



# Global EcoTechnologies, inc.

## ENDURA-FLEX® 1990 ELASTOMERIC POLYURETHANE

### PRODUCT DATA

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#### PRODUCT DESCRIPTION

EF-1990, A 100% SOLIDS, MULTI-COMPONENT POLYURETHANE EXHIBITING A COMBINATION OF EXCEPTIONAL CHEMICAL INERTNESS, ELONGATION AND SUNLIGHT RESISTANCE (UV) ON CONCRETE, ASPHALT, STEEL, WOOD, AND EARTHEN SUBSTRATES USED IN SECONDARY CONTAINMENT, PETROLEUM, AND WASTE TREATMENT SERVICES.

EF-1990 OFFERS EXCELLENT CORROSION, ABRASION, AND CHEMICAL RESISTANCE WHILE RETAINING ITS FLEXIBILITY.

#### TYPICAL USE AREAS

PIPING \*\* DIGESTERS \*\* BIO TOWERS

MANHOLES \*\* CATCH BASINS

WET WELLS \*\* SECONDARY CONTAINMENT

VAULTS \*\* SUMPS \*\* EFFLUENT/INFLUENT

#### TECHNICAL DATA

**COMPONENTS:** A: ACTIVATOR  
B: BASE

**VOLUME OF SOLIDS:** 100%  
**V.O.C. CONTENT:** NONE

**MIX RATIO:** 1:1 BY VOLUME

**THINNER:** NONE REQUIRED  
(CLEAN UP: M.E.K.)

**COVERAGE:** 1604 FT<sup>2</sup>/MIL/GALLON

**PACKAGING:** TWO DRUM KITS, 54 GAL.  
EACH DRUM (108 GAL PER KIT)

**COLOR:** SIDE A: AMBER/SIDE B: OFF-WHITE  
WILL DARKEN TO TAN IN SUNLIGHT

**DRY TIME:** @ 77° F.

|          |               |
|----------|---------------|
| GEL      | 2-5 MINUTES   |
| TO TOUCH | 30-40 MINUTES |
| LT. FOOT | 2 HOURS       |
| CURED    | 168 HOURS     |

**POT LIFE:** @ 77° F. LESS THAN  
ONE MINUTE

**FLASH POINT:** 300° F.

**SHELF LIFE:** ONE (1) YEAR AT 75° F, IN  
SEALED, UNOPENED CONTAINERS.

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**NOTE:** GET®, ENDRUA-FLEX®, ENDURA-TUF®, ECOSYSTEM®, ARE TRADEMARKS OF GLOBAL ECOTECHNOLOGIES, INC.

All recommendations, statements, and technical data contained herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. User shall rely on his own information and tests to determine suitability of the product for the intended use and user assumes all risk and liability resulting from his use of the product. Seller's and manufacturers sole responsibility shall be to replace that portion of the product of this manufacturer, which proves to be defective. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements other than those contained in a written agreement signed by an officer of the manufacturer shall not be binding upon the manufacturer or seller.



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## **ENDURA-FLEX® 1990 ELASTOMERIC POLYURETHANE**

### **PHYSICAL TEST DATA**

| <b><u>PHYSICAL PROPERTY</u></b>                            | <b><u>TEST METHOD</u></b>     | <b><u>RESULT</u></b> |
|--|-------------------------------|----------------------|
| <b>Durometer Hardness, Shore A</b>                         | ASTM D-2260                   | 85 ± 5               |
| <b>Tensile Strength, PSI</b>                               | ASTM D-412                    | 1360                 |
| <b>Percent Elongation,</b>                                 | ASTM D-2370                   | 70%                  |
| <b>Abrasion Resistance</b><br>1000 cycles; 1000 gms; CS-17 | ASTM D-4060-84                | 0.5 mg               |
| <b>Impact Resistance</b><br>100 mil thickness sample       | ASTM D-2794<br>Gardner Tester | No cracking          |
| <b>Weight per gallon</b><br>A-Activator<br>B-Base          | ASTM D-1475                   | 9.2 lbs.<br>8.7 lbs. |
| <b>Viscosity, POISE @ 77°F.</b><br>A-Activator<br>B-Base   | ASTM D-445-79<br>Brookfield   | 5.0 ± 2<br>7.0 ± 2   |

### **EQUIPMENT RECOMMENDATIONS**

Plural Component metering and mixing equipment. Refer to Endura-Flex® Systems "Material Conditioning And Equipment Requirements." Consult your Representative for specific recommendation.

### **SAFETY REQUIREMENTS**

Please refer to the Material Safety Data Sheets for safety information and requirements.

### **SURFACE PREPARATION AND APPLICATION PROCEDURE**

Consult your Representative for specific recommendations to each individual project.



