



TUFCOTE[®] 3.3 PR[®]

HIGH SOLIDS FAST DRY ALKYD PRIMER

(formerly DuPont 681 FD™)

Tufcote[®] 3.3 PR™ is an phenolic modified medium oil, lead and chromate free, single-package, VOC conforming primer (3.3 lbs./gal.) based on DuPont alkyd technology. The resulting very quick drying primer delivers good corrosion resistance.

SUGGESTED USES:

As a primer, direct-to-metal (DTM) or “shopcoat” on carbon steel and wood where:

- Universal primer for use under lacquer or enamel topcoats is needed.
- Corrosion protection during transport and construction is required.
- Fast dry and handling times will improve productivity.
- Indefinite pot life, single component and no thinning reduce cost.
- Application by brush, roll, or spray may be required.
- Rusted, hand or power-tool cleaned surfaces must be protected.

NOT RECOMMENDED FOR:

- Immersion service
- Application over galvanized steel
- Application over inorganic zinc

COMPATIBILITY WITH OTHER COATINGS:

As a universal primer, most topcoats can be applied over Tufcote[®] 3.3 PR™, including alkyds, epoxies, polyurethanes, and acrylics. 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:

200°F (93°C) in continuous service

PERFORMANCE PROPERTIES:

| | |
|----------|------------------------------------|
| Chemical | Very Good with appropriate topcoat |
| Humidity | Excellent |
| Weather | Excellent |

VOLATILE ORGANIC CONTENT (VOC) THEORETICAL:

| | |
|---|-----------------------|
| Tufcote [®] 681 FD™ unreduced (all) | 3.3 lbs/gal (396 g/l) |
| Tufcote [®] 681 FD™ reduced 5% with DuPont TY-3819™ or DuPont TY-3810™ (all) | 3.5 lbs/gal (420 g/l) |

COLOR:

| | |
|---------------------------|----------------------|
| DuPont 681-700™ White | DuPont 681-705™ Buff |
| DuPont 681-704™ Red Oxide | DuPont 681-709™ Gray |

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GLOSS:

Flat

CURE TIME – HOURS @ 50% R.H. & RECOMMENDED DFT

77°F (25°C)

| | |
|------------|-----|
| To Touch | 1/2 |
| To Handle | 2 |
| To Recoat* | 1 |
| Hard Dry | 12 |

*See additional Comments #1

THEORETICAL COVERAGE PER GALLON:

822 ft.² (20.14 m²/L) @ 1 mil DFT

411 ft.² (10.06 m²/L) @ 2 mils DFT

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

SUGGESTED FILM BUILD:

4.0 mils (100 µm) wet

2.0 mils (50 µm) dry

VOLUME SOLIDS:

51.3% avg.

WEIGHT SOLIDS:

72% avg.

WEIGHT PER GALLON:

11.7 Lb. Avg.

5.3 Kg Avg.

FLASH POINT (TAG CLOSED CUP):

20-73°F (-7 to 23°C)

PACKAGING:

1 gallon containers*

5 gallon containers*

*most colors. Call DuPont to check availability.

SHIPPING WEIGHT (LBS.) APPROXIMATE:

1 gallon container: 13

5 gallon container: 63

SHELF LIFE & STORAGE CONDITIONS:

Store in a dry, well-ventilated area. Storage conditions should be between -30°F (-34°C) and 120°F (-48°C).

- Shelf Life: 1 year minimum.
- Tufcote[®] 3.3 PR[™] may settle. Agitate before each use.

SAFETY:

Consult the Material Safety Data Sheet for this product prior to use.



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APPLICATION INSTRUCTIONS

SURFACE PREPARATION:

Commercial Blast SSPC-SP 6 is recommended. If not possible, clean to an SSPC-SP 2 Hand Tool Clean or SSPC-SP 3 Power Tool Clean with some sacrifice in performance. Steel surface should be clean, dry and free of any oil or dirt.

ACTIVATION:

No activation required.

POT LIFE:

Not applicable.

REDUCTION:

No further reduction necessary. Can be thinned up to 5% with DuPont TY-3810™ or TY-3819™. However, thinning greater than 5% will eliminate compliance with VOC limitation of 3.5 lbs/gal. See VOC chart.

