



CFFS POLYUREA-2 ULTRA™ ALIPHATIC POLYUREA

Product Description

CFFS Polyurea-2 Ultra is a single component, 100% solids, VOC Compliant, Aliphatic Polyurea that was developed for high gloss UV-stable floor topcoats. This coating provides reliable performance in a wide range of temperatures and climate conditions. Polyurea-2 Ultra has excellent resistance to UV rays, excellent abrasion resistance, and resistance to many of today's harshest chemicals.

Product Features

- ❖ Displays excellent adhesion characteristics to a variety of substrates / coatings.
- ❖ 24 hour pot life increases the workability of the coating, providing uniform topcoat applications.
- ❖ Will provide a glossy smooth finish when cured.
- ❖ Coating displays excellent chemical and abrasion resistance.
- ❖ Emits virtually no odors and can be applied indoors with minimal disturbance to surrounding activities.
- ❖ 100% UV-Stable Aliphatic Chemistry
- ❖ Versatile, crystal clear topcoat for use on both horizontal and vertical applications.
- ❖ Can be used for immersion and non-immersion service.
- ❖ Single component means no possible mixing errors, thus eliminating the human error factor.
- ❖ Extended cure time delivers great self-leveling properties and glass-smooth finishes.

Primary Applications

- ❖ Heavy traffic areas
- ❖ Aircraft hangar floors
- ❖ Maintenance facilities
- ❖ Offshore platforms
- ❖ Industrial shop floors
- ❖ Commercial kitchens
- ❖ Bathrooms and Lavatories
- ❖ Chemical manufacturing plants
- ❖ Wastewater treatment applications
- ❖ Bar, table and countertop sealer

Packaging

Product is sold CLEAR. Poly-2 Ultra is packaged in a 5 gallon bucket containing two, 1 gallon pouches and two stabilizer shots.

Typical Physical Properties

| | | |
|-----------------------------|--------------------------|------|
| Tear Strength (PLI) | ASTM 2240 | 800 |
| Hardness, Shore D | ASTM D2240 | 84 |
| Flexibility, 1/8" Mandrel | ASTM D1737 | Pass |
| Abrasion Resistance | ASTM D4060 | |
| CS-17 Wheel (1,000 gm Load) | 28 mg Loss / 1000 cycles | |
| Gloss | ASTMD-523 @60° | 91+ |
| Permeability | .038 WVT | |
| VOC Content | <1 g/l | |
| Impact Resistance | ASTM D2794 | |
| | Direct - 70 IN-LB-FT | |
| | Reverse - 160 | |

Typical Processing Properties

| | |
|--------------------------------|---------------------------|
| Single Component - 72°F (24°C) | Tack Free-2-4 hours |
| Relativity Humidity - 54% | Hard dry-3-6 hours |
| | Recoat Minimum-4 hours |
| | Recoat Maximum - 12 hours |

Use within 24 hours after activation of material.

Return to Service 48 Hours

Coverage: 1,600 square feet, per gallon, per mil.

Recommended Coverage

| | |
|-----------------------------|----------------|
| Topcoat Over Smooth Surface | 100-600 sf/gal |
| Direct to Concrete | 200-500 sf/gal |

**** Not recommended direct to concrete over shot-blast Profile****

VOC compliant in all 50 states and Canada

Adhesion Results

ASTM D-4541 Elcometer

| | | |
|--------------------|------------------|----------|
| Concrete-no primer | concrete failure | >500psi |
| Steel- primer | shear failure | >2000psi |

Temperature

40°F - 100°F (4°C - 38°C)

Optimal installation temperature is 65°F -80°F (18°C -27°C).

Cold applications may slow the cure time.

Surface Preparation

Concrete

Sand blasting, diamond grinder w/30 grit or coarser or acid etching is required to remove the surface laitance that appeared during the curing process. This will also help to remove surface contaminants. Shot blasting is not suggested. Any oils or fats must be removed prior to product application. Do not apply to wet substrates. Chloride, moisture and pH levels should be checked prior to application. For new concrete, the concrete should be allowed to cure for a minimum of 30 days unless using a CFFS Ultra-Hydro Stop Primer. Prepared surface must achieve a profile of CSP-2 to CSP-3 as described under ICRI Technical Guideline No. 03732. CFFS Eco-Prime can be used to reduce outgassing of successive coatings.

