



# Lusterless High Solids Polyurethane Topcoat

MIL-PRF-85285 Type 1, Class H  
F93 Series

## ADVANTAGES

- Qualified to MIL-PRF-85285E, Type I, Class H
- Contains less than 3.5 lbs/gal. (420 g/L) of VOC.
- Very low HAPS content <3% by weight
- Good anti-sag characteristics
- Free of lead and chromate hazards
- Two-Component system
- Available in all Federal Standard / AMS 595 lusterless colors.

## DESCRIPTION

MIL-PRF-85285E, Type 1, Class H coatings are two-component topcoats designed as a finish coat for military aircraft and equipment. They meet MIL-PRF-85285E, Type 1, Class H composition and performance specifications.

## COATING PROPERTIES

Solids:	Base Component	Admixed
By weight	52-75%	59-77%
By volume	42-58%	50-63%
Wt./Gal.	9.0-13.2 lbs./gal	9.1-12.4 lbs./gal
Sp. Gravity	1.08-1.58	1.09-1.48
Viscosity—Spray able #4 Ford Cup	20-60 seconds	
Admixed V.O.C.		
U.S. Exempt Solvent	<3.5 lbs./gal (420 g/L)	
Non-Exempt Solvent	<3.7 lbs./gal (445 g/L)	
Useable Pot Life at 77°F / 25°C, 0-65% R.H.	4 Hours	
Gloss:		
60 degree	5 units maximum	
20 degree	9 units maximum	
Theoretical Coverage		
Per dry mil	800-1000 ft. <sup>2</sup> / gal.	
Per 25 microns	20.03-24.64 m <sup>2</sup> / L	
Dry Film Weight		
Per dry mil	.0066-.0095 lbs. / ft. <sup>2</sup>	
Per 25 microns	32.1-46.3 g / m <sup>2</sup>	

## SHELF LIFE

Shelf Life is applicable only for materials stored in unopened and undamaged original factory filled containers.

Minimum Storage Temp: 40°F / 4°C  
Maximum Storage Temp: 100°F / 37°C

Product Number (F93 Series) Base Component: 1 year  
V93V26: 2 years

## SURFACE PREPARATION

### **Primers must be applied under the MIL-PRF-85285 topcoats.**

For **ferrous** substrates, use MIL-DTL-53022C, Type II primer, E90H226. MIL-DTL-53030B may also be used. For **non-ferrous** substrates, use MIL-P-22337J, Type I, Class C2, E90G203. **Testing:** Due to the wide variety of substrates, surface preparation methods, application methods, and environments, the customer should test the complete system for adhesion and compatibility prior to full scale application.

**Steel:** Surface must be clean and free of grease, dirt, oil, rust, fingerprints, and other contaminants to insure optimum adhesion and performance properties. Chemical pretreatment, (zinc phosphate) or DOD-P-5328D was primer, e.g. E90G4, gives the best adhesion and performance results. Where blasting is appropriate, blast in accordance with SSPC-SP6. For optimum adhesion pretreat blasted surface immediately. Prime with wash primer E90G40 within two hours after blasting.

**Aluminum:** Clean with acidic cleaner or other appropriate cleaner depending on contamination. Pretreat with chromate conversion coating MIL-DTL-5541F, wash primer DOD-P-15328D, E90G4, or anodize per MIL-A-8625F.

**Galvanized or other metals:** Clean and remove oxidation contamination on surface, followed by treatment with DOD-P-15328D wash primer, E90G4, or chemical pretreat with zinc phosphate. Due to the variability in these surfaces, testing adhesion on each situation is recommended.

## MIXING INSTRUCTIONS

Shake color component for 10 minutes before admixing.

Admix by Volume:

<b>4 Parts</b>	Component A F93 Series
<b>1 Part</b>	Component B V93V26

It is recommended to filter strain admixed and reduced paint before placing material in containers for spraying.

## Solvent Addition (Optional) 12 HR Mix Only

Up to ½ part of solvent CM0110933 may be used to improve application characteristics. This addition MAY exceed your local VOC allowance. Dry, cure, & over coating times remain unaffected. Consult your customer before use.

## APPLICATION

This product can be applied using conventional air spray, HVLP, Graco electrostatic airspray or air assisted airless equipment. Please consult your Sherwin-Williams representative for specific equipment settings.

1. Make sure pots, guns, and lines are purged and cleaned.
2. Mix thoroughly and filter strain before spray applying.

3. **Equipment Settings (i.e. Conventional settings):**  
Spray atomizing pressure: 50-60 psi (3.45-4.15bar)  
Pot pressure: 10-12 psi (0.69-0.83 bar) using a 60' fluid hose (3/8" diameter)  
Delivery Rate: 8-10 fluid oz (236-295 mL) per minute
3. Always air-blow and tack-wipe the surfaces to be painted. Electrostatic users: Ensure that the aircraft is properly grounded for potential static buildup.
4. Best application results are obtained by applying two medium wet coats, "tack-off" period between coats is not required.
5. If the dry time between coats exceeds 24 hours after dry to tape, the surface should be thoroughly abraded with 240 or 320 grit sandpaper and/or red abrasive pads.
6. Recommended dry film thickness is 1.8-2.3 mils. Some colors may require thicker films to achieve complete hiding.

NOTE: Application of these product systems requires recommended temperature / humidity conditions and film thickness ranges. The material, hangar, and aircraft skin temperature should be no lower than 55°F / 13°C before, during, and after application.

## DRYING SCHEDULE

Dry times are based on the dry film thickness of 1.8 – 2.3 mils and mixed according to the mixing instructions identified above.

### **Air Dry Times** (75°F / 25°C and 50% RH)

Tack Free	3-4 Hours
To Tape	6-8 Hours

### **Force Dry Times** (120°F / 50°C and 50% RH)

To Tape	3-4 Hours
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**Recoat Time:** (maximum) 24 Hours

NOTE: Lower temperatures, heavy film thickness, improper activator range selection and poor air movement will extend the dry time.

## EQUIPMENT CLEANUP

Clean tools/equipment immediately after use with MIL-T-81772, Type I. Follow manufacturer's safety recommendations when using any solvent.

Use clean Ketone-type solvents such as CM0110308 MEK. Do not allow material to cure inside equipment.

## PRODUCT INFORMATION

*Product Data Sheets are periodically updated to reflect new information relating to the product. It is important that the customer obtain the most recent Product Data Sheet for the product being used. The information, rating, and opinions stated here pertain to the material currently offered and represent the results of tests believed to be reliable. However, due to variations in customer handling and methods of application which are not known or under our control, The Sherwin-Williams Company cannot make any warranties as to the end result.*