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### CHEMICAL CONTAINMENT DATA

#### CONTAINMENT TIME FOR 60 MIL FIL

| CHEMICAL | 24 HRS | 48 HRS | 72 HRS | 168 HRS |
|----------|--------|--------|--------|---------|
|----------|--------|--------|--------|---------|

|                        |     |     |     |     |
|------------------------|-----|-----|-----|-----|
| ACETIC ACID, 10%       | YES | YES | YES | YES |
| ACETIC ACID, 50%       | YES | NO  | —   | —   |
| ACETIC ACID, GLACIAL   | NO  | —   | —   | —   |
| NITRIC ACID, 70%       | NO  | —   | —   | —   |
| HYDROCHLORIC ACID, 37% | YES | YES | YES | YES |
| PHOSPHORIC ACID, 20%   | YES | YES | YES | YES |
| PHOSPHORIC ACID, 50%   | YES | YES | YES | YES |
| SULFURIC ACID, 20%     | YES | YES | YES | YES |
| SULFURIC ACID, 50%     | YES | YES | YES | YES |

#### **BASES**

|                         |     |     |     |     |
|-------------------------|-----|-----|-----|-----|
| AMMONIUM HYDROXIDE, 10% | YES | YES | YES | YES |
| AMMONIUM HYDROXIDE, 20% | YES | YES | YES | YES |
| AMMONIUM HYDROXIDE, 30% | YES | YES | YES | YES |
| SODIUM HYDROXIDE, 20%   | YES | YES | YES | YES |
| SODIUM HYDROXIDE, 50%   | YES | YES | YES | YES |

#### **OILS AND FUELS**

|                      |     |     |     |     |
|----------------------|-----|-----|-----|-----|
| HYDRAULIC OIL        | YES | YES | YES | YES |
| MOTOR OIL            | YES | YES | YES | YES |
| UNLEADED GAS - REG.  | YES | YES | YES | YES |
| UNLEADED GAS - PREM. | YES | YES | YES | YES |
| JET FUEL - JP4       | YES | YES | YES | YES |

#### **SOLVENTS**

|           |     |     |     |     |
|-----------|-----|-----|-----|-----|
| n-BUTANOL | YES | YES | YES | YES |
| IPA       | YES | YES | YES | YES |
| HEXANE    | YES | YES | YES | YES |
| M.I.B.K.  | NO  | —   | —   | —   |
| XYLENE    | NO  | —   | —   | —   |

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TEST APPARATUS ARE BASED ON ASTM D-814. DISCS OF THE TEST SPECIMENS (2.7") WERE MOUNTED INTO A GLASS VAPOR TRANSMISSION JAR (MASON JAR). JARS WERE SUPPORTED IN AN INVERTED POSITION IN SUCH A WAY AS TO ALLOW THE TEST LIQUID TO POND ON THE SPECIMEN AND TO ALLOW CIRCULATION OF AIR BELOW THE SURFACE OF THE SPECIMENS. THE TEST TEMPERATURE WAS 77°± 5° F. RESULTS WERE BASED ON VISUAL OBSERVATIONS AT 24, 48, 72 AND 168 HOURS FOR THE BREAKTHROUGH OF FREE LIQUID.



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### **MATERIAL CONDITIONING AND EQUIPMENT REQUIREMENTS**

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The following describes material "conditioning", mixing and minimum equipment requirements and capabilities which have offered repeatable results to meet manufacturer's published physical properties for over five years.

Differences in substrate temperature and film thickness during application have been shown to effect the rate at which applied film thicknesses reach the stated physical properties independent of the information listed below.

Equipment lists are available for application equipment systems capable of meeting these requirements according to job production needs.

- \* Each liquid component material shall be conditioned for use by heating to 80° F. to 90° F. Band heaters may not be used.
- The base "B" component material shall be mixed using a power mixer prior to use and mixed at least once daily.
- ENDURA-FLEX 1990® is a two-component (1:1 mix ratio by volume) chemically reactive product and shall be applied using a heated

"plural component" proportioning equipment system designed for high-pressure airless spray (minimum 2500 psi) for a minimum distance from the proportioner to meet job conditions.

- \* The equipment system used shall be capable of heating and maintaining individual components to a minimum 120° F. to reduce (band heaters are not permissible for heating the materials) viscosities to spray consistency, pumping individual components simultaneously in precise metered quantities and mixing those materials during application in the required volume mix ratio to affect the degree of cure and physical properties stated by the most recent published product data sheet.
- The conditioned materials shall be supplied to the proportioning equipment at a flowable, pumpable viscosity
- No solvent thinning of the materials is permitted.  
A solvent flush system will be necessary to clean mixed material from the spray gun at times when spraying stops for periods exceeding the material pot life.

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**Global EcoTechnologies, inc.**

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