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935-Series

NORTHSTAR™

MS, HG Urethane Topcoat

Description:

NorthStar's 935-series is the tried and proven success of Medium Solids technology. 935 offers outstanding gloss retention, chemical resistance, and long lasting durability. 935 is a single stage paint system utilizing the Northstar SHS toner system. The 935 provides outstanding coverage and film build when desired.

Suggested Uses:

As a high performance polyurethane topcoat is needed over properly prepared and primed aluminum, carbon steel, galvanized steel, fiberglass and plastics.

- Long term color retention is desired
- Long term gloss retention is required
- Low VOC coatings are mandated
- Excellent chemical resistance is required
- Outstanding flexibility is required
- Application by HVLP, Air assisted airless, Pressure Pot, brush, or roller is desired

Not recommended for: Immersion service

Field Applications:

935-series can be used in a multitude of end use applications including but not limited to:

- Light Industrial Refinishing
- Cement truck and Snow Plows
- Construction Equipment
- Airport Ground Support Equipment
- Truck and Trailer
- Bus and Transit Units
- Many types of OEM and Refinish

Components:

• 935B	Binder
• 935B-28	2.8 VOC Binder
• 900M	Metallic Binder
• SHS Tints	NorthStar Tints
• H05 (2.8 VOC)	Activator
• H6 (3.5 VOC)	Activator
• S9870, S9885, S9895	Standard NorthStar Reducer
• S021 Fast	Zero VOC Reducer
• ST065 Fast, ST075 Medium, ST085 Slow	Zero VOC Reducer
• S065/075/085	Zero VOC Reducer
• A566	Accelerator
• A544	Pot Life Extender

Mixing Ratios:
Mix **3 Parts 935** series Color to **1 Part H05** (2.8 VOC) **or H6** (3.5 VOC)

- For Brush or Roller, reduce 10% with S085 Slow.
- For Air Assisted Airless & pressure pot, reduce 10-20% with selected reducer.
- For HVLP reduce 10-25% with selected reducer.

Note: Select appropriate reducer based on air temperature and size of item to be painted.

VOC:

When mixed 3 Parts 935 series color to 1 Part H05, VOC is 2.67 pounds per gallon.
When reduced with S021 Fast/Medium/Slow or S065/075/085, VOC is 2.67 pounds per gallon.
When mixed with 2 fluid ounces of A566 or A544, VOC is 2.74 pounds per gallon.
When mixed with 2 fluid ounces of A566 and A544, VOC is 2.80 pounds per gallon.

Color:

935 series is a full line Northstar intermix system with unlimited color availability. 935 is available in solids and metallic formulations.

Physical Data:

• Solids by Weight	48% (Average)
• Solids by Volume	53% (Average)
• Gloss (60° Angle)	90+

- Pot Life (@77° F), 25˚C 1.5 hours

Cure Times (Hours @77° F)(25˚ C)

Description	Brush / Roll	Airless	Air-Assist Airless	HVLP
DFT	2-2.3	N/A	3-5	2-3
To Touch	0.5	N/A	1	0.5
Tack Free	1	N/A	1.5	1
To Handle	3	N/A	3	4
To Recoat	1	N/A	2	1
Hard Dry	8	N/A	8-10	8
Full Cure	7 days	N/A	7 days	7 days

Use of A566 Accelerator will increase rate of dry by as much as 50%. Do not use accelerator with slow reducers.

Theoretical Coverage:

850 ft² @ 1 mil DFT (100% transfer efficiency)
425 ft² @ 2 mils DFT (100% transfer efficiency)

Material losses during mixing and application (transfer efficiency) should be taken into consideration when estimating job requirements. For example, HVLP has a transfer efficiency rating of 65%. So, theoretical coverage at 1 mil DFT would be 553 ft² utilizing HVLP. Transfer efficiency will vary depending upon object painted and application method.

Application Information

Surface Preparation for Direct to Metal (DTM) Applications:

N/A

Compatibility with Other Coatings:

935 may be applied over the following Lusid Northstar Primers and or Sealers:

- EP210-series
- Fuzion-series
- TNEK
- GTP270
- SP210
- QS210
- QP210
- GTP310

935 may be applied over most aged and cured coatings in good condition. Testing for lifting, bubbling, and adhesion is recommended to assure compatibility with unknown coatings.

Activation:

See Mix Ratio section for proper activation.

Reduction:

See Mix Ratio section for proper reduction.

Maximum Service Temperature:

250-275° F for continuous service depending on color (121-135° C)
300° F in intermittent heat (148° C)

Shelf Life:

2 years from date of manufacture. Store in a well-ventilated area. Storage conditions should be between 35° F (2° C) and 120° F (48° C).

Application Conditions:

Do not apply if the surface temperature of the object to be painted is below 45° F (7° C) or above 110° F (43° C).

Application Equipment:

Contact your Lusid Representative for specific application equipment recommendations.

Performance Properties:

Abrasion and Mechanical	Excellent	Color & Gloss Retention	Excellent
Alkalis	Excellent	Salts	Excellent
Solvents	Excellent*	Weather	Excellent
Acids	Excellent	Humidity	Excellent

(*) Contact Lusid for specific solvent testing properties

ASTM Information:

Test	Results	Test Methods
Abrasion Resistance	Excellent	ASTM D 4060
Adhesion	Excellent	ASTM D 4541 (1850 psi) Excellent ASTM D3359 A/B (5/5) Excellent
Salt Spray Resistance	Excellent	ASTM B 117 (Pass 1500 hours)
Direct Impact Resistance	Very Good	ASTM D 2794 (140 in-lb)
Reverse Impact	Very Good	ASTM D 2794 (50 in-lb)
Humidity Resistance	Excellent	ASTM D 2247 (Pass 1000 hours)
Film Hardness	3H	ASTM D 3363
Chemical Resistance (Rating Scale 1-10 with 10 best)	Excellent 10 10 10 10 10 10 10 10 10 10 10 10 10 10 9 9	ASTM D 1308 1% Sodium Hydroxide 5% Sodium Hydroxide 10% Sodium Hydroxide 10% Ammonia Diesel Fuel 1% Hydrochloric Acid 1% Sulfuric Acid 10% Sulfuric Acid 100% Ethanol 1% Phosphoric Acid 10% Phosphoric Acid MEK (Methyl Ethyl Ketone) Gasoline Skydrol DOT 3 Brake Fluid
QUV A	Excellent	ASTM D 4587 (1500 hours-97%)
Initial Gloss @ 60°	93 min	ASTM D 523
Solvent Resistance	Surpassed	ASTM D4752 (1000 MHR)
Flexibility	Excellent	ASTM D 522 Mandral