UROFLEX 65

ELASTOMERIC URETHANE

Uroflex 65 is a two-component, high performance urethane elastomeric coating specifically designed for high build applications. When fully cured, Uroflex 65 forms an extremely tough, abrasive-resistant rubber coating that provides protection from surface impact as well as corrosion on metal, wood or concrete.
Added UV stabilizers provide additional protection from weather and wear.

Typical applications for Uroflex 65 include:

- Protective layers for pipes, tanks, wood, flexible foams, concrete and other industrial surfaces.
- Excellent corrosion protection for concrete or steel in potable water services.
  (Tested in accordance with Standard ANSI 61)
- Protects against microbiologically induced corrosion, hydrogen sulfide and sulfuric acid making it ideal for wastewater applications.
  Qualified under Florida DOT Section 975 (Elastomeric Waterproof Coating) QPL#S462-0002

Property	B Component	A Component
Appearance at 25°C	Gray	Amber
Specific Gravity at 25°C	1.09	1.04
Viscosity at 25°C, mPas	2,500	1,500
Flash Point, PMCC, °c	216	179
VOC,%	0	0

Property	ASTM Test Method	Unit	Value
Specific Gravity	D792		1.083
Density	D792	lb/ft3	67
Hardness	D2240	Shore A	85
Taber Abrasion	D4060		
H-18 Wheel, 1000-g Load, 1,000 Cycles		mg/loss	190
Tensile Strength:	D412	b/in2	1,330
Ultimate Elongation	D412	%	580
Tear Strength	D 975	pli	150
Water Absorption:			
30 Days	Pilgrim	%	1.0
Crack Bridging 1000 Cycles	C 957	-	passes
Elongation Recovery	C 957	%	96

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Adhesion:
Displays excellent adhesion to many different substrates, including steel, aluminum, concrete, and various polymeric surfaces. Consult your technical service representative for specific primer recommendations.
Thermal Resistance:
Retains its elasticity at temperatures ranging from -40°C to +110°C, enabling it to withstand various climactic conditions.
Abrasion Resistance:
Surfaces coated with Uroflex 65 are exceptionally resistant to abrasion and wear.
Chemical Resistance:
Highly resistant to de-icing salt solutions, dilute, non-oxidizing acids, caustic solutions, aliphatic hydrocarbons, and mineral oils.
Weather Resistance:
Good resistance to all types of weathering, ozone, UV radiation, and high energy radiation.
Sealing Cracks:
Seals cracks and at the same time prevents moisture penetration and attack by aggressive substances.
Water Vapor and Gas Permeability:
Waterproof, has a high level of impermeability to water vapor, which helps prevent moisture build-up in the substrate.
Resistance to Hydrolysis and Microbial Attack:
Effectively helps to protect surfaces against hydrolysis penetration and offers excellent resistance to microorganisms.
Water Resistance:
Forms a homogeneous, seamless, and watertight seal with no weak points.
Tear Propagation Resistance:
Surfaces coated with Uroflex 65 have excellent resistance to tear propagation and mechanical stress.

Equipment Selection:
If you are going to be spraying small, intricately shaped parts, or applying a thin layer of elastomer (30 Mils), the recommendation is to use a low-pressure cartridge system equipped with a static mixer and an air-assisted spray tip. Dispensing/spraying via a pneumatic gun. Air pressure between 90-120 psi recommended at the gun. Spray tip air Pressure regulated 30-40 psi.
If spraying large surfaces or thick layers (up to 1 inch) of elastomer, you must select a high-pressure metering machine and spray gun, or a high-output, low pressure metering machine that can spray a a rate of 7-10 lbs. per minute, and spray gun equipped with either a dynamic or static tip.
When applying with high pressure airless equipment (2500-3000 psi), components must be heated to (160°F-170°) to assure good mixing. A number of types and styles of spray gun/mixers can be successfully used with the Uroflex 65 elastomer system, including high pressure impingement guns such as the (Gusmer GX-8). The selection of a spray tip is dependent on the nature and size of the object to be sprayed. The tips will have an effective fan width of 25 or 30 degrees, and an equivalent orifice size of between .026 inch to .053 inch. A general rule would be the smaller the surface to be sprayed the smaller the orifice. The use of the small tip size reduces the total throughput of elastomer. For example the use of a .026 inch orifice would result in an output of about 3 pounds per minute. The output when using the .053 inch orifice would be closer to 10 pounds per minute.

Cartridge Spraying: It is important to assure clean dry air is supplied to static spray tip. If water condenses in air line it will be introduced into the mixed Uroflex causing incomplete cure or blisters in the cured film. A Clemco CPF 20/80 air filter or equal is recommended to be installed as close as possible to the pneumatic gun. 10-15 feet recommended. In addition a DeVilbis HAF-507-K12 Whirlwinf filter should be installed at the air input port of the pneumatic gun. After loading cartridge begin spraying and dispose of approximately one ounce of material to assure pistons are equalized and spraying material on ratio. Begin spraying Uroflex 65, keep trigger depressed until cartridge is empty. If spraying is stopped before cartridge is empty it will be necessary to replace the static spray mixing tip.

