

# Eco-DFS™/ Eco-DQS™

Decorative Flake System /  
Decorative Quartz System

# Eco-MPE™

Multi-Purpose Epoxy



Tennant Company, 701 North Lilac Drive, P.O. Box 1452, Minneapolis, MN 55440-1452  
800-553-8033 / www.tennantfloorcoatings.com  
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**DESCRIPTION:**

Two-component, 100% solids epoxy system that is filled with colored quartz aggregate or flake for an attractive, slip-resistant surface on interior concrete floors.

**USES:**

- Use in service and repair shops for durability and slip resistance
- Creates an attractive, textured surface where appearance is important

**ADVANTAGES:**

- Seals concrete, protecting against dirt and spills
- Very durable, excellent traction
- Complies with VOC and VOS regulations

**STORAGE:** Materials should be stored indoors between 65°F (18°C) and 90°F (32°C).

**SHELF LIFE:** Two years from date of manufacture.

**PACKAGING OPTIONS / PART NUMBERS:**

**Eco-MPE:**

3.0 gallons / 370503

**Standard Flake Blends / Solids - 50 pound box**

**Standard Quartz Blends / Solids - 50 pound bag**

For part numbers, refer to Coatings Price List or contact Tennant Customer Service for assistance.

**OPTIONS:**

For optimum performance, Eco-DFS - Quartz can be coated with a urethane topcoat.

*Colors:* Custom color blends are also available.

**LIMITATIONS:**

*UV/Light Stability:* This product is not UV/light stable and will yellow/amber over time.

*Contamination (Fisheyes):* Products may fisheye if oil, silicones, mold release agents or other contaminants are present.

**See Eco-MPE Product Bulletin for the following:**

- MATERIAL PROPERTIES (LIQUID):
- CURED COATING PROPERTIES

**MATERIAL PROPERTIES OF AGGREGATE (PART C):**

Property	Test Method	Results	
Aggregate Hardness	Moh's Mineral Scale	6.5-7	
Aggregate Particle Size	ASTM D451	<u>US Sieve</u>	<u>% Retained</u>
		20	0-10
		30	5-15
		40	50-70
		50	15-30
		70	0-5
		-70	0-1
Percent Solids, by wt	ASTM D2369	100	
Density, lb/gal (kg/L)	ASTM C29	21.7 (2.6)	
Volatile Organic Compound - VOC lb/gal (g/L)	ASTM D3960	0 (0)	

**CURED COATING PROPERTIES:**

Property	Test Method	Results
Coefficient of Friction - COF James Friction Tester	ASTM D2047	>1.0 (over quartz)

\*CS-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions  
Results are based on conditions at 77°F, 50% relative humidity.

**APPLICATION CHARACTERISTICS:**

Coverage rate will depend upon application coating thickness as well as the texture and porosity of the concrete.

<b>Flake</b>	Coverage Rate, <i>ft</i> <sup>2</sup>	.4-.5 lbs./sq. ft.
	Application Thickness, <i>inches</i>	1/8"
<b>Quartz</b>	Coverage Rate, <i>ft</i> <sup>2</sup>	.2 lbs./sq. ft.
	Application Thickness, <i>wet/dry mils</i>	1/8"

SEE ECO-MPE PRODUCT BULLETIN  
FOR CHEMICAL RESISTANCE.

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

#### 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. Calcium chloride testing or in-situ relative humidity testing is recommended. Readings must be below 3 pounds per 1,000 square feet over a 24-hour period on the calcium chloride test or below 70% relative internal concrete humidity. Test methods can be purchased at [www.astm.org](http://www.astm.org), see ASTM F1869 or F2170, respectively or follow manufacturer's 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 90°F (32°C). Humidity must be less than 80%. **DO NOT** coat unless floor temperature is more than five degrees over the dew point.

#### APPLICATION EQUIPMENT

- Protective clothing
- Jiffy® Mixer Blade  
[Tennant Part No. 08643-1 (1 gal) or 08643-5 (5 gal)]
- Slow speed drill (500 rpm or less)
- 18-24" Flat
- 1/16" Notched Squeegee (optional)
- Medium (1/2") Nap Roller Assembly  
[Tennant Part No. 08647-9 (9") or 08647-18 (18")]
- Medium (1/2") Nap Roller Refill  
[Tennant Part No. 08578-9 (9") or 08578-18 (18")]
- Spiked shoes
- Mechanical blower (& funnel) to broadcast quartz
- Push broom and/or vacuum

**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

Detergent scrub and rinse with clean water to remove surface dirt, grease, oil and contaminants.

**Steel Shot Blast:** Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust.

**TERMINATION POINTS:** Edges should be beveled to ensure a smooth transition to adjacent areas.

**JOINTS:** Non-moving joints, i.e. contraction or control joints, should be hard filled with thickened, 100% solids epoxy. Isolation or expansion joints must be honored and filled with a flexible material designed for this purpose.

**PATCHING:** All cracks and holes should be filled to reduce the ability to see the defect through the decorative system.

#### APPLICATION - SEED COAT (For full broadcast of quartz / flake.)

**NOTE:** A thin, tight squeegee coat (no backroll) applied and allowed to set prior to the seed coat will minimize outgassing bubbles coming through the system.

