Spectrum COATINGS, INC.

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MIL-DTL-53030D TYPE II

WATER BORNE EPOXY PRIMER
WE2K-720
LEAD & CHROMATE FREE / LOW VOC / HAPS FREE

DESCRIPTION

Mil-DTL-53030 Type II Water-borne Epoxy Primer is a corrosion-inhibiting air drying primer for pre-treated ferrous and non-ferrous metals. This primer is lead and chromate-free and is compatible with chemical agent resistant aliphatic polyurethane topcoats. The specification calls for this primer to contain no more than 340 grams per liter (2.8 pounds per gallon) of volatile organic compounds (VOC) as applied. Spectrum Coatings' version, WE2K-720 has only 168 grams per liter (1.4 lbs./gal), in accordance with South Coast Air Quality Management District Rules 1107 and 1124. This primer is HAPS Free.

WE2K-720 is approved for use by the Army Research Laboratory for use by all departments and agencies within the Department of Defense.

Primary applications include the priming of military vehicles, apparatus, missiles, aircraft and all forms of ground support equipment.

ADVANTAGES

- HAPS Free
- Excellent Chemical Resistance
- Superior Exterior Durability
- Superior Salt Spray Resistance
- Excellent Recoatability
- Meets SCAQMD Rules 1107 & 1124 VOC requirements
- Easy Water Clean Up
- Lead & Chromate Free
- Non-Flammable

PHYSICAL PROPERTIES

Gloss: 60º 25% Max.
Pot Life: 6 Hours
Recommended Film Thickness: 1.0—1.5 mils
Coverage: No Application Loss
700 sq.ft./gal @ 1.0 mils DFT
Dry Times: (77ºF, 50% RH)

To Touch:	45-60 mins
Hard:	2 Hours
Handle:	4-6 Hours
Topcoat:	2-4 Hours

Air Quality: VOC ≤ 1.4 lbs. / gallon, minus water

Flexibility:
1/4" Mandrel 180º Bend: PASS

Wet Adhesion:
FED-STD-141, Method 6301

Salt Spray Resistance:
Significantly Exceeds Specification Requirements ASTM B 117

Chemical Resistance:
Meets or Exceeds Specification Requirements
Water: ASTM D 1308
168 Hours Immersion

Hydrocarbon Resistance
TT-S-735 Type III:
168 Hours Immersion

Fluid Resistance
24 Hour Immersions:
MIL-L-23699 Lube Oil @ 250°F
MIL-H-83282 Hydraulic Oil @ 150°F
MIL-H-5606 Hydraulic Oil @ 150°F

Super Tropical Bleach (STB)

APPROVED MILITARY TOPCOATS

Mil-DTL-64159 WB CARC Urethane
Mil-C-53039 Urethane
Mil-DTL-53039 Urethane
Mil-PRF-85285 Urethane
Mil-C-22750 Epoxy Topcoat
Mil-PRF-22750 HS Epoxy

APPROVED PRETREATMENTS

- MIL-A-8625 Anodizing Coating
- DOD-P-15328 Green Wash Primer
- MIL-C-8514 Wash Primer
- TT-C-490 Zinc Phosphate
- MIL-C-5541 Chromate Conversion

Chemical Agent Resistant Coating (CARC) System Application Procedures and Quality Control Inspection specification **Mil-DTL-53072C** should be referenced for proper cleaning, pretreatment and priming of different substrates. This primer is intended to be applied over pretreated metals.

KIT PACKAGING

1.25 Gallon Kit **8010-01-603-2127**
- One Gallon of Component A
- 1 Quart Component B

5 Gallon Kit **8010-01-588-4314**
- Four Gallons of Component A
- 1 Gallon Component B

Spectrum Part Numbers:
Component A WE2K-720-A
Component B WE2K-720-B

Qualification: Q-1933

CLEANING, PRETREATING & PRIMING

Cleaning: Surfaces must be clean and free from dirt, dust, rust, oil, finger marks, and other contaminants. Improperly cleaned surfaces can limit or interfere with paint adhesion, causing subsequent paint loss in service, which will affect physical performance of coating and leave the substrate unprotected from the environment. Unless otherwise specified, the surface should be thoroughly cleaned according to TT-C-490.