Application:
Applying Uroflex 65 is very much like spraying paint. You must keep the spray pattern perpendicular to the surface being sprayed. Maintain a nice straight smooth motion. To achieve the best coverage, each pass of the spray pattern should overlap the preceding pass by approximately 1/3. Uroflex 65 can be applied in thicknesses from about 30 mils to 1/2 inch or more. On horizontal surfaces, thicknesses of about 1/8 inch can be achieved in a single pass.
On vertical surfaces 30-150 mils can be realistically applied in a single coat.

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Surface Preparation:

General: Surfaces to be coated must be clean and dry.
Adhesion promoters and or recommended primers as specified.

Concrete: Concrete must be free of release agents, curing compounds, oils and free from loose dust or debris.

Oils and Grease: Chemical cleaning with detergents, caustic soda solutions or trisodium phosphate is necessary to remove oil and grease. A vigorous scrubbing action should be carried out during the washing procedure. It is important to thoroughly flush the surface of the concrete with water to remove all traces of the loosened substances as well as the cleaning solution itself.
If either residue remains it will interfere with the bond of the barrier material.

Sandblasting is the most effective method of cleaning concrete surfaces.
Sometimes environmental restrictions preclude the use of dry sandblasting.
Water blasting with low pressure (3,200 psi) is effective to remove laitance and provide a profile of sufficient depth for Primer adhesion.

B2 or PrimeX Primer (two-component epoxy primers) applied to water blasted concrete provides excellent bonding for Uroflex 65.

Steel: Immersion Service - SSPC-SP10 Near White Blast.
Non-Immersion service - SSPC-SP6 Commercial Blast.
Use Adhesion Promoter for greater adhesion to Steel.

Other Metals: SSPC-SP1 solvent clean and wire brush.

Wood: Surface must be dry. B2 or PrimeX Primer is recommended to minimize outgassing.

Previous Coating: Remove all loose or poorly adhered coatings.
Solvent clean before application of Uroflex 65.

Typical Reaction Profile	
Application Temperature Range	32°F - 120°F
Mix Ratio, by volume	1/1
Reactivity:	
Gel Time	15 sec
Tack-Free	2 min
Handling	25-60 min

Uroflex 65 components are shipped in sealed containers that are purged with dry nitrogen.
The containers should be kept tightly sealed and stored in a cool dry area.
Storage temperatures should not exceed 90°F.
Shelf life stored under these conditions is one year.
Containers that have been opened should be resealed immediately after material has been removed in order to prevent moisture contamination.

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Florida Department of Transportation
Section 462 & 975
Protection of Post-Tensioning Anchorages

Within seven days upon completion of the grouting, protect the anchorage of post-tensioning bars and tendons as indicated in the plans. The application of the elastomeric coating may be delayed up to 90 days after grouting. Use an epoxy grout, meeting the requirements of Section 926 to construct all pour-backs located at anchorages.

Remove all laitance, grease, curing compounds, surface treatments, coatings and oils.
Follow surface preparation requirements detailed on page 3.

B2 or PrimeX Primer Application:
Coat the exposed cleaned surfaces with Primer. Area to be coated must be dry.
Apply Primer at a the rate of 300 sq/ft/gal. via spray, brush or roller.
Allow Primer to cure a minimum of four hours before application of Pilgrim Uroflex 65.

Uroflex 65 Application: (Cartridge System)
Uroflex 65 is supplied in preportioned cartridges.
Spray application is accomplished via pneumatic dispensing gun.
Dispensing pressure 90-120 psi.
Regulate spray tip pressure to 30-40 psi.

- Load cartridge into pneumatic gun.
- Attach static tip with supplied diffuser attached to end of static mixing nozzle.
- Attach supplied air delivery tubing from diffuser to supply line supplied fitting.
- Open ball valve which supplies air to spray tip. Regulate to 30-40 psi.
- Activate trigger to begin spraying - Dispose of approximately one ounce; the first bit of material out of the spray nozzle is generally off ratio.
- Hold trigger of pneumatic gun in the on position until cartridge has been completely dispensed.
- Close ball valve, remove 90°elbow from spray tip. Remove empty cartridge.
- Do not stop and start. Due to the very short cure time of Uroflex 65 the static mixer will quickly become clogged with cured material. If this should happen, replace with a new static mixer and proceed.
- Follow recommended spraying techniques detailed in Application section page 2.
- 30-60 mils can be achieved in a single application.

Safety:

Consult Material Safety Data sheets for complete information on handling and personal protection.

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