



Industrial Coatings

Imron® Industrial Strength Ultra Low VOC Polyurethane Clear

Product Data Sheet



Description:

DuPont Imron® Industrial Strength is the next generation of Imron® technology. Based upon unique DuPont formulations and resin technology, Imron® Industrial Strength is the fastest Imron® yet, providing the “Wet Look that Lasts” with the lowest environmental impact. Imron® Industrial Strength Ultra Low VOC Polyurethane Clear 9C01™ is a high gloss, 0.3 lbs/gal VOC* conforming, low HAPS, polyurethane clear coat. The resulting finish product provides a brush, roll or sprayable topcoat suitable for use in any environment where additional long term color and gloss retention are desired.

* See section on VOC (page 2).

Suggested Uses:

As a high performance, tough, industrial strength polyurethane clear coat over properly prepared, primed and top-coated aluminum, carbon steel, galvanized, concrete or dry wall where:

- The extra protection of a clear is desired.
- Restoring gloss to “dull” faded finishes avoids the cost of complete re-painting
- Additional long term color retention is desired
- Additional long term gloss retention is desired
- Low environmental footprint is desired
- Application by brush, roll or spray is desired
- Excellent chemical resistance
- Very good Skydrol® resistance is needed
- Outstanding flexibility is needed
- Faster dry times are desired

Not recommended for: Immersion service

COMPATIBILITY WITH OTHER COATINGS

- Aged Imron® Industrial Strength Clear may be re-coated with itself following washing with clean, fresh water – no mechanical surface preparation is required.
- Imron® Industrial Strength Clear can be applied over other DuPont Industrial Coatings including, but not limited to Imron® Waterborne Polyurethane Copolymer coatings, Imron® Industrial Strength Topcoats, and other Imron® solvent-borne topcoats.
- Imron® Industrial Strength Clear may be used over most aged and hard-cured coatings in good condition. Testing for lifting, bubbling and adhesion is recommended to assure compatibility with unknown coatings. Contact your DuPont Performance Coatings representative for specific recommendations.

MAXIMUM SERVICE TEMPERATURE

250°F (93°C) in continuous service.

300°F (148°C) in intermittent heat.

PERFORMANCE PROPERTIES

Abrasion & Mechanical	Excellent	Color & Gloss Retention	Excellent
Alkalis	Excellent	Acids	Excellent
Humidity	Excellent	Salts	Excellent
Solvents	Very Good	Weather	Excellent

VOC (Theoretical less water and exempt compounds).

This product contains TBAC.

	4 to 1 25% Reduction TBAC Exempt*			4 to 1 25% Reduction TBAC Non-Exempt		
	No Reduction	9M01™	9M02™	No Reduction	9M01™	9M02™
Without 1 oz VG-805™	0.3	--	--	2.3	--	--
With 1 oz VG-805™	--	0.4	1.0	--	2.4	2.9

*Where TBAC is considered an exempt solvent for contains requirements.

HAPS Information – Theoretical

Imron® Industrial Strength Clear – Mixed 4 to 1 no reduction – 0.01 lbs/gal solids

Imron® Industrial Strength Clear – Mixed 4 to 1 with 25% Imron® 9M01™ or 9M02™ Thinner and 1 oz. VG-805™ Accelerator – 0.01 lbs/gal solids

Gloss

90+ 60° angle

Volume Solids

56%

Weight Solids

57%

Theoretical Coverage Per Gallon

881 ft² (21.5 m²/l) @ 1 mil dft

441 ft² (10.8 m²/l) @ 2 mil dft

Material losses during mixing and application will vary and must be taken into consideration when estimating job requirements.

Suggested Film Builds

3-5 mils (75-125 µm) wet

2-3 mils (50 – 75 µm) dry

Application by brush and roller may require additional coats to achieve recommended films thickness.

Weight per gallon – Average varies with color

9.2 lbs

Flash Point

Between 73° to 100°F (23° to 38°C)

Packaging

- Clear 9C01™ – 1 gallon container 80% Full (102.4 oz.)
- Activator 9T00-A™ – 1 quart container 80% full (25.6 oz.)

Shipping Weight – lbs – approximate

1 gallon container: 10 lbs

Quart Activator: 2-3 lbs

SHELF LIFE & STORAGE CONDITIONS

Store in a dry, well-ventilated area. Storage conditions should be between 35°F (2°C) and 120°F (48°C)

- Shelf Life: 1 year minimum.

