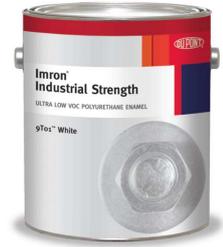




Industrial Coatings



Imron[®] Industrial Strength Ultra Low VOC Polyurethane High Gloss Topcoat 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, mix quality GN, is a high gloss, 0.3 lbs/gal VOC* conforming, low HAPS, polyurethane topcoat. The resulting finish product provides a brush, roll or sprayable topcoat suitable for use in any environment where long term color and gloss retention are desired.

* See section on VOC (page 2).

Suggested Uses:

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

- Long term color retention is desired
- 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
- In-field color shading is needed

Not recommended for: Immersion service

COMPATIBILITY WITH OTHER COATINGS

- Aged Imron[®] Industrial Strength may be re-coated with itself following washing with clean, fresh water – no mechanical surface preparation is required.
- Imron[®] Industrial Strength can be applied over other DuPont Industrial Coatings including, but not limited to Imron[®] Industrial Strength Primers, Imron[®] Waterborne Polyurethane Copolymer coatings, Corlar[®] epoxies, Tufcote[®] acrylics, and Tufcote[®] alkyd primers.
- Imron[®] Industrial Strength 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.

Some yellowing of light colors may occur at elevated temperatures.

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 2 oz VG-805™	0.3	0.3	0.9	2.3	2.3	2.8
With 2 oz VG-805™	0.4	0.4	1.0	2.4	2.4	2.9

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

HAPS Information – Theoretical

Imron® Industrial Strength – Mixed 4 to 1 no reduction – 0.01 lbs/gal solids
Imron® Industrial Strength – Mixed 4 to 1 with 25% Imron® 9M01™ or 9M02™ Thinner and 2 oz. VG-805™ Accelerator – 0.01 lbs/gal solids

COLOR

Imron® Industrial Strength is an intermix system utilizing 17 balanced factory packaged colors. These colors can be used by themselves as topcoats or in combination with other colors to make thousands of high gloss mixed colors.

Color Availability:

9T01™ – White	9T07™ – Blue Green Shade	9T13™ – Orange
9T02™ – Black (match to 1640)	9T08™ – Yellow Oxide	9T14™ – Transparent Red
9T03™ – Yellow	9T09™ – Green	9T15™ – Magenta
9T04™ – Violet	9T10™ – Red	9T16™ – Violet-Blue Shade
9T05™ – Yellow Orange Shade	9T11™ – White (match to 1632)	9T17™ – Blue-Red Shade
9T06™ – Red Orange Shade	9T12™ – Red Oxide	

Gloss

90+ 60° angle

Weight per gallon – Average varies with color

8.9 – 10.5 lbs

Weight Solids – Average varies with color

68% +/- 2%

Flash Point

Between 73° to 100°F (23° to 38°C)

Volume Solids -- Average varies with color

62% +/- 2%

Packaging

- 17 Factory packaged colors – 9TXX – 1 gallon container 80% full (102.4 oz.)
- Activator – 9T00-A™ – Quart container 80% full (25.6 oz.)

Shipping Weight – lbs – approximate

1 Gallon container: 10-12 lbs depending upon color
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 @ 2.0 to 3.0 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

Theoretical Coverage Per Gallon

994 ft² (24.3 m²/l) @ 1 mil dft

497 ft² (12.1 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.

APPLICATION INFORMATION

SURFACE PREPARATION

Newly primed 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.

Activation

Thoroughly mix all colored portions until uniform. To 4 parts 9TXX base, add one part DuPont Imron® 9T00-A™ Activator. If using a mix formula, follow specific color formula for color desired. Measure out appropriate amounts, add activator and mix thoroughly. For most applications, add 5 – 15% 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 5-15% 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 5-10% 9M01™ or 9M02™ Thinner. For rolling applications, add 1 oz of Imron® 9M05™ Rolling Additive per activated gallon and 5-10% 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 2 oz. VG-805™

Accelerator. If accelerators have been used, recoating must be done within 48 hours. If more time has elapsed, scuff sand to ensure adhesion. Use of 9M02™ Pot Life Extender / Reducer will affect VOC. Please see VOC section. **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 2 oz. Imron® VHY-691™ is recommended. Relative humidity should be below 90%.

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 5-10% 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 5-10% Imron® 9M01™ or 9M02™ reducer to maintain wet edge. Do not cross brush to reduce lap marks.

CONVENTIONAL SPRAY

Additions:

- May be recoated by spray when tack-free.
- Imron® 9M05™ Rolling Additive is not recommended for spray application.

Manufacturer	Sata	DeVilbiss	Graco	Iwata	Binks	Kremlin
Model	K3 or K3 RP	JGA or MBC	DeltaSpray XT	W-77, W-71, or W-200	2001 or 95	M22HPAP
Tip Size	1.0 – 1.3 mm	1.1 - 1.4 mm	1.0 - 1.5 mm	1.2 – 1.8 mm	1.2 – 1.8 mm	1.2 – 1.8 mm

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

HVLP SPRAY:

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

AIRLESS SPRAY:

Manufacturer	Graco	Iwata	Binks	Kremlin
Model	Silver or Plus	ALG or Airlesso	Airless 1	Airless 250 II
Tip Size	.011 - .015	.011 - .015	.011 - .017	.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) and DuPont Imron® Industrial Strength. Total DT 7 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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