CFFS RG-80™ POLYASPARTIC POLYUREA

Product Description

CFFS RG-80 is a two-component, 80% solids, VOC Compliant, Aliphatic Polyaspartic Polyurea that was developed for UV stable floor topcoats, marine applications, chemical resistance and corrosion control. This coating provides reliable performance in a wide range of temperatures and climate conditions. 100% UV stability makes it an excellent choice for both interior and exterior applications.

Product Features

- Displays fast cure times with excellent adhesion characteristics to a variety of substrates / coatings.
- Patent-Pending Adjustable Cure Rate Technology™ simplifies installations in all temperatures by maintaining consistent cure times and material pot life.
- Can be spray or roll applied at temperatures ranging from -20-120°F and in high humidity.
- Will provide a glossy smooth finish when cured.
- 100% polyurea elastomer displays excellent UV, chemical, and abrasion resistance at a wide range of temperatures.
- Emits virtually no odors and can be applied indoors with minimal disturbance contributed to high VOC levels that are found in most epoxies and polyurethanes.
- Versatile topcoat for use on both horizontal and vertical applications.
- Easy to mix 1:1 ratio.

Primary Applications

- Marine protection for fiberglass, steel, concrete or wood
- UV-stable top coat
- Aircraft hangar floors
- Low temperature equipment
- Maintenance facilities
- Offshore platforms
- Industrial shop floors
- Car washes or wash bays
- Secondary containment
- Cooling towers
- Wastewater treatment applications
- Bridges

Product is sold CLEAR. It can be custom colored through the use of tint packs which are sold separately. Contact CFFS for available colors and mixing ratios.

Typical Physical Properties

Tensile Strength	ASTM D412	6000
Compressive Strength (psi Mpa)	ASTM D695	9400
*W/ Quartz		13800
*W/ Chip		12000
Elongation	ASTM D412	100
Tear Strength (PLI)	ASTM 2240	330
Hardness, Shore D	ASTM D2240	73
Flexibility, 1/8" Mandrel	ASTM D1737	Pass
Falling Sand Abrasion Resistance *Liters sand/ 1 dry mil	ASTM D 968	30
Tabor Abrasion mg loss	ASTM D4060	30
CS17-Wheel	1 kg per 1000 cycles	
Viscosity B side 75°C	CPS 1400-1500	
Viscosity A side 75°C	CPS 700-800	
Gloss	ASTMD-523	90+
Radiant Flux (CRF)	ASTM E 648	1.14 W/cm²

Typical Processing Properties

1:1 Ratio	Surface dry-30-120- mins.
Relativity Humidity-72°F-54%	Hard dry-2-4 hours
	Mar free-4-6 hours

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

Recommended Coverage

Over Solid Color	**250-350 sf/gal**	**@4.3 mils DFT**
Over Quartz	**80-120 sf/gal**	**@12.8 mils DFT**
Over Chip	**150-225 sf/gal**	**@8.2 mils DFT**

VOC compliant in all 50 states and Canada

Adhesion Results

ASTM D-4541 Elcometer

Concrete-no primer	concrete failure	>400psi
Concrete-primer	concrete failure	>550psi
Steel-no primer	substrate failure	>600psi
Steel-epoxy primer	primer failure	>2000psi
Wood-no primer	wood failure/shear	>400psi

Surface Preparation

Concrete

Old concrete - Sandblasting, shot blasting, diamond grinder w/30 grit or coarser, or water blasting is highly recommended to remove surface contaminants. Any oils or fats must be removed prior to product application. Acid etching may be required (followed by a thorough rinsing) to open the pores of the concrete to accept a primer. Do not apply to wet substrates. Chloride, moisture and pH levels should be checked prior to application. In almost every application a primer is recommended prior to use of CFFS RG-80.

New Concrete – The concrete should be allowed to cure for a minimum of 30 days unless using CFFS Ultra-Hydro Stop Primer™. Shot blasting, 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. A primer should be used to reduce out gassing and promote adhesion.

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 PR-511 Primer must be used as the adhesive primer prior to applying CFFS RG-80.

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 acetone or xylene. CFFS PR-511 Primer should be used as the adhesive primer prior to applying RG-80.

