



ECO TOUGHFLEX POLYUREA MEMBRANE

Build Greener • Build Better

PRODUCT DESCRIPTION

ECO ToughFlex is a two component, 100% solids polyurea, designed for waterproofing, roofing and industrial applications. This unique super polymer is available in a low and high pressure spray versions, as well as a rollable version. **ECO ToughFlex** provides high heat resistance and low smoke and flame spread characteristics. It displays excellent adhesion to a wide range of substrates including concrete, metal, wood and masonry. **ECO ToughFlex** offers superior chemical resistance and water resistance and may be applied at temperatures ranging from 20°F to 100°F.

KEY ADVANTAGES

- + Superior Water Resistance
- + Superior Flexibility
- + Excellent Chemical Resistance
- + Fire Resistant: Flame Spread < 25
- + Non-Slip or Smooth Surface Finish
- + Excellent Adhesion to a Wide Range of Substrates: concrete, metal, wood, masonry, etc
- + Superior Abrasion and Wear Characteristics
- + Wide Service Temperature Range: -40°F to +200°F
- + Rapid Cure: 60 Minutes
- + No VOC's, Low Odor – indoor applications with minimal disturbance
- + Meets USDA/FDA/CFIA Requirements for Use in Regulated Food Facilities
- + Not Regulated per USDOT Shipping Regulations – Class 55
- + Available in Spray and Rollable Versions
- + Low Maintenance
- + LEED Compliant

PRIMARY APPLICATIONS

- + Waterproofing Membrane
- + Roofing Membrane
- + Industrial Coating
- + Secondary Containment
- + Pipe Coating
- + Manhole Liner
- + Truck and Rail Car Liner

PACKAGING

- + 5 Gallon Pails
- + 50 Gallon Drums

COVERAGE

100 sq ft per gallon at 16 mils coating thickness

ADHESION TO SUBSTRATES

Adhesion results for typical substrates, tested as per ASTM D-451 Elcometer:

Concrete, no primer: >300 psi (cohesive failure)
Steel, no primer: >1000 psi
Wood: >250 psi (wood failure)

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PHYSICAL PROPERTIES

PROPERTY	UNIT OF MESUREMENT	ECO TOUGHFLEX (Rollable)	ECO TOUGHFLEX (Spray)
Solids Volume	%	100	100
Tensile Strength ASTM D412	PSI	*2500 - 4500	*2500 - 4500
Elongation ASTM D412	%	50	*50 - 400
Hardness ASTM D785	Shore A or D	*75A – 45D	*75A – 45D
Abrasion – Taber CS17 ASTM D4060	mg loss/1000 cycles	50	50
Tear Strength ASTM D624	PLI	>110	>110
Flex Modulus ASTM D790	PSI	>400,000	*100,000 – 250,000
Vapor Permeance – inverted wet cup	Perms	< 0.01	< 0.01
Application Temperature Range	°F	20 - 100	20 - 100
Service Temperature Range	°F	-40 to +400	-40 to +400
Mix Ratio	PBV	1A:1B	1A:1B
Gel Time	Minutes	15	*0.2 – 3.0
Open to Foot Traffic	Minutes	60	10
Open to Industrial Traffic	Minutes	120	60

*Values depend on gel time formulation

CHEMICAL RESISTANCE

Chemical	Result (25°C)	Chemical	Result (25°C)
Acetic Acid (100%)	C	NaCl/H ₂ O (10%)	R
Acetone	C	Nitric Acid (50%)	RC
Ammonium Hydroxide (50%)	C	Phosphoric Acid (10%)	R
Benzene	C	Phosphoric Acid (50%)	RC
Brine-Saturated H ₂ O (310 g/l)	R	Potassium Hydroxide (10%)	R
Chlorinated H ₂ O	R	Potassium Hydroxide (20%)	R, Dis
Clorox® (10%) H ₂ O	R	Propylene Carbonate	RC
Diesel Fuel	R	Skydrol®	R
Gasoline	R	Sodium Hydroxide (25%)	C
Gasoline / 5 % MTBE	R	Sodium Hydroxide (50%)	NR
Gasoline / 5% Methanol	R	Sodium Hypochlorite (10%)	R
Hydrochloric Acid (37%)	RC	Sodium Bicarbonate	R
Hydrofluoric Acid (10%)	RC	Stearic Acid	C
Hydraulic Fluid (Oil)	R	Sugar I H ₂ O	R
Isopropyl Alcohol	R	Sulfuric Acid (10%)	C
Lactic Acid	R	Sulfuric Acid (50%)	N R
MEK	RC	Toluene	R
Methanol	R	1,1,1-Trichloroethane	C
Methylene Chloride	C	Trisodium Phosphate	R
Mineral Spirits	RC	Vinegar I H ₂ O (5%)	R
Motor Oil	R	H ₂ O	R
MTBE	C	H ₂ O (14 days @ S2°C)	R
Muriatic Acid (10%)	R	Xylene	RC

