

Product Description

AeroPel™ APW100 is a two-component water-based nanocomposite protective layer (NPL) designed to protect aerospace metallic substrates from corrosion damage. NPL has excellent properties in creating a low-energy surface to disperse moisture and prevent penetration into the metallic substrate. NPL is transparent and is suitable as a topcoat application to a wide range of existing protective coating systems. NPL may also be applied directly to various aerospace metallic substrates for corrosion protection.

Intended Uses

For metallic structures of aircraft and ground support equipment.

Product Data

Finish:	Semi-Gloss
Color:	Transparent
Components:	Part A and Part B
Mass Density:	9.18 lb./gal (1.1 g/cm ³)
Viscosity:	Zahn #2- 60s, Ford #4- 73s
Volume Solids:	18% ± 2%, mixed
VOC (mixed):	<50 g/l
Mix Ratio:	33:1 by weight
Induction:	None
Reducer/Thinner:	None
Shelf Life:	12 Months
Storage*:	35 – 115 °F (2 – 46 °C) *Do not allow to freeze.
Pot Life:	24 Hours
Cleanup:	Water, 70+% Isopropyl

Recommended Thickness	
Final DFT (mil)	1.0 – 2.0
WFT per coat (mil)	3.0 – 5.0
Number of Coats	2.0 +
Theo. Coverage (ft²/gal)	290 @1mil

*Vertical surface may require less WFT and more coats

Average Drying Times @ 5.0 mil WFT & 60% RH	
77°F (25°C)	
Dry to Touch	60 min
Overcoat	
Minimum	60 min
Maximum	4 days
Cure to Service	24 hours

If maximum recoat time is exceeded, refer to the application guide.

Surface Preparation

Apply APW100 to a clean, dry, contaminant-free and water-break-free surface. A wide range of preparation techniques are applicable for various metals. It is recommended to refer to your specification requirements. Reference the application guide for environmental, cleanliness and preparation requirements.

Recommended Surface Preparation:

Primer & Topcoat Systems	Matte Finish, ASTM F21/22 Water-break free surface
Steel Alloys	NACE No.1 / SSPC SP5, White Metal Blast Cleaning. 0.5-1.8 mil profile SSPC-SP 11, Bare Metal Power Tool Cleaning
Aluminum Alloys	Chromate conversion coating, Alodine. Water-break free surface.

TECHNICAL DATA SHEET

Series: APW100



Application

Conventional Spray

Gun: HVLP, LVMP, Conv.
Tip Size: 1.8 mm
Air Quality: Clean & Dry per ASTM D4285
*Equivalent equipment may be substituted

Roller

Cover: High Density Foam

Brush

Bristle: Synthetic Polyester / Nylon
High Density Foam

Example Systems*

Multicomponent Systems

Primer Systems

MIL-PRF-23377 Ty I, II, CI N *0.6-0.9 mil*
Aerapel™ APW100 *1.0-2.0 mil*

MIL-DTL-53022 Ty IV, CI L, U *1.3-1.7 mil*
Aerapel™ APW100 *1.0-2.0 mil*

Topcoat Systems

MIL-PRF-85285, Ty I, II, III, CI H *1.7-2.3 mil*
Aerapel™ APW100 *1.0-2.0 mil*

Direct to Substrate

Class A: Steel Alloys

Aerapel™ APW100 *1.0-2.0 mil*

Class B: Aluminum Alloys

Bondrite® M-CR 1201™ Aero *Conversion*
Aerapel™ APW100 *1.0-2.0 mil*

*Example systems are not exhaustive, other systems may be appropriate for use with APW100.

Warranty

Oceanit warrants APW100 to be free of manufacturing defects upon departure from origin facility. Oceanit's sole obligation under this warranty shall be, at Oceanit's election, to repair, replace or refund the purchase price of the defective product. No other warranty or guarantee of any kind is made, implied, or expressed regarding performance and application of product and the surfaces they are applied to. Oceanit has no control over the quality of application nor preparation of surfaces.

Environmental Conditions

Temperature

Ambient Air: 50° – 110 °F
Substrate: 50° – 110 °F
Material: 50°F minimum

Dew Point Differential (ΔD_p)

Application advised: $\Delta D_p > 10^\circ\text{F}$
Application cautioned: $5^\circ\text{F} < \Delta D_p < 10^\circ\text{F}$
Application not recommended: $\Delta D_p < 5^\circ\text{F}$
Note: ΔD_p is the difference of the ambient and surface temperature from the measured dew point temperature.

Relative Humidity (RH)

Application advised: RH < 65%
Application cautioned: 65% < RH < 80%
Application not recommended: RH > 80%

Considerations

- Mix product mechanically for 15 minutes and avoid foam generation caused by aggressive mixing. Mixed product should be slightly opaque white. Strain before use.
- Apply on test surface prior to application to adjust equipment for optimal surface finish quality.
- Reference the Application Guide prior to use.
- This product is for professional use only.

Health, Safety, Environmental

Refer to the SDS prior to use.

Disclaimer

Except as expressly set forth herein, all other conditions, representations and warranties, whether express, implied, statutory or otherwise, including, without limitation, any implied warranty of merchantability, fitness for a particular purpose or non-infringement of third-party rights, are hereby disclaimed to the maximum extent permitted by applicable law.

Aerapel™ APW100 is not currently qualified under any specification, although it may be used in conjunction with existing coating systems.

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