Wood

Sand entire surface to remove any burs or rough spots that may affect the finish of the coatings. Make sure all nail/screw holes and joints are detailed using either RSP Fast Patch or CFFS Fortification Formula prior to coating. Cotton mesh may be used to help bridge joints in moving substrates. In this case it will be embedded in PR-511 Primer while still tacky. Primer will be either CFFS PR-511 or CFFS Polyurea-350 depending on the desired finish.

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. Custom coloring of repair materials is available upon request. Contact CFFS for available colors and finishes.

Primer Requirements

Please consult your product supplier for job specific recommendations. In most cases the acceptable primers will be CFFS PR-511, CFFS Polyurea-350, CFFS RG-50, CFFS Ultra-Hydro Stop or CFFS Level-Hard.

Installation Recommendations

CFFS RG-80 adheres well to several sound substrates and coatings when properly primed including but not limited to; concrete, steel, fiberglass, wood, epoxy, urethanes, and polyureas. All surfaces should be free of loose particles, rust, voids, and spalls. It is recommended that this product be applied in a multi-directional (north, south, east and west) motion to help ensure proper coating thickness.

Application Information

Mixing

Material should be pre-conditioned to a minimum of 50°F (10°C) prior to use. Thoroughly mix both the A and B side components using separate paddle mixers and a drill for a minimum of 2 minutes to place the solids content evenly in suspension. This should be done prior to every use before combining the two components. Following the mix ratio of 1A:1B, combine the two components in a calibrated mixing container and blend together with a paddle style mixer and drill for at least 1 minute. CFFS recommends a maximum batch size of 1-2 gallons, however larger quantities can be mixed depending on the scope of the project. Never mix more material than can be placed and finished in 20-25 minutes.

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.

Spray or Squeegee Application

Contact a CFFS representative for recommendations.

Thinner

CFFS RG-80 contains a solvent to ease in the application process. This material should NOT be thinned any further using any type of solvent. Use CFFS RG-50™ if a thinner material is required.

Clean Up

Use Acetone or Xylene before product cures.

Application Conditions

Temperature
-20°F - 120°F (-29°C - 49°C)
CFFS Patent Pending Adjustable Cure Rate Technology™ makes it possible to apply this material and have reliable cure times at any temperature. Extreme cold applications may slow the cure time so plan accordingly.

Shelf Life and Storage
Twelve months in factory delivered unopened drums and buckets. 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
Small repairs to cuts in the coating can be made with CFFS RG-80. This material can be caulked or brushed on the surface after scuffing. Re-application of the product after 12 hours of initial application requires the use of a primer and/or sanding and solvent wiping to achieve optimum adhesion. Contact CFFS for site specific recommendations.

Safety and Handling
See MSDS sheets

Packaging
Available in 4 gallon kits, 5 gallon pails and 55 gallon drums.

Compatible Coatings

Primers

CFFS PR-511	(Moisture Cure Urethane)
CFFS Polyurea-350	(Polyurea)
CFFS RG-50	(Aliphatic Polyaspartic Polyurea)
CFFS Ultra-Hydro Stop	(Epoxy MVT Primer)
CFFS Level-Hard	(Epoxy Hybrid)

Intermediates

CFFS RG-50	(Aliphatic Polyaspartic Polyurea)
CFFS RG-80	(Aliphatic Polyaspartic Polyurea)
CFFS PG-100	(Aliphatic Polyaspartic Polyurea)
CFFS Polyurea-350	(Polyurea)
CFFS Level-Hard	(Epoxy Hybrid)

Clear Finish Topcoats

CFFS RG-50	(Aliphatic Polyaspartic Polyurea)
CFFS RG-80	(Aliphatic Polyaspartic Polyurea)
CFFS PG-100	(Aliphatic Polyaspartic Polyurea)
CFFS Poly-One	(Single Component Aliphatic Polyurea)

Accelerator
Patent-Pending Adjustable Cure Rate Technology™ determines the cure time of the material. No additional catalyst is required.

