Eco-Flex™

Flexible Epoxy Primer

DESCRIPTION – Neutral, two-component, high solids epoxy. Applied at 3-5 mils for priming or up to 2 coats of 20 mils as a flexible waterproofing membrane. Also used as a seed coat for broadcast systems. Colors are optional.

- **LEED® v4** – Indoor Air Quality credits available.
  - Meets requirements per CDPH-CA Section 01350 Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental chambers Version 1.2.

ENVIRONMENTALLY & USER FRIENDLY

- Consistent flexibility throughout life of coating
- Bridges hairline cracks
- Adaptable to thin or thick system requirements

PRIMARY APPLICATIONS

Use as a flexible concrete primer before applying another epoxy or urethane	Use as random crack filler when combined with thickening agents
Use in places where slab movement takes place	Waterproofing
Reduces damage from dropped tools and other heavy objects	Broadcast coat for broadcast systems

APPLICATION COVERAGE RATE

To meet <**100 g/L VOC per EPA Method 24**, Eco-Flex must be applied in a in a single coat of 15 mils (0.38 mm) or greater or a combination of 2 coats for a combined mil thickness of 15 mils (0.38 mm) or greater.
Coverage rate at 15 mils is 107 ft^2 (9.94 m^2) per gallon.

MATERIAL PROPERTIES (LIQUID)

Property	Test Method	Results
Volatile Organic Compound, VOC, g/L [lb/gal]	EPA–Method 24	<100 (0.83) @ 15 mils (0.38 mm) or greater
Density - lb/gal / kg/L	ASTM D1475	A - 9.57 / 1.5 | B - 8.50 / 1.02 A/B - 9.03 / 1.08
% solids (nonvolatiles)	ASTM D2369, Method E	>91.00 @ 15 mils or greater
Mix ratio by volume		1 part A to 1 part B

CURED COATING PROPERTIES (DRY FILM)

Property	Test Method	Results
Abrasion Resistance, mg loss Taber Abraser, CS-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions	ASTM D4060	43.1
Adhesion	ASTM D4541	Greater than 400 psi (concrete failure)
Tensile Strength, psi (kPa)	ASTM D2370	18,530 [127,857] (7 mils, 3-day cure)
Percent Elongation	ASTM D2370	125 (7 mils, 3-day cure)
Shore A Hardness	ASTM D2240	85 @ 0 sec / 80 @ 15 sec
Shore D Hardness	ASTM D2240	40 @ 0 sec / 35 @ 15 sec

Results are based on conditions at 77°F (25°C)

GENERAL PRODUCT INFORMATION

STORAGE:	Materials should be stored indoors between 65ºF [18ºC] and 90ºF [32ºC].
SHELF LIFE:	One year from date of manufacture.
PACKAGING OPTIONS / PART NUMBERS:	10 gallons (56.7 litres) / 9003637
OPTIONS:	*Colors:* Use colorants at a rate of one unit per 4-gallon (15.12 litres) mix of Eco-Flex. Standard Colorants--White, Yellow and Light Gray will not impart total hide. Use these colorants at a rate of two units per 4-gallon (15.12 litres) mix. Similar colorants also may not hide as well. Refer to Color Selection Guide or consult Tennant Technical Support.
LIMITATIONS:	*UV/Light Stability:* This product is not light stable and will yellow/amber over time. *Contamination (Fisheyes):* Products may fisheye if oil, silicones, mold release agents or other contaminants are present. *Properties:* Product designed as primer and build coat only. For enhanced chemical resistance and wear characteristics, product must be topcoated. Thin urethanes should not be applied directly to Eco-Flex where there is going to be traffic of any kind. The differences in flexibility may lead to premature wear or bond issues.

IMPORTANT: READ AND FOLLOW ALL PRECAUTIONS AND INSTRUCTIONS BEFORE PROCEEDING.

PLEASE SEE SAFETY DATA SHEET (SDS) FOR HANDLING PROCEDURES.
USE PRODUCT AS DIRECTED.
KEEP OUT OF THE REACH OF CHILDREN.

PRELIMINARY FLOOR INSPECTIONS

CHECK THE CONCRETE: Concrete must be structurally sound and free of curing membrane, paint or other sealer. If you suspect that the concrete has been previously sealed, call Tennant Company, technical support for further instructions.

CHECK FOR MOISTURE: Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. In-situ relative humidity testing is recommended. Readings must be below 75% relative internal concrete humidity. Test methods can be purchased at www.astm.org, see F2170, or follow manufacturer's instructions. If moisture issues are present, the use of a moisture mitigation system may be a consideration. Please call Tennant Company Technical Support for further information / instructions.

NOTE: Although testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or the vapor barrier is not functioning properly and/or you suspect you may have concrete contamination from oils, chemical spills or excessive salts.

CHECK THE TEMPERATURE AND HUMIDITY: Floor temperature and materials should be between 65°F (18°C) and 85°F (29°C). **Humidity must be less than 70%** or the result may be a hazy appearance. **DO NOT** coat unless floor temperature is more than five degrees over the current, local dew point.

