URETEK POLYMER

TECHNICAL DATA SHEET

PRODUCT DESIGN

URETEK polymer is a two component high density expanding thermoset structural polymer system formulated for the under sealing, void filling & lifting of settled pavement, the stabilizing & stiffening of weak soils, and for the encapsulation & sealing of buried infrastructure. coupled with minimally invasive injection techniques achieves permanent repairs without the necessity of excavation or demolition.

PRODUCT TYPE

URETEK polymer is capable of expanding up to 20 times its original starting volume in unconfined conditions. Fully cured polymer material is inert and non-toxic. URETEK polymer is formulated in various densities and expansive coefficients for specific project applications. The low viscosity & lubricity of URETEK polymer allows for easy penetration into soils while compacting surrounding soils and displacing water without detrimental dilution or loss of dimensional stability to the resin system.

URETEK polymer has a patented chemical composition that allows for direct application into water or very damp regions while still maintaining good physical properties. The patented chemical nature of URETEK polymer goes beyond available hydro-insensitive technologies currently available. URETEK polymer will form proper linkages even while being injected directly into water. This property makes it ideal for lifting and stabilizing in areas with elevated soil moisture. Because of the monolithic and hydro-insensitive nature of URETEK polymer the grout will resist under ground water erosion or weakening.

PROCESSING PARAMETER

URETEK polymer is a two component system that must be applied with a proportioning unit designed to allow 1 to 1, by volume, metering of materials. The proportioning equipment must be capable of maintaining recommended injection temperatures and pressures.

STORAGE AND HANDLING

components have a shelf life of 1 year when stored at 60 - 80ºF out of direct sunlight and extreme humidity, >80% RH. URETEK polymer "A" component is water sensitive and caution must be taken to ensure "A" component is not exposed to moisture. If material remains in a receptacle be sure to tightly seal lid to minimize moisture exposure.

The "A" and "B" components should not be stored in temperatures less than 50ºF for prolonged periods. Some phase separation in the "B" component may be noticed at these temperatures. If there is phase separation the material must be warmed and thoroughly mixed prior to use. Consult URETEK for proper warming and mixing guidelines. If the "A" component is allowed to crystallize or separate from exposure to cold temperatures, it is not useable and must be replaced.

SAFETY PRECAUTIONS

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling URETEK polymer components. Before working with these products, you must read and become familiar with the available information on their hazards, proper use, and handling. Information is available in several forms, e.g., material safety data sheets and product labels

CREDENTIALS

Certain URETEK Polymer utilizes a fully EPA approved, non-CFC, non-HFC, zero ozone depleting blowing agent. Certain URETEK Polymer is NSF 61 certified, approved for injection in and around public water supplies.

MATERIAL CHARACTERISTICS

CHEMICAL	RESISTANCE
Water	Excellent
Toluene	Excellent
Gasoline	Excellent
Sulfuric Acid	Excellent
Hydrochloric Acid	Good
Isopropanol	Excellent
Benzene	Excellent
Motor Oil	Excellent
Kerosene	Excellent
Acetic Acid	Good
Formaldehyde	Good

LIQUID RESIN	A	B
Specific Gravity	1.24	1.00
Viscosity (cps)	175	225

DISCLAIMER: Physical properties generated under controlled laboratory conditions per URETEK foam sampling guidelines. For sampling guidelines contact URETEK, 281-351-7800. Actual properties may vary under real world conditions. No warranty expressed or implied is given as individual results will vary.

TECHNICAL DATA

PHYSICAL PROPERTY	TEST METHOD	684EXP	URETEK POLYMER	URETEK POLYMER-4BD	URETEK POLYMER-4	URETEK POLYMER-4GD	URETEK POLYMER-6	URETEK POLYMER-8
Grout Density, min	*ASTM D 1622*	2lbs/ft^3	3lbs/ft^3	4lbs/ft^3	4lbs/ft^3	4lbs/ft^3	6lbs/ft^3	8lbs/ft^3
Compressive Strength	*ASTM D 1621*	20lbs/in^2	30lbs/in^2	60lbs/in^2	60lb/in^2	60lbs/in^2	100lbs/in^2	175lbs/in^2
Compressive Modulus	*ASTM D 1621*	500lbs/in^2	1700lbs/in^2	2000lbs/in^2	2000lbs/in^2	2000lbs/in^2	3000lbs/in^2	4000lbs/in^2
Dimensional Stability	*ASTM D 2126*							
-40F	*ASTM D 2126*	< 2%i	< 2%	< 2%	< 2%	< 2%	< 1%	< 1%
200F	*ASTM D 2126*	< 15%	< 2%	< 2%	< 2%	< 2%	< 1%	< 1%
Tensile Strength	*ASTM D 1623*	50lbs/in^2	60lbs/in^2	90lbs/in^2	90lbs/in^2	90lbs/in^2	120lbs/in^2	150lbs/in^2
Tensile Modulus	*ASTM D 1623*	700lbs/in^2	1700lbs/in^2	2000lbs/in^2	2000lbs/in^2	2000lbs/in^2	3000lbs/in^2	4000lbs/in^2
Shear Strength	*ASTM C 273*	30lbs/in^2	35lbs/in^2	45lbs/in^2	45lbs/in^2	45lbs/in^2	70lbs/in^2	100lbs/in^2
Shear Modulus	*ASTM C 273*	350lbs/in^2	500lbs/in^2	900lbs/in^2	900lbs/in^2	900lbs/in^2	1100lbs/in^2	1400lbs/in^2
Flexural Strength	*ASTM C 790*	30lbs/in^2	50lbs/in^2	90lbs/in^2	90lbs/in^2	90lbs/in^2	170lbs/in^2	280lbs/in^2
Flexural Modulus	*ASTM C 790*	700lbs/in^2	950lbs/in^2	2000lbs/in^2	2000lbs/in^2	2000lbs/in^2	4000lbs/in^2	7000lbs/in^2
Water Absorption	*ASTM D 2842*	< 2%	< 2%	< 2%	< 2%	< 2%	< 2%	< 2%
Elongation	*ASTM D 1623*	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
Closed Cell Content	*ASTM D 6226*	90%	90%	90%	90%	90%	90%	90%

DISCLAIMER

The information herein is to assist customers in determining whether our products are suitable for their applications. Customer assumes full responsibility for quality control, testing and determination of suitability of product for its intended use or application. URETEK ICR warrants only that the material shall meet its specifications; this warranty is in lieu of all other written, expressed or implied warranties and URETEK ICR. expressly disclaims any warranty of merchantability, fitness for a particular purpose, or freedom from patent infringement. Accordingly, buyer assumes all risks whatsoever as to the use of the material. Buyer's exclusive remedy as to any breach of warranty, negligence or other claim shall be limited to the purchase price of the material. Failure to adhere to any recommended procedures shall relieve URETEK ICR of all liability with respect to the material or the use thereof.

URETEK ICR