SHERWIN-WILLIAMS
Chemical Coatings

TECHNICAL INFORMATION

TWO COMPONENT WATERBORNE POLYURETHANE
COYOTE BROWN
F93N506

PRODUCT DESCRIPTION

This two component waterborne polyurethane is similar in performance and composition to products qualified to MIL-DTL-64159, Type II.

Advantages

1. VOC of less than 1.8 lb/gal.
2. Less than 1.07 lb/gal Volatile Organic Emissions.
3. Reduces with water - means considerable cost savings in solvents.
4. Low odor.
5. Excellent atomization.
6. Smooth finish.
7. May be applied with three-component equipment.
8. Free of lead and chromate hazards.
9. Excellent exterior durability.

CHARACTERISTICS

Gloss - 1.8-2.2 mils dry

60°	3.0 units maximum
85°	8.0 units maximum

Volume Solids (varies by color)

Component A	38%
Component B	69.3 ± 1%
Admixed	48%

Weight Solids

Component A	48%
Component B	75 ± 1%

Viscosity
20-27 seconds, #3 Zahn Cup
catalyzed and reduced

Recommended Film Thickness
1.8-2.2 mils dry

Spreading Rate (no application loss)
770 sq ft/gal at 1.0 mil DFT

Drying (77°F, 50% RH)

To touch	60 minutes
Dry hard	6 hours
Dry through`	8 hours
Cure	7 days

Force dry - Medium wave length IR equipment is highly suggested. In a convection oven flash 1 hour, then dry 45 min. at 180°F. Flash time is dependent on air movement, humidity and temperature. The 1-hour flash can be reduced with an air dehydrator or fans to help remove the water. Contact your Sherwin-Williams representative for more options for force drying.

CHARACTERISTICS - continued

Flash Point 200°F

Mixing Ratio by volume
2 parts Component A
1 part Component B (V93V502)
0.50 part Deionized Water
See Application section for details.

Pot Life 4 hours

Packing Life 12 months, unopened

Air Quality Data
Non-photochemically reactive
Volatile Organic Compounds (VOC)
Component A as packaged,
maximum lb/gal, 120 g/L
Component B as packaged,
maximum 2.2 lb/gal, 266 g/L
catalyzed and reduced as above,
maximum 1.80 lb/gal, 216 g/L
Volatile Organic Emissions
Component A as packaged,
maximum 0.44 lb/gal, 53 g/L
An Environmental Data Sheet is available from your local Sherwin-Williams facility.

APPLICATION -Typical Setup

Special Mixing Instructions
Component A should be shaken 5 minutes on Red Devil type shaker before opening. Mix Component B into Component A for 3 minutes using a mechanical mixer. Sherwin-Williams highly recommends the use of a SQUIRREL MIXER™. An air drill capable of 2000 rpm is also a necessity. Contact your Sherwin-Williams representative for an initial demonstration. The viscosity of the admixed components increase. Reduce to spray, then mix well.

Conventional Spray

Air Pressure	45-60 psi
Tip	.070”

Air Assisted Airless

Air Pressure	50 psi
Fluid Pressure	2100 psi
Tip	611

HVLP

Air Pressure	65 psi
Fluid Pressure	5-10 psi
Tip	070”

Clean Up
Clean tools/equipment immediately after use with water. Then flush equipment with MIL-T-81772, Type I Thinner, R91K20, to prevent rusting. Another method is the use of Acrastrip®600 BIG MOD (Military) manufactured by Polychem, U.S. patent #5,972,856.
Follow manufacturer’s safety recommendations when using any solvent.

SPECIFICATIONS

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-15328 Wash Primer, E90G4, gives best adhesion and performance results. Where blasting is appropriate, blast in accordance with SSPC-SP6. For optimum adhesion pretreat blasted surface. Prime with Wash Primer, E90G4 within two hours after blasting.
Aluminum - Clean with acidic cleaner or other appropriate cleaner depending on contamination. Pretreat with chromate conversion coating (MIL-C-5541), DOD-P-15328 Wash Primer, E90G4. Due to the variability in these surfaces, testing adhesion in each situation is recommended. See below for primers.
Primers: For **ferrous** substrates, use MIL-P-53022B Primer, e.g. E90W201 (Type I), E90H226 (Type II, faster recoat) or MIL-P-53030, E90W501.
For **non-ferrous** substrates, use MIL-PRF-85582D, E90Y500 (Type I, Class C), MIL-PRF-23377H, 90G203 (Type I, Class C, 2.8 VOC), MIL-P-53022B (see above) or MIL-P-53030.

Check the data sheet of each primer for recoat time of topcoat, e.g. E90H226, can be topcoated in 20-30 minutes air dry.

See MIL-C-53072C for details.

Testing - Due to the wide variety of substrates, surface preparation methods, application methods, and environments, the customer should test the complete system prior to full scale application.

Product Limitations

1. These coatings (Component A) must be catalyzed with Catalyst (Component B), V93V502, at 2:1 ratio by volume.
2. Do not use other catalysts or isocyanates other than V93V502. Do not vary catalyst mixing ratio.
3. Component a must be well agitated prior to use by using a Red Devil type shaker.
4. Component A, Component B, and reducer must be mixed with a Squirrel Cage mixer and air drill or using proper two component equipment.

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5. Potlife will be shorter under warmer temperature.
6. Force curing prior to the water evaporating will result in a soft film. However, after seven days, full cure will be obtained.

CAUTIONS

Thoroughly review product label for safety and cautions prior to using this product.

A Material Safety Data Sheet is available from your local Sherwin-Williams facility.

Please direct any questions or comments to your local Sherwin-Williams facility.

Use only with adequate ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, or wear respiratory protection (NIOSH approved) or leave the area.
Adequate ventilation required when sanding or abrading the dried film. If adequate ventilation cannot be provided, wear an approved particulate respirator (NIOSH approved). Follow respirator manufacturer's directions for respirator use.
Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage.

FIRST AID - In case of eye contact, flush thoroughly with large amounts of water. Get medical attention if irritation persists. If swallowed, call Poison Control Center, hospital emergency room or physician immediately.

Spill and Waste - Remove all sources of ignition. Ventilate and remove with inert absorbent. Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with federal, state, and local regulation regarding pollution.

CAUTIONS -continued

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE.
Abrading or sanding of the dry film may release crystalline silica which has been shown to cause lung damage, and cancer under long-term exposure.

WARNING - This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

DO NOT TAKE INTERNALLY.
KEEP OUT OF REACH OF CHILDREN.
FOR INDUSTRIAL USE ONLY.
SEE MATERIAL SAFET DATA SHEET, 3908-100402.

Catalyst contains Isocyanates. People who have chronic (long term) lung or breathing problems or have had a reaction to isocyanates must not be in the area where this product is being applied. When overspray is present, a positive pressure air supplied respirator should be worn. If unavailable, a properly fitted organic vapor/particulate respirator may be effective. Consult catalyst MSDS, and product label for complete handling instructions.

Note
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 results.

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