Aluminum, Galvanized Steel, Non-Ferrous Metals

All metals must be prepared to a near white surface that is equivalent to SSPC 10 or NACE 2. For immersion service, a 3 mil blast profile is recommended. A 2 mil profile is generally accepted. CFFS Poly100-SC Primer/Basecoat or CFFS Eco-Prime must be used prior to applying CFFS Polyurea-2 Ultra.

Fiberglass

The gel coat must be abraded to allow a mechanical bond of the coating. Sanding using 40-60 grit sandpaper is generally acceptable. Remove all latent dust and clean the surface to be coated using a solvent such as MEK. Allow minimum of 30 minutes prior to coating to allow MEK to completely flash off. CFFS Poly100-SC Primer/Basecoat should be used as the adhesive primer prior to applying Polyurea-2 Ultra.

Wood

Polyurea-2 Ultra is not intended to be used direct to wood surfaces. Use a suitable wood primer or Polyurea 350 as a primer.

Existing Coatings

Cured coatings (beyond their re-coat windows) must be abraded via scuff sanding with 80-120 grit sandpaper prior to the application of CFFS Polyurea-2 Ultra. Wipe surface clean with a tack rag or similar after a thorough vacuuming to perform a final cleaning. **DO NOT USE SOLVENTS TO CLEAN THE FLOOR.**

Substrate Repairs

All spalls and cracks should be chased out and repaired to ICRI standards using CFFS-Fortification Formula. Expansion joints should be honored. Horizontal saw-cut control joints can be filled with CFFS Polyflex-93. Contact CFFS for recommendations and available colors and finishes.

Primer Requirements

Please consult your product supplier for job specific recommendations. In most cases the acceptable primers will be CFFS Polyurea-350, CFFS Poly100-SC, CFFS Eco-Prime, CFFS Ultra-Hydro Stop (or H2O) or CFFS Polycuramine.

Installation Recommendations

Surfaces should be free of loose particles, rust, voids, and spalls. It is recommended that this product be applied multi-directional (north, south, east and west) to ensure proper coating thickness. **ALWAYS FOLLOW THE DEW POINT CHART AND APPLY ACCORDINGLY. DO NOT APPLY IN DIRECT SUNLIGHT OR WHEN TEMPERATURES ARE STEADILY RISING.**

Application Information

Mixing

Material should be pre-conditioned to a minimum of 50°F (10°C) prior to use. The material temperature must be brought to 5°F above the dew point temperature before opening and agitating the material to prevent condensation from entering the coating. Cut off the top of the flexible pouch above the zip lock seal. Open the pouch and add the entire contents of the stabilizer shot to the pouch. Re-seal flexible pouch using the zip lock and seal and mix by massaging and shaking the flexible pouch for 2-3 minutes. Once mixed, the pouch material must be used within 1 month. **DO NOT POUR UNUSED MATERIAL BACK INTO THE ORIGINAL SHIPPING CONTAINER AS IT COULD CONTAMINATE THE ENTIRE BATCH.** Seal all containers immediately after pouring out desired quantities. It is important to limit the time the container is open. Mix and pour out only what is needed. At the end of the day apply a solvent "float" of approximately 5 ounces of MEK over the surface of the coating before resealing the container.

Roller

Use only phenolic core, solvent resistant, natural or synthetic fiber roller covers. ¼" to 3/8" nap are acceptable, thicker nap may cause bubbling of the coating.

Brush

Inexpensive natural fiber chip brushes are suggested – 2" to 4" width depending on the application. These will be one-time use items.

Thinner

Non required

Clean Up

Use ACETONE or MEK to clean tools, etc. before product cures.

Application Conditions

Shelf Life and Storage

Two (2) years in factory delivered unopened pouches. Once stabilized, 12 hours. Keep away from extreme heat, cold and moisture. Maintain at a proper storage temperature of 50-90° F. Keep out of direct sunlight and away from fire hazards.

Repairs and Maintenance

Re-application of the product after 12 hours of initial application requires sanding and cleaning to achieve optimum adhesion. Contact CFFS for site specific recommendations.

Do Not clean floor with solvents or solvent based cleaners. Contact CFFS for specific cleaner recommendations.