SAFETY

Consult the Material Safety Data Sheet for this product prior to use. Imron® Industrial Strength products are intended for professional use only.

Cure Times – hours @ 1.5 to 2 mils suggested DFT
@ 77°F, 50% RH

@ 90°F (32°C) < 25% RH

	20%-9M01 Reducer Without VG-805™	20% -9M01 Reducer With 2 oz. VG-805™	20%- 9M02 Reducer Without VG-805	20%- 9M02 Reducer With 2 ozs VG-805
To Touch	3	1	2	1
Tack Free	3	2	2	1
To Handle	4.5	2	3.5	2
To Recoat	4	2	3	2
Hard Dry	18	12	16	10
Pot Life	1.5	2	3	2
Full Cure	7 days	6 days	7 days	6 days

APPLICATION INFORMATION

SURFACE PREPARATION

Newly primed and top-coated surfaces should be clean and dry. If contaminated, detergent/water wash, then blow dry. Previously painted surfaces should have all loose paint removed and the edges feathered. Prime bare spots with appropriate primer, then restore color before applying clear.

Activation

To 4 parts Imron® Industrial Strength Clear, 9C01™, add one part DuPont Imron® 9T00-A™ Activator. Measure out appropriate amounts, add activator and mix thoroughly. For most applications, add 10-20% Imron® 9M01™ or 9M02™ Thinner reducer depending upon application conditions and methods. Mix until uniform. (See reduction section below.) Mix thoroughly using a mechanically powered sheer “Jiffy” mixer with variable RPM settings; use medium speed RPM. Move mixer up and down through paint for uniform mixing. **DO NOT SHAKE.**

Reduction

Normally 10-20% reduction with Imron® 9M01™ or 9M02™ Reducer is adequate for spray application, pressure pot and airless, depending upon conditions and equipment. To help maximize pot life, up to 25% may be added. For maximum appearance, up to 25% Imron® 9M01™ or 9M02™ may be added. For brush applications, add 10-15% 9M01™ or 9M02™ Thinner. For rolling applications, add 1 oz of Imron® 9M05™ Rolling Additive per activated gallon and 10-15% 9M01™ or 9M02™ Reducer. After addition of 9M05™ Rolling Additive, allow 5 minutes induction before application. If faster recoat and handling are required, add up to 1 oz. VG-805™ Accelerator. Use of 9M02™ Pot Life Extender / Reducer will affect VOC. Please see VOC section. For cold weather application, add 1 oz. of VGY-691™. Use only recommended reduction solvents.

Application Thinners

Spray, Brush and Roll – Below 80°F	Imron® 9M01™	Rolling Additive - Imron® 9M05™
Spray, Brush and Roll – Above 80°F	Imron® 9M02™	

Clean Up Thinners

Imron® 9M01™, T-1021™

APPLICATION CONDITIONS

Do not apply if the application surface temperature is below 45°F (7°C) or above 110°F (43°C), or if the atmospheric temperature is within 5°F of the dew point. For application temperatures below 45°F, the use of 1 oz. Imron® VHY-691™ is recommended. Relative humidity should be below 90%. Dry times can be improved by adding up to 2 oz. of DuPont VG-805™ Accelerator per activated gallon. If accelerators have been used, recoating must be done within 48 hours. If more time has elapsed, scuff sand to ensure adhesion. May be recoated by spray when tack-free.

APPLICATION EQUIPMENT

- Apply by spray, brush or roll
- Manufacturers listed below are a guide. Others may be used. Changes in pressure and tip size may be required to achieve proper application.

ROLL

- Manufacturer: Wooster® Pro/Doo-Z™ ¼" – ½" nap
- Additions:
- Add 1 oz./gallon Imron® 9M05™ Rolling Additive to eliminate bubbles. Craters may develop if you exceed 2 oz./gallon.
 - Add 10-15% Imron® 9M01™ or 9M02™ reducer to maintain wet edge.
 - May be cross-rolled.
 - For best results, allow 5 minutes mix time after adding Imron® 9M05™.
 - Do not use Imron® 9M05™ in spray applications.

BRUSH

- Manufacturer: Wooster® China Bristle
- Additions:
- Add 10-15% Imron® 9M01™ or 9M02™ reducer to maintain wet edge. Do not cross brush to reduce lap marks.

