PolyVers International
87 Shawnee Avenue
Kansas City, KS 66105
(913) 321-9000
(913) 321-1490 (fax)

Product Data Sheet

AquaVers 405
NSF Spray Polyurea

Product Description- ***PolyVers*** **AquaVers 405** is a fast set, rapid curing, 100% solids, flexible, two-component pure polyurea elastomer spray coating material. **AquaVers 405** is potable water approved in accordance with ANSI/NSF 61. **AquaVers 405** is used by itself or in combination with other materials to produce coatings, liners, wearing courses, and resilient surfaces on concrete and other properly prepared substrates. Its extremely fast gel time makes it suitable for applications down to 29 °C (-20°F) without special conditioning of the component resins and isocyanates. **AquaVers 405** produces an extremely tough film at all thicknesses. Single or multiple pass applications produce films from 10 mils to 1000 mils without appreciable sag or runs. **AquaVers 405** may be applied in all positions and to any suitably prepared substrate. **AquaVers 405** is inert, it will not hydrolyze, leach, or contaminate other materials, and is bondable and paintable. **AquaVers 405** is relatively moisture and temperature insensitive, allowing application in the most problematic ambient conditions.

Uses- ***PolyVers*** **AquaVers 405** is a superior coating material designed specifically for industrial applications receiving constant or intermittent attack from contained materials, subsurface hydrostatic pressure, most corrosive substances, and abrasive action. **AquaVers 405** is flexible, accommodating movement of the substrate, yet strong enough to remain intact under all conditions except major structural dislocations. With or without reinforcements **AquaVers 405** may be used in transitional areas with confidence. **AquaVers 405** may be used in interior or exterior applications. **AquaVers 405** is recommended for repair of other films, may be applied to concrete and other substrates, in new construction and in cold weather conditions, cold storage facilities, freezers, and food processing plants where time and temperature are serious concerns.

Ideal for Applications In-

- Potable Water Systems

Advantages-

- Potable water approved in accordance with ANSI/NSF 61
- Conforms to AWWA D102
  ICS #4
- **100% Solids, No VOC's**
- Flexible, >405% Elongation
- Excellent Thermal Stability
- Heat of Deflection 121°C (250°F), no load
- Glass Transition Temperatures -65°C (-85°F) and 232 °C (450°F)
- Suitable for Use when pH ranges from 4 -11
- Good Resistance to Wide Range of Chemical Attack
- Non-catalyzed
- Low Permeance Rate
- Seamless Elastomer
- Remains Flexible in Cold Temperatures
- Return Project to Service in 60 Minutes
- Cures From 29 °C (-20°F) to 107 °C (225°F)
- Odorless, No Toxic Vapors
- USDA Approved

Physical Properties-

Typical Physical Properties		
Cured Film Properties	Test Method	Typical Value
Solids Content		100%
Shore D Hardness	ASTM D2240	40
Elongation	ASTM D638	>405%
Tensile Strength, psi	ASTM D638	2145
100% Modulus, psi	ASTM D638	960
300% Modulus, psi	ASTM D638	1450
Tear Strength, pli, Die C	ASTM D624	405
Taber abrasion, mg wt loss	ASTM D4060	180
(1000 gms, 1000 revs, H-18 wheels)		
Moisture Vapor Transmission, perms	ASTM E96	0.025
Gel Time		8 Seconds
Tack Free		25 Seconds
Open to Traffic		60 Minutes

Limitations- AquaVers 405 should not be used for direct contact with extremely high or low pH attack.

Coverage Rates-

Theoretical Square Feet Per Gallon

Mils	10	15	50	60	80	100	125
	160	107	32	27	20	16	13

Note: 1604 mil inches per gallon. Totally dependent on substrate texture and condition.

Packaging-

- One Hundred Ten Gallon Kit: 55 gallons of 'A' side and 55 gallons of 'B' side.- Drum containers filled by weight, volume is closely approximate.