Compatible Coatings

Primers

| | |
|-----------------------|--------------------------------------|
| CFFS Poly100-SC | (Single Component Aromatic Polyurea) |
| CFFS Ultra-Hydro Stop | (Epoxy MVT Primer) |
| CFFS Polyurea-350 | (Polyurea) |
| CFFS Polycuramine | (Polycuramine) |

Intermediates

| | |
|--------------------|---------------------------------------|
| CFFS RG-80x | (Aliphatic Polyaspartic Polyurea) |
| CFFS Polyurea-350 | (Polyurea) |
| CFFS Polucuramine | (Polycuramine) |
| CFFS Polyurea-I HD | (Single Component Aliphatic Polyurea) |

Clear Finish Topcoats

| | |
|--------------------|---------------------------------------|
| CFFS RG-80x | (Aliphatic Polyaspartic Polyurea) |
| CFFS PG-100 | (Aliphatic Polyaspartic Polyurea) |
| CFFS Polyurea-I HD | (Single Component Aliphatic Polyurea) |

LEED Credits

Most CFFS products contribute to LEED Credits. See our LEED Credit Bulletin for more information.

Certifications

VOC Compliant in all 50 states, Canada, Australia and Various Countries in Europe (National Standards – IMC)
USDA and FDA certified food safe for incidental food contact.

Shipping Information

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|---------------------|------------------------|
| Flash Point: | 47°C (117°F) |
| Weight/Gallon: | 9.7 ±1.0 lbs. |
| DOT HAZARD CLASS | N / A |
| DOT PACKAGING GROUP | II |
| DOT LABEL | N / A |
| DOT SHIPPING NAME | Paint Related Material |
| DOT PLACARD | N / A |
| UN / NA NUMBER | 1263 |

Safety Precautions

DANGER!! Vapor and Atomized liquids are harmful. Overexposure may cause lung damage, allergic skin reactions, or respiratory reactions. Effects may be permanent, may affect the brain or nervous system causing dizziness, headaches, or nausea. Use only in well ventilated areas, wear approved respirators when necessary. Keep out of reach of children. See MSDS for First Aid recommendations.

Warranty

The technical data and any other printed information furnished by CFFS are true and accurate to the best of our knowledge. CFFS POLYUREA-2 Ultra™ conforms to in house quality control procedures and should be considered free of defects. The data provided is believed to be reliable and is offered solely for evaluation. The use of this product is beyond the control of the seller, therefore the buyer assumes all risks of use and handling whether done in a matter that is in accordance with the provided posted directions or not. CFFS makes no warranty; expressed or implied, of its products and shall not be liable for indirect or consequential damage in any event.

Chemical Resistance

| | | | | | |
|----------------------------------|----|---------------------------|--------|-----------------------------------|----|
| Acetic Acid 100% | RC | Methanol | R | Sugar/H ₂ O | R |
| Acetone | R | Methylene Chloride | C | Sulfuric Acid 10% | R |
| Ammonium Hydroxide 50% | RC | Mineral Spirits | R | Sulfuric Acid >50% | R |
| Benzene | RC | Motor Oil | R | Toluene | R |
| Brake Fluid | RC | MTBE | C | 1, 1,1-Trichlorethane | C |
| Brine saturated H ₂ O | R | Muriatic Acid 10% | R | Trisodium Phosphate | R |
| Chlorinated H ₂ O | R | NaCl/H ₂ O 10% | R | Vinegar/H ₂ O 5% | R |
| Clorox (10%) H ₂ O | R | Nitric Acid 20% | RC | H ₂ O 14 days at 82° C | R |
| Diesel fuel | RC | Phosphoric Acid 10% | RC | Xylene | NR |
| Gasoline | R | Phosphoric Acid 50% | NR | | |
| Gasoline/5% MTBE | R | Potassium Hydroxide 10% | R | | |
| Gasoline/5% Methanol | R | Potassium Hydroxide 20% | R, Dis | | |
| Hydrochloric Acid 20% | R | Propylene Carbonate | RC | | |
| Hydrofluoric Acid 10% | RC | Skydrol | RC | | |
| Hydraulic fluid (oil) | RC | Sodium Hydroxide 25% | R | | |
| Isopropyl Alcohol | R | Sodium Hydroxide 50% | R, Dis | | |
| Jet Fuel (JP-4) | R | Sodium Hypochlorite 10% | RC | | |
| Lactic Acid | RC | Sodium Bicarbonate | R | | |
| MEK | NR | Stearic Acid | R | | |

Chemical Resistance Key

R=recommended/little or no visible damage
 RC=recommended conditional/some effect, swelling or discoloration
 C=Conditional/Cracking-wash within one hour of spillage to avoid affects
 NR=Not recommended
 Dis=Discolorative

**Chemical Resistance Test Method followed ASTM D1308