72 Hour Spot Test Chemical Resistance Data			
Chemical	Rating	Chemical	Rating
50% HNO ₃	8	57% HI	8*
37% HCl	10	50% H ₃ PO ₄	5
50% NaOH	10	Anti Freeze	10
50% H ₂ SO ₄	10	Motor Oil	10
Brake Fluid	10		

Rating Guidelines:	
0 to 1	75% -100% film dissolved
1 to 2	50% -75% film dissolved
2 to 3	25% - 50% film dissolved
3 to 4	1 % - 25% film dissolved
4 to 5	severe film damage, cracking, pinholes
5 to 6	film moderate to heavy damage, swollen, dulled
6 to 7	film moderately damaged, haze, residue
7 to 8	film with slight or no damage, slight haze, residue
8 to 9	film in very good condition
10	film unchanged, excellent condition

*Note:

- All samples using 57% HI had purple iodine discoloration due to the nature of the acid in air.
- Samples were placed at room temperature for 72 hours after application of one ml of solvent on 16 mil film of products

Chart Key

- R => Recommended Little or no visible damage
- RC => Recommended Conditional Some effect - swelling or discoloration
- C => Conditional Crackling-wash down within 1 hour of spillage to avoid effects
- NR => Not Recommended
- Dis => Discoloration



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APPLICATION GUIDELINES

Substrate Preparation

Prepare all surfaces clean and sound, prior to application of **ECO ToughFlex**. Thoroughly clean substrate of any dirt, dust, loose material, oil, grease, laitance, rust, scale, paint, coatings, curing compounds, acids, chemicals and all other contaminants. Mechanical abrasion is recommended to achieve optimum adhesion. Fill all joints, cracks and holes flush to surface with **ECO Weld** joint and crack sealant. Trim any overfill flush to surface.

Generally, primers are not required for use over properly prepared substrates such as metals, concrete and masonry. Contact manufacturer for primer requirements over other substrates.

Mixing and Application

ECO ToughFlex Rollable Version

Combine 1 part A to 1 part B by volume and mix together with a low speed drill mixer for 2 minutes, until a homogeneous mix with no streaks is achieved. Keep mixing blade submerged, scraping the bottom and sides of the container with the mixing blade and avoid creating a vortex action drawing air into the mix. Mix only the amount of material that can be used within 15 minutes of mixing.

Apply **ECO ToughFlex** Rollable Version to a uniform coating using multi-directional passes with the roller. Recommended maximum wet film thickness is 16 mils.

ECO ToughFlex Spray Version

ECO ToughFlex Spray Version may be formulated with a fast gel time of 15 seconds for high production spray applications utilizing high pressure plural component spray equipment, or with slower gel times of up to 3 minutes utilizing low pressure spray equipment.

For high pressure spray applications, the proportioning unit must be capable of supplying the correct pressure and heat for the required hose length on a consistent basis.

Recommended equipment settings:

Side A Hose Temperature – 150°F

Side B Hose Temperature – 150°F

Block Temperature – 150°F

Prior to spraying, mask off surrounding areas to cover over spray. Have adequate ventilation and wear the proper respirator.

REPAIRS AND MAINTENANCE

Lightly sand the damaged area to create a roughened surface. Clean all loose material, dirt, dust and debris from damaged area. Brush, roll or spray on a thin coating of **ECO ToughFlex**.

STORAGE, SHIPPING & HANDLING

Store product in a dry location in factory sealed containers at 60 to 90°F. Product shelf life is minimum 12 months in factory-sealed containers. **ECO ToughFlex** is Class 55, not regulated by USDOT shipping regulations.

SAFETY

Refer to Material Safety Data Sheets.

DISCLAIMER

The technical data and any other printed information furnished by Ecolink Products Group, Inc. is true and accurate to the best of our knowledge. This product conforms to Ecolink's in-house quality control procedures and should be considered free of defects. Due to the wide range of applications of this product, it is impossible to assume responsibility for any errors in regard to application, coverage, workmanship, over-spray or injuries resulting from the use of this product. Ecolink Products Group, Inc. makes no warranty, expressed or implied, of its products and shall not be liable for indirect or consequential damage in any event.