



## **POLYTHANE CP-500 SERIES**

### **DESCRIPTION:**

Polythane is a two-component, urethane type, coating which has great resistance to yellowing and chalking and retains its superior gloss. Polythane exhibits excellent chemical, corrosion and abrasion resistance and is extremely flexible. Polythane is fire retarding and has a fire spread of less than three, when applied over a non-combustible surface. It has flight item approval for the aerospace industry.

### **FINISH:**

Gloss, Semi-Gloss, Flat

### **USES:**

Polythane possesses very high resistance to gasoline, oils, acids, infrared, ink, methiolate, fumes, mildew, chemicals and hydrocarbons. Polythane offers superb exterior surface protection, from sun, rain, wind, ice and sleet, due to the coating's ability to withstand weathering.

Aerospace	Ships	Laboratories	Machinery	Marine & Saltwater
Offices	Corridors	Restaurants	Galvanized Metal	Acid Service
Kitchens	Washrooms	Fiberglass	Oil Well Equipment	Battery Racks
Aluminum	Laundries	Classrooms	Storage Tanks	Restrooms
Woodwork	Dairies	Gas Stations	Machine Shops	Electronics
Barges	Hospitals	Tank Wagons	Bowling Lanes	Equipment

### **FILM PROPERTIES:**

Air Dry Time: 6 to 12 Hours @ 77°F – Depending On Humidity

Re-coat Time: 3 to 12 Hours @ 77°F – Depending On Humidity

Complete Cure: 7 Days

Bake Schedule: 150°F For 60 Minutes

200°F For 45 Minutes

250°F For 30 Minutes

Tests have shown the paint film exhibits the same Sward Hardness whether baked or air-dried.

### **APPLICATION:**

425 Square Feet per Gallon @ 2 Mils

Apply with brush, spray or roller. Sandblast metal to white metal or wire brush and treat with Alphas-40 Metal Conditioner. Consult a Preservo Paint technician to choose the appropriate primer for your substrate. Mix one part Polythane Part A with one part Polythane Part B, mix thoroughly and allow to set for 30 minutes before thinning and using. After adding the activator and inducting for 30 minutes, the pot life is approximately 24 hours at 77°F. Higher temperatures will decrease and lower temperature will increase the pot life.

### **THINNING AND CLEANUP:**

S-04 Polythane Reducer

### **AVAILABLE IN:**

Polythane is available in white, black, clear, metallics and colors, including Federal Standard 595B. It is also available, on special order, in a fast dry formulation.



**POLYTHANE CP-500 SERIES**

**LABORATORY TESTING REPORT**

**PHYSICAL PROPERTIES:**

Gloss 60°/20°	98/86
Pencil Hardness	F
Mar Resistance	Excellent/Very Good
Direct Impact – Pass	160 Ft. Lbs.
Reverse Impact – Pass	40 Ft. Lbs.
Flexibility – 1/8” Mandrel Bend	Pass
Abrasion Resistance (Milligrams weight loss per 1000 cycles using C-17 wheels.)	32 Grams
Scrub Resistance	Outstanding
Stain Removal	Excellent
Yellowing Resistance	Excellent
Permeability	.11

**FLAMMABILITY OF DRIED FILM (0 – 25 Range):**

Flame Spread	0 - 5
Fuel Contribution	0
Smoke Developed	0

Test Results: Will not add combustibility to non-combustible substrate.

**FILM PROPERTIES:**

Gloss Retention (Florida South 45° Exposure)	10
Salt Spray 1000 Hours	10
Humidity 1000 Hours	10

0 – Worst (Complete Failure)  
10 – Best (No Effect)

**POLYTHANE CP-500 LABORATORY TESTING REPORT -- PAGE 2**

**CHEMICAL RESISTANCE**

<u>Chemicals (24 Hour Exposure)</u>	<u>Polythane</u>	<u>Two Component Epoxy</u>
1% Tide	10	10
10% Sulfuric Acid	10	7
25% Sulfuric Acid	10	0
50% Sulfuric Acid	10	2
5% Acetic Acid	10	7
50% Acetic Acid	10	0
Formic Acid	10	0
10% Hydrochloric Acid	10	6
10% Phosphoric Acid	10	6
50% Phosphoric Acid	10	2
5% Sodium Hydroxide	9	10
10% Ammonia	10	10

