SM 2003															Yes
Lanco™ TF 1720 C															Yes
Lanco™ TF 1778 C															Yes
PowderAdd™ 9025															No
PowderAdd™ 9027															No
PowderAdd™ 9060															Yes
PowderAdd™ 9062															No
PowderAdd™ 9078 C															No
PowderAdd™ 9094															No
PowderAdd™ 9421															Yes
PowderAdd™ 9423															Yes

Low =

High =



## Flow Modifiers

### Lanco™ Flow P 30

An oleo-based modified wax that improves flow and leveling with minimal influence on gloss. A co-additive to be used in conjunction with acrylic flow promoters. Additionally, Lanco Flow™ P 30 improves also degassing.

## Fluidizing Agents

### PowderAdd™ G 130

An inorganic surface-treated silica gel, PowderAdd™ G 130 improves fluidization and flow during powder coating application. It also provides improved storage stability and anti-caking properties.

## Antistatic Agents

### Lanco™ Stat 308

Lanco™ Stat 308 is especially effective in recessed areas, where it acts by minimizing Faraday Cage effects. It alters the conductivity properties of powder coatings resulting in improved application characteristics and coating quality.

## Processing Aids

### PowderAdd™ 9016

A polyethylene wax that functions as a processing aid during powder production. Designed for near universal use, PowderAdd™ 9016 offers good surface properties such as slip, scratch and abrasion resistance.

## Texturing Agents

### PowderAdd™ 9082

A PTFE wax with excellent fine texture control and increased matte appearance at low dosages. It also enhances scratch resistance and slip.

### PowderAdd™ 9085

Modified PTFE that provide a fine uniform texture with high matting efficiency and softer surface feel at low addition rates.

### PowderAdd™ 9567

A highly efficient modified PTFE texturing agent. It is an economical grade that provides excellent matting at low dosages.

### PowderAdd™ 9680

PowderAdd™ 9680 provides controlled surface texturing, and excellent gloss reduction at low dosages. It also improves scratch resistance and slip.

### Lanco™ TF 1830 N

This PTFE modified PE wax gives excellent fine texture control with uniform surface texture and significantly improved matte appearance. It also enhances scratch resistance.

### PowderAdd™ 9083

This PTFE modified PE wax gives excellent fine texture control with uniform surface texture and significantly improved matte appearance. It also enhances scratch resistance.

### PowderAdd™ 9084

PowderAdd™ 9084 is a PTFE modified PE wax that provides uniform surface texture combined with excellent matting efficiency at low addition rates. It also offers good scratch resistance.



## PowderAdd™ 9080

A silicone-free structuring agent that provides a coarse, “long wave type” structure. PowderAdd™ 9080 also offers excellent control of hammertone type structuring and consistent structure development.

## PowderAdd™ 9081

A silicone-free modified synthetic wax that provides a coarse structure in powder coatings. It produces a structure similar to CAB, but with greater control for more consistent texture.

## Dispersants

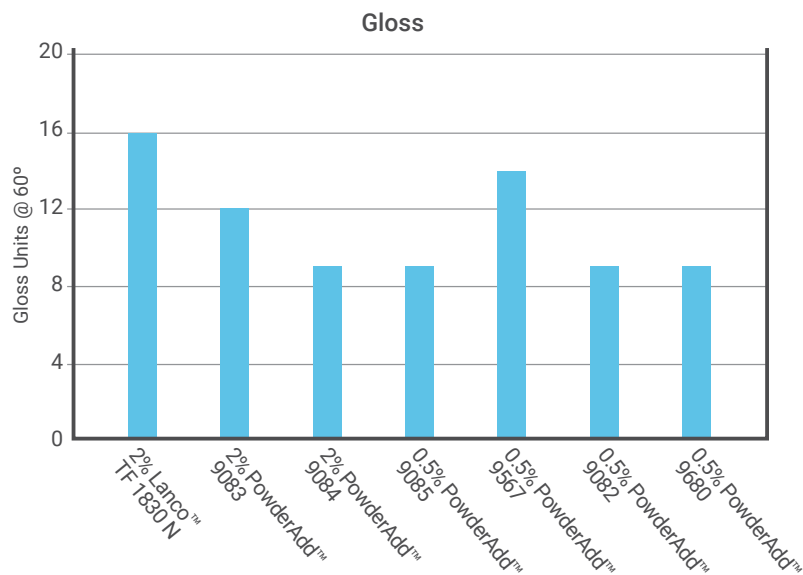
### Solplus™ L400

This polymeric dispersing agent that improves pigment dispersion and stability in powder coatings. Recommended for use with titanium dioxide and inorganic pigments. It improves gloss, leveling/flow characteristics and hiding power.