APPLICATION THINNERS:

Spray DuPont TY-3810™
Brush, Roll DuPont TY-3819™

Normally no reduction should be required. See VOC information for amounts that can be added and still remain compliant at 3.5 lbs/gal VOC.

CLEAN UP THINNERS:

DuPont TY-3819™ or mineral spirits

APPLICATION CONDITIONS:

Do not apply if material, substrate or ambient temperature is below 40°F (4°C) or above 110°F (43°C). The substrate must be at least 5°F (3°C) above the dew point. Relative humidity should be below 90%.

APPLICATION EQUIPMENT:

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

BRUSH:

- ¼"- ½" nap Wooster Pro/Doo-Z roller cover. Keep roll wet. Roll in one direction, rewet, then cross roll.
- 2"-4" Wooster China Bristle Brush

CONVENTIONAL SPRAY:

| | <u>Binks</u> | <u>DeVilbiss</u> | <u>Sata</u> |
|--------------------|--------------|------------------|-------------|
| Spray Gun: | 2001 | JGA | K3RP |
| Fluid Nozzle: | 63BSS | FF (1.4) | 1.1 |
| Pot Pressure: | | | 12 |
| Atomizing Pressure | | | 36 |
| Air Cap: | 63PB | 765 | |

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HVLP SPRAY:

| | <u>Binks</u> | <u>DeVilbiss</u> |
|---------------|--------------|------------------|
| Spray Gun: | Mach 1 | GTi |
| Fluid Nozzle: | 94 (1.4) | 1.4 |
| Air Cap: | 94P | 2000 |

AIRLESS SPRAY:

| | |
|--------------------------------------|--------------------|
| Pump: | Graco Extreme 33:1 |
| Airless Gun: | Graco 207945 |
| Fluid Hose: | 3/8" x 100' max. |
| Tips: | 415-521 |
| Minimum pressure to avoid fingering: | 2400 psi min. |

ADDITIONAL COMMENTS:

1. Dry to recoat is by spray. If by brush or roll, will require 24-72 hours @ 70°F depending on solvency of topcoat.



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ASTM INFORMATION

Physical properties are for a system of Tufcote[®] 3.3 PR[™] and Imron[®] 3.5 HG[™]. For other system results, contact DuPont Technical Service.

| | | |
|---------------------------------------|--|--|
| ◆ Paint System | Tufcote [®] 3.5 PR [™] /Imron [®] 3.5 HG [™] | |
| ◆ Type/Color | alkyd red/urethane white | |
| ◆ DFT | 2.8/2.1 | |
| ◆ Salt Fog (ASTM B117) | 1000 hours | no rusting, very few #2 blisters at the scribe |
| | 2000 hours | no rusting, very few #2 blisters at the scribe |
| | 3000 hours | no rusting, medium > #2 blisters at the scribe, few #2 blisters on the face of the panel, 1/8" undercutting at the scribe. |
| ◆ Relative Humidity (ASTM D2247) | 1000 hours | no rusting, no blisters |
| | 2000 hours | no rusting, very few #2 blisters on the face of the panel |
| | 3000 hours | no rusting, few #2 blisters on the face of the panel |
| ◆ Dry Heat (ASTM D2485) | 250°F for 24 hours | no cracking, no blisters, moderate loss of adhesion, no discoloration |
| | | |
| ◆ Electrical Resistance (ASTM D2457): | 2.2X10 ¹⁶ | |
| ◆ Adhesion (ASTM D4521 A2): | 1875 psi | cohesive failure within the primer |
| ◆ Cleveland Cond (ASTM D4585): | 1000 hours | no rusting, few #4 blisters on the face of the panel |
| ◆ UV Con (ASTM D4587)* | 3000 hours | Gloss before exposure 80.7 |
| | | Gloss after exposure 76.4 |
| | Evaluation | no rusting, no blisters, no delamination |
| ◆ Impact (ASTM D2794): | 16 inch pounds | |
| ◆ Mandrel Bend (ASTM D522): | % Elongation - 18% | |
| ◆ Taber Abrasion (ASTM D4060): | weight loss in grams - 0.08 | |

*8 hr UV @ 50°C, 4 hr condensation @ 40°C, gloss readings @ 60°