Solvents (24 Hour Exposure)

Gasoline	9	10
Xylol	8	10
Ethyl Alcohol (50%)	10	0
Water	10	10

Stain Resistance (24 Hour Exposure)

Mustard	10	6
Lemon Juice	10	9
Tomato Paste	10	9
Grape Juice	10	9
Coffee	10	6
Iodine	10	0
Merthiolate	10	0
Lipstick	10	8
Washable Ink	10	0

**Mildew Resistance**

Federal Test Method Standard 141

Method 6271 – Incubation time 7 days. Does not support growth.

0 – Worst (Complete Failure)

10 – Best (No Effect)

## **POLYTHANE CP-500 – LABORATORY TEST REPORT**

### **CHEMICAL RESISTANCE TO SULFURIC ACID AT ELEVATED TEMPERATURES**

Two samples were submitted for resistance to sulfuric acid at various temperatures. The initial concentration of the sulfuric acid was 36.2% (specific gravity =1.278). The acid bath was heated with a lid but was not capped tightly; at the end of the test period the concentration of sulfuric acid was 38.5% (specific gravity = 1.294).

The two samples were placed in the sulfuric acid bath and were removed once a day for examination. Equilibration of the bath temperature was accomplished during the examination time.

Day 1 Temperature 74-78°F

Day 3 Temperature 114-118°F

Day 2 Temperature 94-97°F

Day 4 Temperature 135-138°F

Sample A was not spark tested. It was quite thin along the sharp edges. There was an immediate slow evolution of gas at the edges of the partially immersed sample at 74-78°F, thus indicating the presence of pinholes. After 24 hours, there was no evidence of blistering, flaking, adhesion loss, nor loss of gloss.

After 24 hours at 94-97°F, Sample A exhibited very definite lines of dense small blisters (ASTM-D714-56, size 6) along the four edges to the immersion line. The face of the panel and the portion, which was not immersed, were not adversely affected.

After 24 hours at 114-118°F, the panel exhibited blisters (size 4-6) approximately 1/8" from the edges. The portion above the immersion line had no adverse effects.

At 135-138°F, hydrogen evolution at the edges was quite vigorous. The metal had been removed approximately 1/4" from the submerged edges. The coating itself still adhered well, showed little to no undercreep, and retained its original physical properties. Above the immersion line the panel was not adversely affected.

Sample B had initially been spark tested and was pinhole free. There was no flaking, blistering, loss of adhesion, or physical deterioration of the coating. No bubbles of gas were observed on the surface of the sample at any time it was in the bath.

#### **SUMMARY:**

This coating shows excellent resistance to sulfuric acid under these conditions. However, good application is mandatory as rapid failure occurred at sharp areas on the non-spark-tested panel.

LABORATORY TESTING PERFORMED AT COASTAL SCIENCE ASSOCIATES, INC. 1-19-79  
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Director of Research

**POLYTHANE CP-500**

**ELECTRICAL PROPERTIES OF POLYTHANE CP-5002 CLEAR**

**SCOPE:**

The determination of the electrical resistance of dry paint films on an aluminum substrate according to ASTM D-257.

**TEST PREPARATION:**

The panels were sandblasted to a .50 mil profile. A total dry film thickness of 2 mils, 3 mils, 5 mils and 5.5 mils was applied. The samples were allowed to dry for seven days at 75°F.

**RESULTS:**

CP-5002 was mixed 50/50 part A and part B.

<u>Measured Film Thickness (mils)</u>	<u>Volume Resistivity OHM-Centimeters</u>
2.00	$2.26 \times 10^{14}$
3.00	$3.67 \times 10^{14}$
5.00	$3.71 \times 10^{14}$
5.50	$9.61 \times 10^{14}$

The difference in the volume resistivity measurement, for each of the different panels, is probably due to the thicker paint films retaining traces of solvents longer. Force dry curing of the paint films could reduce this considerably.