## Surface Modifiers for Texturing of Powder Coatings

Products	Description of Texture	Matting Grade	Minimum Addition Rate
Lanco™ TF 1830 N	Fine, Uniform	Glossy to Semi-Matte	0.80
PowderAdd™ 9083	Fine, Uniform	Semi-Matte to Matte	0.50
PowderAdd™ 9084	Fine, Uniform	Semi-Matte to Dull Matte	0.50
PowderAdd™ 9082	Fine, Uniform	Semi-Matte to Dull Matte	0.20
PowderAdd™ 9085	Fine, Uniform	Semi-Matte to Dull Matte	0.20
PowderAdd™ 9567	Fine, Uniform	Semi-Matte to Dull Matte	0.20
PowderAdd™ 9680	Fine, Uniform	Semi-Matte to Dull Matte	0.20
PowderAdd™ 9080	Coarse, Hammertone	n/a	0.15
PowderAdd™ 9081	Coarse, Hammertone	n/a	0.80

## Matting Efficiency of Lanco™ and PowderAdd™ Texturing Agents in Black Hybrid System (70:30)



Addition level 2% on total formulation weight for Lanco™ TF 1830 N, PowderAdd™ 9083 and PowderAdd™ 9084 and 0.5% for PowderAdd™ 9085, PowderAdd™ 9567, PowderAdd™ 9082 and PowderAdd™ 9680.

## Matting and Gloss Control

					Typical Physical Properties		
Product Name	Description	Primary Benefit	Secondary Benefit	Post Addability	Particle Size as Determined by Laser Diffraction	Density (g/cm <sup>3</sup> ) @ 20 °C	Melting Point °C (°F)
					DV50 (µm)		
PowderAdd™ 9025	Polyolefin	Matting	Increased scratch resistance, improved slip	No	≤15	0.96	105 (221)
PowderAdd™ 9027	Polyolefin	Matting	Increased scratch resistance, improved slip	No	470	0.95	105 (221)
PowderAdd™ 9094	Polypropylene	Matting, supports adhesion, e.g. silicone sealants	Superior scratch resistance and surface hardness	No	≤13	0.90	140 (284)

## Scratch and Mar Resistance

					Typical Physical Properties			
Product Name	Description	Primary Benefit	Secondary Benefit	Post Addability	Particle Size as Determined by Laser Diffraction		Density (g/cm <sup>3</sup> ) @ 20 °C	Melting Point °C (°F)
					DV50 (µm)	DV90 (µm)		
Lanco™ 1900 MF	Polymer Compound	Scratch & mar resistance; reduction of coefficient of friction (COF)	Minimal loss of gloss, minimal haze formation, and negligible impact on distinctness of image (DOI)	Yes	≤20	–	1.12	60 (140)
Lanco™ PP 1350 F	PP Modified PE	High abrasion and scratch resistance, excellent scuff resistance	Enhances antiblocking properties	Yes	≤9	≤22	0.94	150 (302)
Lanco™ TF 1720 C	PTFE Modified PE	Increased scratch and abrasion resistance as well as slip	Economical grade with good hardness	Yes	≤8	≤18	1.02	125 (257)
Lanco™ TF 1778 C	PTFE Modified PE	Enhances scratch resistance, increases resistance to scuffing, improves abrasion resistance	Excellent slip	Yes	≤6	≤14	1.04	102 (216)
PowderAdd™ 9078 C	PTFE Modified PE	Excellent scratch and mar resistance, good slip and abrasion resistance	Very good gloss retention	No	90	–	1.01	115 (239)



Texturing Agents							
				Typical Physical Properties			
Product Name	Description	Primary Benefit	Secondary Benefit	Particle Size as Determined by Laser Diffraction		Density (g/cm <sup>3</sup> ) @ 20 °C	Melting Point °C (°F)
				DV50 (µm)	DV90 (µm)		
Lanco™ TF 1830 N	PTFE Modified PE	Uniform, fine surface texture, excellent abrasion resistance	Increases surface slip by reduction of the coefficient of friction	≤9	≤22	1.04	125 (257)
PowderAdd™ 9083	PTFE Modified PE	Excellent fine texture control with uniform surface texture, significantly improved matte appearance	Enhances scratch resistance	100	–	1.02	110 (230)
PowderAdd™ 9084	PTFE Modified PE	Uniform surface texture and excellent matting efficiency	Increases scratch resistance and improves slip	≤15	≤35	1.04	125 (257)
PowderAdd™ 9082	PTFE	Excellent fine texture control, increased matte appearance at low dosages	Enhances scratch resistance, increased slip	–	–	2.20	–
PowderAdd™ 9085	Modified PTFE	Excellent fine texture and excellent matting	Increases scratch resistant, improves slip and surface feel	≤30	–	1.9	–
PowderAdd™ 9567	Modified PTFE	Fine surface texture, uniform matting	improves scratch resistant and improves slip	≤30	–	2.6	–
PowderAdd™ 9680	PTFE	Uniform, fine surface texture, excellent matting efficiency	Increases scratch resistant and improves surface slip	≤15	–	2.20	–
PowderAdd™ 9080	Proprietary	Provides coarse, long wave type structure	Consistent structure development	–	–	1.10	–
PowderAdd™ 9081	Modified Synthetic Wax	Provides coarse structure, can be comparable to CAB	Excellent control of hammertone type structuring	140	–	1.40	–