APPLICATION EQUIPMENT

• Protective clothing	• Roller assembly (18")
• Jiffy® mixer blade [Tennant Part No. 08643-1 (1 gal) or 08643-5 (5 gal)]	• Medium (3/8") nap roller (shed resistant)
• Slow speed drill (500 rpm or less)	• Spiked shoes
• 18-24" (457.2-609.6 mm) Flat rubber squeegee	• 80 grit sandpaper
• 18-24" (457.2-609.6 MM) Notched rubber squeegee	

ASSEMBLE EQUIPMENT: Due to the limited pot life of the material, all application equipment, etc. should be ready for immediate use. (Clean roller with tape to remove any residual lint.)

PREPARATION

Ensure concrete is free of dirt, grease, oil, or other contaminant. Certain types of contaminant may interfere with coating adhesion and cause fisheyes or defect in the coating. Scrub with detergent, rinse with clean water, and allow to fully dry.

Concrete Preparation Options for Thin to Medium Film Applications (25 mils (0.63 mm) maximum)
Diamond Grind: (results of diamond grinding may vary depending on technique and the hardness of the concrete. Additional mils may be required). Sweep to remove large debris and vacuum to remove fine dust.
Light Blast: Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust.

Concrete Preparation options for Thick-Film Applications
Steel Shot Blast: Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust.
Scarify: Sweep to remove large debris and vacuum to remove fine dust.

Filling Joints: Depending on the preference of the facility owner, joints may or may not be filled. If the joints are filled, non-moving joints, i.e. contraction or control joints, can be hard filled with thickened epoxy or with a semi-rigid joint filler such as Eco-PJF™ or Eco-EJF™. Construction joints less than one inch wide may also be filled with Eco-PJF. Isolation or expansion joints must be filled with a flexible material designed for this purpose. **Coating applied over filled joints may crack if there is concrete movement.**

APPLICATION – PRIMER COAT

A thin coat of primer will wet out concrete, help seal off concrete pores and minimize outgassing bubbles. Apply a tight coat of primer with a clean, flexible squeegee. Backrolling is not recommended. There should be no mil build over the high spots of the concrete.

COVERAGE RATE will depend upon coating thickness. Much of this will soak into porous concrete. One gallon (3.78 litres) of Eco-Flex will cover:
535 ft^2 (49.70 m^2) @ 3 mils (0.08 mm) wet/dry film
400 ft^2 (37.16 m^2) @ 4 mils (0.10 mm) wet/dry film
321 ft^2 (29.82 m^2) @ 5 mils (0.13 mm) wet/dry film

PREMIX PART A using a Jiffy® mixer blade and slow speed drill. (This is required for both 2-gallon (7.56 litres) and full-filled 5-gallon (18.9 litres) units.) For full-filled 5-gallon pails (18.9 litres), pour out no more than 2 gallons (7.56 litres) into a measuring container. Then, pour the measured Part A into a mixing pail.

COLORS: Premix Tennant Colorants to ensure uniform color. Colorant is added to the Part A and mixed using a Jiffy® mixer blade and slow speed drill. **NOTE:** *When using colorant in the bulk units, add the colorant to the Part A that has been measured into the "mixing pail".*

ADD ECO-FLEX PART B TO PART A

For full-filled 5-gallon pails, pour out the same amount of Part B as Part A that was measured (2 gallon maximum) into a measuring container that is separate from the one used with the Part A. Then, add the measured Part B to the Part A already in the mixing pail. ***POTLIFE:*** *Mix only enough material which can be applied within the work time (time between the addition of Part B to Part A and the completion of all application actions). Check the following chart for work times at various temperatures. For smaller quantities, use 1 part PART A to 1 part PART B by volume.*

APPROXIMATE WORK TIME (minutes) - °F (°C):	**65 (18.3)**	**70 (21.1)**	**75 (23.9)**	**80 (26.7)**	**90 (32.2)**
	40	30	25	20	15

MIX FOR 2 MINUTES using a Jiffy® mixer blade and slow speed drill. (Failure to do so could result in lower/diminished coating properties.)

IMMEDIATELY POUR ALL OF THE MIXED MATERIAL onto the floor in a single bead.

PUSH THE FLAT SQUEEGEE at an even speed with down pressure. The squeegee should be pushed to apply maximum pressure and therefore the thinnest coat.

START THE SECOND AND REMAINING PASSES by pushing material parallel to the first stroke. Hold the bead of material near the center of the bar and push at an even speed with slight down pressure. ***NOTE:*** *Eco-Flex applied thin may "bridge" holes and cracks momentarily before soaking in--make sure the previously squeegeed area is overlapped (halfway).* ***NOTE:*** *The use of spiked shoes will allow freedom of movement on the wet floor.*

TO REDUCE OUTGASSING BUBBLES, it is best to wait until the primer has set up before applying a build coat of Eco-Flex.

The primer does not need to be sanded if coated within 24 hours at floor temperatures 65°F-90°F (18°C-32°C).