Recommended Systems

Ferrous Metals

CFFS PR-511	2.0-4.0 mils DFT
CFFS Polyurea-350	4.5-12.0 mils DFT
Optional:	
Decorative Media Broadcast	10.0-15.0 mils DFT
CFFS RG-80	6.4-12.8 mils DFT
Total System Thickness	22.9-43.8 mils DFT

Concrete

CFFS PR-511	2.0-4.0 mils DFT
CFFS Polyurea-350	4.5-12.0 mils DFT
Optional:	
Decorative Media Broadcast	10.0-15.0 mils DFT
CFFS RG-80	6.4-12.8 mils DFT
Total System Thickness	22.9-43.8 mils DFT

CFFS PR-511	2.0-4.0 mils DFT
CFFS RG-80	3.2-5.2 mils DFT
CFFS RG-80	3.2-5.2 mils DFT
Total System Thickness	11.6-13.6 mils DFT

CFFS Level-Hard	6.4-16.0 mils DFT
CFFS RG-80	3.2-5.2 mils DFT
Total System Thickness	9.6-21.2 mils DFT

CFFS RG-50	2.0-3.2mils DFT
CFFS RG-80	3.2-5.2 mils DFT
CFFS RG-80	3.2-5.2 mils DFT
Total System Thickness	8.4-13.6 mils DFT

Wood

CFFS PR-511	2.0-4.5 mils DFT
Optional:	
Cotton Mesh (Rolled)	15.0-30.0 mils DFT
CFFS Polyurea-350	4.5-16.0 mils DFT
Optional:	
Decorative Media Broadcast	10.0-15.0 mils DFT
CFFS RG-80	6.4-12.8 mils DFT
Total System Thickness	37.9-78.3 mils DFT

CFFS Polyurea-350	4.6-16 mils DFT
CFFS RG-80	3.2-5.2 mils DFT
CFFS RG-80	3.2-5.2 mils DFT
Total System Thickness	11.0-26.4 mils DFT

Fiberglass

CFFS PR-511	2.0-4.0 mils DFT
CFFS Polyurea-350	4.5-16.0 mils DFT
CFFS RG-80	3.2-5.2 mils DFT
Total System Thickness	9.7-25.2 mils DFT

***Multiple other systems available upon request.**

Chemical Resistance

Chemical	Result (25°C)
Acetic Acid 100%	C
Acetone	C
Ammonium Hydroxide 50%	RC
Benzene	C
Brine saturated H2O	R
Chlorinated H2O	R
Clorox(10%) H2O	R
Diesel fuel	RC
Gasoline	RC
Gasoline/5% MTBE	RC
Gasoline/5% Methanol	RC
Hydrochloric Acid 20%	R
Hydrofluoric Acid 10%	NR
Hydraulic fluid (oil)	RC
Isopropyl Alcohol	R
Lactic Acid	RC
MEK	RC
Methanol	R
Methylene Chloride	C
Mineral Spirits	RC
Motor Oil	R
MTBE	C
Muriatic Acid 10%	R
NaCl/H2O 10%	R
Nitric Acid 20%	NR
Phosphoric Acid 10%	R
Phosphoric Acid 50%	NR
Potassium Hydroxide 10%	R
Potassium Hydroxide 20%	R, Dis
Propylene Carbonate	RC
Skydrol	C
Sodium Hydroxide 25%	R
Sodium Hydroxide 50%	R. Dis
Sodium Hypchlorite 10%	R
Sodium Bicarbonate	R
Stearic Acid	R
Sugar/H2O	R
Sulfuric Acid 10%	R
Sulfuric Acid >50%	RC
Toluene	R
1, 1,1-Trichlorethane	C
Trisodium Phosphate	R
Vinegar/H2O 5%	R
H2O	R
H2O 14 days at 82° C	R
Xylene	RC

Chemical Resistance: Chart 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

LEED Credits

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

Coverage Calculations

General Coating Thickness (@100% Solids)	Sq.Ft/gal
1 mils	1600
5 mils	320
10 mils	160

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.
Radiant Flux Tested and Certified.

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. Flammable liquid and Vapor. Use only in well ventilated areas, wear approved respirators when necessary. Keep out of reach of children. See MSDS for First Aid recommendations.

Shipping Information

Flash Point:	17°C (63°F)
Weight/Gallon:	8.5 ±1.0 lbs.
DOT HAZARD CLASS	Class 3
DOT PACKAGING GROUP	II
DOT LABEL	Flammable Liquid
DOT SHIPPING NAME	Paint Related Material
DOT PLACARD	Flammable Liquid
UN / NA NUMBER	UN 1263

Warranty

The technical data and any other printed information furnished by CFFS are true and accurate to the best of our knowledge. CFFS RG-80™ 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.