**COVERAGE RATE** will depend upon required thickness. A gallon of Eco-MPE will cover:  
160 ft<sup>2</sup> @ 10 mils wet/dry film  
200 ft<sup>2</sup> @ 8 mils wet/dry film  
267 ft<sup>2</sup> @ 6 mils wet/dry film

**PREMIX PART A** using a Jiffy® mixer blade and slow speed drill. (This is required for both 3-gallon and full-fill 5-gallon units.)

**ADD ECO-MPE PART B TO PART A (3 GALLONS MAX).**  
**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 2 parts PART A to 1 part PART B by volume.

#### APPROXIMATE WORK TIME (minutes)

	50°F	60°F	65°F	70°F	75°F	80°F	90°F
<b>Eco-MPE</b>	>90	>90	40	30	25	20	15

**MIX FOR 3 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 OR 1/16" NOTCHED SQUEEGEE** at an even speed with down pressure to spread the material.

**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:** The use of spiked shoes will allow freedom of movement on the wet floor. **CAUTION:** The surface will be slippery.

**BACKROLL THE MATERIAL** with a 1/2" nap roller for a smooth uniformed appearance. Backrolling is required to remove the puddles and squeegee lap marks in order to obtain uniform texture and a consistent mil thickness.

**IMMEDIATELY BROADCAST TO EXCESS WITH DECORATIVE QUARTZ OR FLAKE** into uncured Eco-MPE resin on the floor. Do not dump or pile the material. Gently scatter it onto the floor by hand tossing so as to cover the wet resin completely. A mechanical blower can be used to scatter quartz. A coverage rate of .4-.5 pounds per sq. ft. is recommended with quartz, .2 pounds per sq. ft. with flake.

**ALLOW SYSTEM TO CURE** 8-10 hours at 75°F (24°C).

**THOROUGHLY SWEEP AND VACUUM** to remove loose colored quartz granules / flake from surface. **DO NOT** reuse swept and vacuumed colored quartz or flake unless you have taken extra precautions.

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### APPLICATION - SEED COAT (For second full broadcast.)

**COVERAGE RATE** will depend upon required thickness. A gallon of Eco-MPE will cover:  
107 ft<sup>2</sup> @ 15 mils wet/dry film

**REPEAT COATING OF FLOOR WITH ECO-MPE.** Use a flat squeegee to spread the material. Again, back rolling is required to remove puddles and squeegee lap marks in order to obtain uniform texture and consistent mil thickness.

**REPEAT BROADCAST** at the rate of .4-.5 pounds per sq. ft. decorative quartz granules, .2 pounds per sq. ft. flake.

**ALLOW SYSTEM TO CURE** 8-10 hours. Again, thoroughly sweep and vacuum loose quartz granules or flake.

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### APPLICATION OF SEAL/FINISH COATING

**REPEAT COATING OF FLOOR WITH ECO-MPE.**

**IF LESS TEXTURE IS DESIRED,** apply additional Eco-MPE within 24 hours to ensure adhesion.

**ALLOW SYSTEM TO CURE** 24 hours at 75°F (24°C) before opening to light traffic. Allow more time at low temperatures or for heavier traffic. Full coating properties take 14 days to develop.

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### APPLICATION OF ADDITIONAL COATINGS

If Eco-MPE is being topcoated with a urethane for improved performance, coat over the seal coat of Eco-MPE within 24 hours to ensure adhesion. See appropriate Product Bulletins.

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### TECHNICAL SUPPORT

For any application questions, please call Tennant technical support at 800-553-8033 ext. 6070.

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### DISPOSAL

Dispose in accordance with federal, state and local regulations.

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**PLEASE SEE MATERIAL SAFETY DATA SHEET (MSDS) FOR SAFETY AND PRECAUTIONS.**

**USE PRODUCT AS DIRECTED.**

**KEEP OUT OF THE REACH OF CHILDREN.**

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### 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. Polypropylene or abrasive bristle (Tynex®) brushes 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: 800-553-8033.

**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 cause 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.

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### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

This warranty applies to all Specialty Surface Coatings, with the following exceptions: Eco-Hard-N-Seal™, Eco-EDP™ (Electrostatic Dissipative Primer), Eco-EDE™ (Electrostatic Dissipative Epoxy), and SDS™ (Static Dissipative System). These products have a separate warranty policy.

Tennant Company warrants its Specialty Surface Coatings to be free from defective manufacture, improper formulation, and defective ingredients. Warranty covers replacement of materials only.

**THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

In no event shall Tennant or Seller be liable for any incidental, consequential, or special damages arising out of the use of Tennant Specialty Surface Coatings. **THE ONLY REMEDY OF THE USER OR BUYER, AND THE ONLY LIABILITY OF TENNANT AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES, OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE) SHALL BE REPLACEMENT OF THE PRODUCT OR, AT THE ELECTION OF TENNANT OR SELLER, RETURN OF THE PURCHASE PRICE.**

***No representative of Tennant has authority to give any other warranty or assume other liability.***

The presence of a Tennant employee during the application of Tennant's Specialty Surface Coatings does not extend or alter the warranty or limitations in any manner whatsoever.