

CFFS PG-100™ POLYASPARTIC POLYUREA

Product Description

CFFS PG-100 is a two-component, 100% solids, VOC Free, 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 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 1:1.5 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
- ❖ Primary and 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	9700
	*W/ Quartz	14600
	*W/ Chip	12500
Elongation	ASTM D412	100
Tear Strength (PLI)	ASTM 2240	330
Hardness, Shore D	ASTM D2240	75
Flexibility, 1/8" Mandrel	ASTM D1737	Pass
Falling Sand Abrasion Resistance	ASTM D 968	30
	*Liters sand/ 1 dry mil	
Tabor Abrasion mg loss	ASTM D4060	30
CSI7-Wheel		1 kg per 1000 cycles
Viscosity B side 75°C		CPS 1400-1500
Viscosity A side 75°C		CPS 1300-1450
Gloss	ASTMD-523	91+
Radiant Flux (CRF)	ASTM E 648	1.14 W/cm ²
VOC Content		< 10 g / liter

Typical Processing Properties

1:1.5 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-primer	concrete failure	>550psi
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 PG-100.

New Concrete - The concrete should be allowed to cure for a minimum of 30 days unless using a 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 Poly100-SC must be used as the adhesive primer prior to applying CFFS PG-100.

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 Poly100-SC should be used as the adhesive primer prior to applying PG-100.

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. Primer will be CFFS Polyurea-350 in most cases.

Substrate Repairs

All spalls and cracks should be chased out and repaired to ICR1 standards using CFFS-Fortification Formula. Expansion joints should be honored. Horizontal saw-cut control joints can be filled with CFFS Polyflex-93.

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 Ultra-Hydro Stop or CFFS Level-Hard.

Installation Recommendations

CFFS PG-100 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 4A:6B (A:A.5B), 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 PG-100 can be thinned using Acetone at rates up to but not exceeding 30% by total volume mixed. This will affect the application technique, contact CFFS for information.

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

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

Packaging

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

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

Radiant Flux Tested and Certified.

Chemical Resistance

UChemical

Result (25°C)

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

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.

Shipping Information

Flash Point:	135°C (275°F)
Weight/Gallon:	10.1 ±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	N / A

Warranty

The technical data and any other printed information furnished by CFFS are true and accurate to the best of our knowledge. CFFS PG-100™ 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: 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