Global EcoTechnologies, inc.

ENDURA FLEX® 1947 MODIFIED URETHANE ELASTOMER

PRODUCT DATA

PRODUCT DESCRIPTION

EF-1947, A 100% SOLIDS COAL TAR POLYURETHANE ELASTOMER, DESIGNED AS AN EXTERIOR SECONDARY CONTAINMENT COATING FOR INTERMITTENT IMMERSION, CHEMICAL SPLASH, AND SPILL SITUATIONS.

BY UTILIZING PLURAL COMPONENT SPRAY EQUIPMENT, EF-1947 CAN BE APPLIED OVER; CONCRETE, ASPHALT, WOOD, AND STEEL. WHEN USING THE PATENTED EXPANSION PROCESS OR COMBINED WITH REINFORCEMENT, EF-1947 CAN BE APPLIED DIRECTLY TO THE EARTH.

TYPICAL USE AREAS

CHEMICAL SUMPS ** NON-SKID SURFACES
WASTE STORAGE ** PLATING AREAS

CHEMICAL DRUM STORAGE ** CHEMICAL TANKS ** FUEL DISPENSERS

CATCH BASINS ** PROCESS AREAS
SLUDGE PITS ** EVAPORATION PONDS

FUEL TANKS ** GUNITE TRENCHES
LOADING RACKS (TRUCK AND RAIL)

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.)

PACKAGING: 2 DRUM KIT
(50 GAL. EACH DRUM)

COVERAGE: 12 FT^2 - 100 MIL
15 FT^2 - 80 MIL
20 FT^2 - 60 MIL

FLASH POINT: 200° F.

DRY TIME: @ 77° F.
TOUCH: 15-20 MINUTES
LT. FOOT: 30-40 MINUTES
HVY. FOOT: 2 HOURS
CURED: 24 HOURS

POT LIFE: @ 120° F: LESS THAN ONE MINUTE

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

ENDURA-FLEX® 1947 PHYSICAL PROPERTIES

PHYSICAL TEST	TEST METHOD	RESULT
Durometer Hardness @ 120°F., Shore A:	ASTM D-2240	
	15 Minutes	30-40
	30 Minutes	50-55
	60 Minutes	60-65
	2 Hours	70-75
	24 Hours	90-95
Tensile Strength: PSI	ASTM D-412	1350
Percent Elongation:	ASTM D-2370	47.5%
Abrasion Resistance: 1000 cycles; 1000 gms; CS-17	ASTM D-4060-84	40.1mg
Impact Resistance: 50 mil thickness sample	ASTM D-2794 Gardner Tester	No cracking
Weight per gallon:	ASTM D-1475	
A-Activator		9.6 lbs.
B-Base		8.2 lbs.
Viscosity, CPS @ 120°F.	ASTM D-445-79	
A-Activator	Brookfield	1875 ± 150 CPS
B-Base		875 ± 150 CPS
Accelerated Weathering Atlas Twin Arc Weatherometer 1000 hrs. @ 145°F.	ASTM G-23	Samples chalked slightly
Heat Aged 30 days	ASTM D-573	Passed
Methane Permeability Gas Trans. Rate, (ml (STP) day.m². atm)	ASTM D-1434	8.04
Moisture Vapor Permeability	ASTM D-1653	0.513 specific permeability mg/cm²/mm thickness; 24 hours @ 100% Rel. Humidity differential
Dynamic Deflection 2 cycles/min. @ 25% Compression for 1920 cycles (16 hrs.)	ASTM D-2231	No cracking observed
Di-Electric Strength 120 mils @ 1000 volts/second	ASTM D-149	368 volts/mil
Water Extractability 0.1077 mg/in²	EPA Procedure	0.5 mg/in²

EQUIPMENT RECOMMENDATIONS

Plural Component metering and mixing equipment. 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 FILM

CHEMICAL	24 HRS	48 HRS	72 HRS	168 HRS
ACETIC ACID, 10%	YES	YES	YES	YES
ACETIC ACID, 50%	YES	YES	YES	YES
ACETIC ACID, GLACIAL	YES	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
SULFURIC ACID, 98%	NO	---	---	---
BASES				
AMMONIUM HYDROXIDE, 05%	YES	YES	YES	YES
AMMONIUM HYDROXIDE, 20%	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
JP-4 JET FUEL	YES	YES	YES	YES
SOLVENTS				
ACETONE	NO	---	---	---
CELLOSOLVE	NO	---	---	---
HEXANE	YES	YES	YES	YES
M.E.K.	NO	---	---	---
M.I.B.K.	NO	---	---	---
N-BUTYL ACETATE	NO	---	---	---
TOLUENE	NO	---	---	---
TRICHLORETHYLENE	YES	NO	---	---
XYLOL	NO	---	---	---

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 OBSERVATIONS AT 24, 48, 72 AND 168 HOURS FOR THE BREAKTHROUGH OF FREE LIQUID.

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MATERIAL CONDITIONING AND EQUIPMENT REQUIREMENTS

The following describes material "conditioning," mixing, and minimum equipment requirements and capabilities, which have offered repeatable results to meet manufacturers, 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.

- ENDURAFLEX® 1947 is a two component (1:1) mix 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, and in such volume delivery to assure full supply for each pump stroke.

- 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.

Global EcoTechnologies, inc.
creative solutions for environmental concerns"
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