If primer is not coated within 24 hours, it must be sanded with 60 grit paper. We recommend thorough sanding with a swing-type buffer so that multiple scratch marks cause an obvious gloss loss on all areas (depressions will remain shiny), and the floor is uniformly dulled. The ability to see individual scratch marks is an indication that sanding is not adequate. Scrub with detergent and rinse with clean water before coating.

APPLICATION – BUILD COAT / BROADCAST COAT

- Total Eco-Flex should not exceed 40 mils (1.02 mm).
- For waterproofing, two build coats adding up to 35-40 mils (0.89-1.02 mm) are recommended.
- Quartz or flake may be broadcast directly into Eco-Flex; however, the particles should be sealed with Eco-TCU or Eco-URE™.

COVERAGE RATE will depend upon required thickness. One gallon (3.78 litres) of Eco-Flex will cover:
160 ft^2 (3.9 m^2) @ 10 mils (0.25 mm) wet/dry film
107 ft^2 (2.6 m^2) @ 15 mils (0.38 mm) wet/dry film
80 ft^2 (1.9 m^2) @ 20 mils (0.51 mm) wet/dry film
NOTE: *Total Eco-Flex (prime and build coat) should not exceed 40 mils.*

REPEAT STEPS used for mixing and spreading of the primer coat. A notched squeegee can be used to increase the thickness applied.
*3/16" notched squeegee to apply 10-20 mils (0.25-0.51 mm)
*1/4" notched squeegee to apply more than 20 mils (0.51 mm)
*These guidelines were arrived at by using new squeegees on smooth concrete with little applied pressure. The application rate is affected by worn squeegees, applied pressure and texture of the concrete.

Immediately after the Eco-Flex is applied and there is room to roll, a second person will **BACKROLL THE MATERIAL** with a 3/8" roller to a smooth and uniform appearance. ***NOTE:*** *Get off the Eco-Flex as soon as possible.*

TO AVOID INDENTATION/COMPRESSION of heavy objects, Eco-Flex must be coated with at least 8 mils of another Tennant epoxy before traffic or a thin urethane is applied. Eco-Flex should be set before applying another Tennant epoxy. See appropriate Product Bulletin for specific instructions.
Eco-Flex does not need to be sanded if coated within 24 hours at 65-90°F (18-32°C). ***NOTE:*** *This is a Tennant solution. DO NOT try this with competitive coatings.*

APPLICATION OF ADDITIONAL COATINGS

If Eco-Flex is being topcoated with another Tennant epoxy or polyaspartic at floor temperatures of 65-90°F (18-32°C), it does not need to be sanded if applied within 24 hours. (See appropriate product guide for application instructions.) **NOTE:** *This is a Tennant solution only,* ***DO NOT*** *try this with competitive epoxies.*

SANDING REQUIRED

Eco-Flex must be thoroughly sanded if applying Eco-Flex, another Tennant epoxy or polyaspartic outside of the 24-hr recoat window.
Use 80 grit paper/60 grit screens. We recommend thorough sanding with a swing-type buffer so that multiple scratch marks cause an obvious gloss loss on all areas (depressions will remain shiny), and the floor is uniformly dulled. The ability to see individual scratch marks is an indication that sanding is not adequate. Scrub with detergent and rinse with clean water before coating.

TECHNICAL SUPPORT

For any preparation or application questions, please call Tennant technical support at 800-228-4943, option 3 (US & Canada), 800-832-8935 (International).

DISPOSAL

Dispose of all excess material, packaging and other waste in accordance with federal, state and local regulations.

MAINTENANCE GUIDELINES

Allow floor coating to cure at least one week before cleaning by mechanical means (e.g., sweeper, scrubber, disc machine).

Care: Proper maintenance will increase the life and help maintain the appearance of your new Tennant floor coating. Sweep and scrub your new coating regularly, as dirt and dust are abrasive and can quickly dull the finish, decreasing the life of your coating. Remove spills quickly as certain chemicals may stain and could possibly permanently damage the finish.

Use soft nylon brushes or white pads on your new floor coating. Any brush more abrasive than a soft nylon or white pad can cause premature loss of gloss.

Detergent: Tennant has a full range of detergents--general purpose to heavy duty--for your cleaning needs. For assistance in determining which detergent is right for your facility or for additional technical information call: 800-228-4943, option 3 (US & Canada), 800-832-8935 (International).

Caution: Avoid scratching or gouging the surface. All floor coatings will scratch if heavy objects are dragged across the surface.

Do not drop heavy or pointed items on the floor as this may causing chipping or concrete popouts in the case of a weak cap.

Rubber tires can permanently stain the floor coating from plasticizer migration. Plexiglass® between the tire and the floor coating can prevent discoloration.

Rubber burns from quick stops and starts can heat the coating to its softening temperature, causing permanent marking.

Repair: Repair gouges or scratches or chip outs as soon as possible to prevent moisture or chemical contamination.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

Tennant offers a limited warranty on all products. Please see the Tennant Coatings Limited Product Warranty Statement on our website at www.tennantcoatings.com/warranty. Please contact the Tennant Coatings Technical Support team for additional questions at 800-228-4943, option 3 (US & Canada), 800-832-8935 (International).