Steel: Where blasting is appropriate, blast in accordance with Steel Structures Painting Council (SSPC) Specification SSPC-SP-6 to remove mill scale, products of corrosion, dirt, casting, sand, slag, and other foreign substances. Blast-cleaned surfaces that are to be pretreated with wash primer shall be chemically treated within four hours and dried for at least one hour at 70ºF to ensure completeness of the chemical reaction prior to application of a primer.

Aluminum: Depending upon contamination, clean with acidic cleaner or other appropriate cleaner. Pretreat with chromate conversion coating (Mil-C-5541), DOD-P-15328 Wash Primer (Spectrum # GWP-421), or anodize per Mil-A-8625.

MIXING

Mix Ratio: (by volume)

Component A	4 Parts
Component B	1 Part
Deionized Water	1/4 Part

Always mix Part B into Part A using **vigorous mechanical agitation** (ie: Jiffy mixer) to insure the proper incorporation of both components.

The primer from one vendor, or component thereof, shall never be mixed with that of another vendor.

Shelf Life: (50-80ºF, ~50% R.H.)
1 Year from DOM, Unopened

Proper Mixing Instructions:

1. Using a paint mixer, stir contents of Part A until completely blended.
2. Pour Part A into mixing container.
3. While stirring Part A, create a whirlpool effect and **slowly** pour the appropriate quantity of Part B in. **Never pour Part B into Part A while not stirring!**
4. Thoroughly mix until all of Part B is incorporated into Part A.
5. No induction time required, let mixed material stand for 5 minutes.
6. Pour in appropriate quantity of deionized water, mix for 1-2 minutes.
7. Mixture is now ready to spray!

Notes:

- **Water Reduction**: Always use Deionized Water to thin the coating. Thinning ratio may vary depending upon temperature, humidity, spray equipment, and application.Water reduction ratio should never exceed 1/4 part.
- MIX ONLY THAT AMOUNT OF PRIMER TO BE USED IN 6 HOURS.
- A paint shaker can be used in conjunction with a mixer, but the use of a shaker alone **does not** properly mix Part A, or Parts A & B together.

APPLICATION

This material may be applied by any conventional spray method including HVLP systems. Spray application can be accomplished with one full wet coat. To obtain specification performance properties, it is necessary to apply the coating to a dry film thickness of 1.0 - 1.5 mils. Recommended wet film thickness is 2.0 to 3.5 mils**. When applying, do not exceed 4 wet mils.**

Conventional Spray

- Air Pressure 30-45 psi

HVLP

- Air Pressure 65 psi
- Fluid Pressure 8-15 psi

Air Assisted Airless

- Air Pressure 50 psi
- Fluid Pressure 2100 psi

Tip size can vary depending upon desired spray pattern, size of gun, and desired flow rate. Tip size and line length can necessitate changes in these recommended pressures.

CLEANUP

Clean tools, mixing/spray equipment immediately after use with warm water. After warm water rinse, flush equipment with Isopropyl Alcohol or Acetone.

CURING

Production Applications:

- **Air Dry** (77ºF, 50% R.H.)
  - To Touch: 45-60 mins
  - Dry Hard: 2 Hours
  - To Handle: 4-6 Hours
  - Topcoat: 2-4 Hours
- **Force Dry**
  - To Handle:

  Allow sprayed part to air dry for 2 hours @ ~77ºF before force drying @:
  - 150º F 2 Hours or
  - 200º F 1 Hour

For packaging, allow parts to dry overnight for both air and force drying.

Quality Control—Test Curing:

- **Air Dry** (77ºF, 50% R.H.)
  Allow 7-10 Days Before Testing
- **Force Dry**
  Air Dry for 4 Days then
  Force Dry 24 Hrs @ 225ºF then
  Allow to Air Dry for 24 Hrs Before Testing

IMPORTANT NOTE: The above information is supplied as a guideline to our customers. The user must be aware of the cleaning, primer, pretreatment, application and testing requirements for their specific job.

PRODUCT LIMITATIONS

Do not vary catalyst ratio, this material has been formulated to achieve its optimum performance properties at listed ratios. Do not heat while applying, mixing, or storing. Heat shortens the pot life and shelf life of the materials. Protect all Spectrum Epoxy products from moisture, heat, and store inside in ambient conditions. Temperature and humidity will effect drying times, cure rate, and color.

All recommendations, statements, and technical data contained herein are based upon tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. User shall rely on his/her own information and tests to determine suitability of the product for the intended use and assumes all risks and liability resulting from his/her use of the product.