SHERWIN-WILLIAMS

AEROSPACE COATINGS

PRODUCT DATA

Military Aerospace Coating

MIL-PRF-85285F, Type I and IV, Class H
F94 Colors (844 Series)

ADVANTAGES

- This product is qualified to the U.S. Naval Air Warfare Center (NAWC), Patuxent River, MD. military aircraft specification MIL-PRF-85285F, Type I and IV, Class H
- Fast dry times. (Improves shop processing flow)
- Good buffing characteristics.
- Chemical resistant, including Skydrol and other hydraulic fluids
- Exhibits outstanding gloss, and gloss retention upon weathering
- Excellent flow and leveling.
- Excellent Distinctness of Image (DOI)
- Contains less than 3.5 lbs/gal. (420 g/L) of VOC
- Very low HAPS content - <2% by weight
- Free of lead and chromate hazards
- Unlimited colors available.



DESCRIPTION

Sherwin-Williams military aerospace coating is a high performance, polyurethane topcoat designed for exterior use on military, general aviation and commercial aircraft. This coating meets the performance requirements of MIL-PRF-85285F, Type I and IV, Class H.

COATING PROPERTIES

	Base Component	Admixed
Solids:		
By weight	60.4 – 83.5%	50.7 – 60.7%
By volume	51.2 – 70.0%	43.8 – 46.8%
Wt./Gal.	8.3 – 12.6 lbs.	8.4 – 10.0 lbs.
Sp. Gravity	0.990 – 1.506	1.007 – 1.200

Viscosity–Sprayable	
Gardner #2 Zahn Cup (Signature Series)	15-18 seconds
Admixed VOC (Mixed 1:1:1/4 or 1/2 (Whites)	
U.S. Exempt Solvent	≤3.5 lbs./gal (420 g/L)
Useable Pot Life	
at 77°F / 25°C	4 Hours
Gloss:	
60 degree	90+ units
20 degree	80+ units
Theoretical Coverage	
Per dry mil	633-750 $ft.^2$ / gal.
Per 25 microns	15.53 – 18.41 m^2 / L
Dry Film Weight	
Per dry mil	0.006 – 0.008 lbs. / $ft.^2$
Per 25 microns	29.51 – 39.26 g / m^2

SHELF LIFE

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

Minimum Storage Temp: 35ºF / 1.7ºC
Maximum Storage Temp: 115ºF / 46ºC

Base Component F94 Series Colors:	36 months
CM0844H01 85285 Hardener:	12 months
CM0844AR4 85285 Reducer (Medium)	24 months
CM0844AR6 85285 Reducer (Fast)	24 months

SURFACE PREPARATION

Primed Surface

Sherwin-Williams military 85285 aerospace coating should be applied to a surface that has been coated with an approved, properly prepared and applied Sherwin-Williams Aerospace primer system.

Refer to Sherwin-Williams Primer Product Data Sheets such as CM0724933 or E90G203 - MIL-PRF-23377, Type I, Class C2 Epoxy Primers.

Contact your Sherwin-Williams Representative for complete details.

MIXING INSTRUCTIONS

Shake color component for 10-15 minutes before admixing.

Admix by Volume:

1 Part	Military 85285 Color - Gloss **F94 Colors (844 Series)**
1 Part	MIL-PRF-85285 Hardener **CM0844H01**
1/2 Part	MIL-PRF-85285 Activated Reducer **CM0844AR6 (Fast) or CM0844AR4 (Medium)** White / Light Colors (90% of More White)
OR	
1/4 Part	MIL-PRF-85285 Activated Reducer **CM0844AR6 (Fast) or CM0844AR4 (Medium)** All other Colors – less than 90% white in the formula

Admixed product should be allowed a 30-minute induction time for optimum application performance.

SPECIAL HIDING COAT MIXING

Establish that the final color requires the high hide system by pre-spraying **Black and White** coupons for acceptable opacity & color match to customer's specifications before the aircraft repaint.

In order to improve opacity for weak hiding strong organic colors, the following system may be used to achieve full opacity in 2-4 coats. This system should be used in color matching in order to minimize possible color discrepancies.

Hiding coat mixing (by Volume):

F94 Color	1 Part
CM0844000 Base White	1 Part

This hiding coat color is mixed at the following ratio: 1:1:1/4

Apply one closed film coat of the hiding coat. Allow 30-45 minutes to dry followed by two to three medium wet coats of the true topcoat color. Allow 30–45 minutes between coats.

Note: Air temperature, air flow, & AC skin temperature will influence intercoat overcoating times.

Touch test: Touch a suitably masked but painted area, The coatings is ready to recoat when it will not readily transfer to a gloved hand.

APPLICATION

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

Best application results are obtained by applying two medium wet coats, allowing a 30-45 minute "tack-off" period between coats.

Recommended dry film thickness is 2-3 mils (50-75 microns). 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 55ºF / 13ºC before, during, and after application.

DRYING SCHEDULE

Dry times are based on the dry film thickness of 2-3 mils (50-75 microns) and use of CM0844AR6 as the Activated Reducer.

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

Tack Free	3-4 Hours
To Tape	8-10 Hours

Force Dry Times (120-140°F/ 50-60°C)

To Tape	2-3 Hours

Product should dry or flash for at least one hour before placing in higher temperature.

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

RECOATING THE DRY TOPCOAT SURFACE

For best adhesion of trim colors to the cured urethane base coat, a thorough scuff sanding is recommended. Scuff sanding and cleaning will assure long-term durability and adhesion of the applied coating. Refer to Sherwin-Williams' process and training guides for cleaning.

EQUIPMENT CLEANUP

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.