Mixing- AquaVers 405 must be spray applied using approved equipment. Use 1:1 ratio pump, with appropriate material heaters, as required for individual application. For information contact ***PolyVers.***

Colors- Color is light blue (sky blue).

Shelf Life- One year, in original, unopened factory containers, under normal storage conditions of 13^{o}C (55^{o}F) to 35^{o}C (95^{o}F). Protect from freezing.

Clean Up- Cured product may be disposed of without restriction. Excess liquid 'A' and 'B' material should be mixed together and allowed to cure, then disposed of in the normal manner. Product containers that are "drip free" may be disposed of according to local, state and federal laws.

Safety- Read Material Safety Data Sheets provided with all shipments. Additional copies are available upon request from ***PolyVers*** or your local dealer.
Basic safety for personal protection is:

- Long-sleeve overalls or disposable Tyvex overalls.
- Rubber gloves.
- Splash shield or safety glasses with splash guards.
- Rubber or leather boots.
- Do not use near high heat or open flame.
- Do not take internally.
- Keep out of the reach of children.

Chemical Resistance-

		Test Procedure: **ASTM D1308** 25°C Exceeds 1 Year	
*Recommended	R	**Test Media**	
* Recommended Conditionally (washdown within 1 hour of spillage)	C	Acetone	C
*Not Recommended	N	Antifreeze	R
*Suitable for immersion and/or splash and spillage conditions	1	Benzene	R
*Suitable for occasional or intermittent contact for up to 72 hours	2	Benzoic Acid	R
Test Procedure: **ASTM D3912** 25°C Exceeds 1 Year		Butyl Alcohol	R
Test Media		Butyl Cellosolve	R
Acetic Acid 10%	C	Carbon Dioxide	R
Ammonium Hydroxide 10%/20	R	Calcium Hypochlorite	N
Diesel Fuel	R	Chlorine (5000 ppm in water)	2
Gasoline	R	Citric Acid	R
Hydraulic Fluid	R	Cylloexanol	R
Hydrochloric Acid 5%/10%	R	Dichloacetic Acid	C
Methanol	R	Dimethyl Formamide	N
Motor Oil	R	Ethanol	2
MTBE	R	Ethylene Glycol	1
MTBE/Gasoline 5%	R	Gasoline	R
NaCl/Water 10%	R	Hexane	R
Phosphoric Acid 10%	R	Hydraulic Oil	R
Potassium Hydroxide 10%/20%	R	Lactic Acid 10%	1
Sodium Hydroxide 10%/20%/50%	R	Methylene Chloride	C
Sugar/Water 10%	R	Methyl Ethyl Ketone	C
Sulfuric Acid 5%/10%	R	Methanol	R
Skydrol	2	Mineral Spirits	R
Toluene	C	Monobutyl Ether	R
Water	R	Nitric Acid 20%	C
2-Methylbutane	R	Phenol	2
		Skydrol	2
		Sodium Bicarbonate	R
		Sodium Chloride	R
		Sodium Hydroxide 50%	R
		Sodium Hypochlorite 10%	2
		Stearic Acid	R
		Sulfuric Acid 70%	N
		Trichloroethylene	C
		Trisodium Phosphate	R
		Toluene	C
		Vinegar	R
		Xylene	C

Preparation and Installation- Regard ***PolyVers*** specifications for **AquaVers 405 Spray Polyurea**, for detailed preparation and installation procedures. Substrate priming is not required on all substrates, consult ***PolyVers*** for recommendations.

Technical Services-Sales and Customer Support (913) 321-9000

Warranty- ***PolyVers International*** will refund the price of or replace, at its election, product it finds to be defective provided the product has been used properly. Except as expressly stated above, the Company makes no warranty of merchantability and no warranty of fitness for any particular purpose, nor does it make any warranty, expressed or implied, of any nature whatsoever with respect to the product or its use. In no event shall the company be liable for delay caused by defects, for loss of use, for indirect, special or consequential damages, or for any charges or expenses of any nature incurred without its written consent.