CONVENTIONAL

Manufacturer Model	Sata	DeVilbiss	Graco	Iwata	Binks	Kremlin
Tip Size	1.0 – 1.3 mm	1.1 - 1.4 mm	1.0 - 1.5 mm	W-77, W-71, or W-200 1.2 – 1.8 mm	2001 or 95 1.2 – 1.8 mm	M22HPAP 1.2 – 1.8 mm

*Fluid lines 3/8" ID or larger are required for proper fluid delivery.

HVLP SPRAY:

Manufacturer Model	Sata	DeVilbiss	Graco	Iwata	Binks	Kremlin
Tip Size	3000RP HVLP 1.2 – 1.6 mm	JGHV, EXL, or FLG 1.3 - 1.8 mm	DeltaSpray XT - HVLP 1.3 – 2.2 mm	LPH 200 LVLP 0.8 – 1.2 mm	MACH 1 & 1SL 1.0 – 1.7 mm	E3K HVLP 1.5 – 1.8 mm

AIRLESS SPRAY:

Manufacturer Model	Graco	Iwata	Binks	Kremlin
Tip Size	Silver or Plus .011 - .015	ALG or Airlesso .011 - .015	Airless 1 .011 - .017	Airless 250 II .013 - .017
Pump	30:1 min	ALG 30:1 min	30:1 min	Orca 32:1



ASTM INFORMATION

Physical properties are average. Properties listed are for a system of Corlar[®] LV SG[™] (formerly 90P), DuPont Imron[®] Industrial Strength and Imron[®] Industrial Strength Clear. Total DFT 9 mils.

Salt Fog (ASTM B-117)	500 hours 1000 hours 1500 hours	10 - No rusting 10 - No rusting No rust, few #8 blisters at the scribe 10 - No undercutting
Humidity Resistance (ASTM D2247)	500 hours 1000 hours 1500 hours	10 - No blisters 10 - No blisters 10 - No blisters
Adhesion (ASTM D3359-02 A/B)	5/5Excellent	
QUV A (ASTM D4587)	1500 hours	Gloss Before 91% Gloss after 89% % Retention 98%

	Rating		Rating
1% HCL (Hydrochloric Acid)	10	(Isopropyl Alcohol)	9
1% H2SO4 (Sulfuric Acid)	10	(Ethylene Glycol Monobutyl Ether)	9
10% H2SO4 (Sulfuric Acid)	9	(Ethyl Acetate)	10
1% HNO3 (Nitric Acid)	3	(Toluene)	9
5% DMEA (N-Dimethylethanolamine)	9	MEK (Methyl Ethyl Ketone)	9
1% H3PO4 (Phosphoric Acid)	10	28% (Ammonium Hydroxide)	9
10% H3PO4 (Phosphoric Acid)	10	(Aromatic Mineral Spirits)	10
MEK (Methyl Ethyl Ketone)	9	(Aromatic Hydrocarbon)	9
1% NH4OH (Ammonium Hydroxide)	10	10% NaOH (Sodium Hydroxide)	10
5% NH4OH (Ammonium Hydroxide)	10	Motor Oil (Mobil 10W-30)	10
10% NH4OH (Ammonium Hydroxide)	10	Hydraulic Oil (Pennzoil)	10
1% NaOH (Sodium Hydroxide)	10	Cutting Oil (Rigid)	10
5% NaOH (Sodium Hydroxide)	10	Unleaded Gas	10
Ethanol	10	Skydrol (500 B4L)	7
Diethylene Glycol Monobutyl Ether	9	Tide Soap 10%	10
DBE (Dibasic Esters)	9	Fantastic	10
(Aromatic Controlled VM&P Naphtha)	9	Bleach	10
(Aromatic Hydrocarbon)	9	Brake Fluid (DOT 3 Wagner Premium)	9
		Cola	10
Cleveland Condensing (ASTM D4585)	1000 hours	No rusting, no blistering, no delamination	
Impact (ASTM D2794)	20 in pounds with primer 80 in pounds without primer		
Mandrel Bend (ASTM D522)	> 28% Passes		
Pencil Hardness (ASTM D3363)	H – 2H		
Persoz Hardness (ANS/ISO 1522)	80 sec		

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