Degassing Agents							
					Typical Physical Properties		
Product Name	Description	Primary Benefit	Secondary Benefit	Post Addability	Particle Size as Determined by Laser Diffraction		Melting Point °C (°F)
					DV50 (µm)	DV90 (µm)	
Lanco™ SM 2003	Modified PE	Excellent degassing properties, improves air release during cure to avoid cratering	Improves slip and reduced yellowing versus amides	Yes	≤9	≤22	0.97 140 (284)
PowderAdd™ 9062	Modified PE	Excellent degassing properties, reduces coefficient of friction	Reduces yellowing versus amides	No	≤25	–	0.97 140 (284)
PowderAdd™ 9060	Amide	Excellent degassing properties, improves air release during cure to avoid cratering	Acts as process aid, improves slip significantly	Yes	≤9	≤22	0.98 143 (289)
PowderAdd™ 9423	Proprietary	Effective degassing, provides adhesion, e.g., of silicone sealants	Good gloss retention and low haze	Yes	≤7.5	≤16	– 140 (284)
PowderAdd™ 9421	Proprietary	Excellent degassing properties, especially effective in low cure systems	Good flow properties and enhances surface slip	Yes	≤7	≤14	0.92 80 (176)

Flow Modification						
				Typical Physical Properties		
Product Name	Description	Primary Benefit	Secondary Benefit	Density (g/cm <sup>3</sup> @ 20°C)	Activity Level (%)	Non-Volatile Content (%)
Lanco™ Flow P 30	Oleo-Based Modified Wax	Improves flow and leveling, minimal influence on gloss	Supports degassing	0.9 @ 20 °C	100	–

Antistatic Agents					
				Typical Physical Properties	
Product Name	Description	Primary Benefit	Secondary Benefit	Density (g/cm <sup>3</sup> @ 20°C)	Melting Point °C (°F)
Lanco™ Stat 308	Conductivity Promoter	Minimizes consequences of Faraday cage effect improving coverage in recessed corners and on edges	Supports degassing	0.95	69 (156)

Processing Aids						
					Typical Physical Properties	
Product Name	Description	Primary Benefit	Secondary Benefit	Post Addability	Density (g/cm <sup>3</sup> @ 20°C)	Melting Point °C (°F)
PowderAdd™ 9016	PE	Acts as a processing aid during powder production	For universal use showing good surface properties such as scratch resistance, slip, and abrasion resistance	No	0.93	109 (228)

Dispersants							
				Typical Physical Properties			
Product Name	Description	Primary Benefit	Secondary Benefit	Density (g/cm <sup>3</sup> @ 20°C)	Melting Point °C (F)	Solids (%)	Pigment
Solplus™ L400	Polymeric Dispersant	Improves pigment dispersion, stability and final film appearance	Improves gloss, leveling/flow and opacity with titanium dioxide	1.13	48 (118)	100	Inorganic, especially TiO <sub>2</sub>

Fluidization Agents							
				Typical Physical Properties			
Product Name	Description	Primary Benefit	Secondary Benefit	Particle Size as Determined by Laser Diffraction		Density (g/cm <sup>3</sup> @ 20°C)	SiO <sub>2</sub> (%; ignited basis)
				DV50 (µm)	DV90 (µm)		
PowderAdd™ G130	Inorganic Surface Treated Silica Gel	Improves fluidization and flow during powder coating application	Improves storage stability and anticaking properties	≤5.5	–	2.10	97.8



## A DEEPER UNDERSTANDING OF POWDER COATING NEEDS

Lubrizol will be your sole source for unmatched powder coating innovation and application expertise. Whether you need a custom formulation or an off-the-shelf solution, we have the technical understanding, real-world experience and wide-ranging product catalog to enable you to reach all of your manufacturing and efficiency goals.

### Powder Coating Performance Enhancements

- Uniform matting/gloss control
- Enhanced scratch and mar resistance
- Fine and coarse texturing
- Excellent degassing properties
- Flow modification
- Antistatic agents to improve coverage
- Improved pigment dispersion and stability
- Increased fluidization and flow during powder coating application
- Post-addable technology

### The Lubrizol Advantage

- A recognized leader in advancing coating technologies
- Global research and analytical resources
- Product selection and formulation guidance





# Lubrizol Locations

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Lubrizol Performance Coatings is a market-driven innovator of specialty chemicals for coatings, inks and composites. Our portfolio of resin, binder, dispersant, wax additive and specialty additive technologies solves challenges across a wide range of markets and applications. Formulators choose Lubrizol to benefit from our innovative technologies, customer collaboration and global reliability. More than just a supplier, we are a valued partner with extensive experience in surface protection, dispersion, adhesion and barrier properties. We work closely with customers to enhance the performance, productivity and sustainability benefits of their products and drive new opportunities for market success.



## **Performance Coatings**

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