

DESCRIPTION

ES-90 is a one-component, moisture cured, urethane adhesive designed for the direct bonding of Vulcanized Composition Rubber flooring in interior and exterior applications.

FEATURES AND BENEFITS

- 100% solids, solvent-free formula
- Low-odor and VOC content
- Ready to use, no mixing necessary

WHERE TO USE

- Approved for Vulcanized Composition Rubber (VCR) flooring, VCR-backed flooring, and VCR underlayments

LIMITATIONS

- Do not install over substrates containing asbestos.
- Do not install on asphalt.
- Do not apply over any adhesive residues, including cutback adhesive.
- Do not install in areas not recommended by ECOsurfaces.
- Do not install with known hydrostatic moisture, osmotic blistering, or alkali silica reaction conditions.
- Use only install when the substrate temperature is between 50°F and 90°F (10°C and 32°C), and when the ambient relative humidity is between 30% and 80%.
- Do not install when the RH of the concrete slab exceeds 90% (ASTM F2170)
- Do not install if the pH of the substrate exceeds 12.0.
- Do not use as a leveling, patching or subfloor repair material.
- Refer to the Safety Data Sheets and the ECOsurfaces Technical Manual for complete information regarding safety, uses, application, and limitations.

SUITABLE SUBSTRATES

- Fully cured concrete at least 28 days old and installed according to ASTM F-710 (please note "Limitations" section above).
- Exterior-grade plywood, Group 1, CC type and APA Underlayment Grade Plywood
- Portland-based self-leveling underlayments and patching compounds, moisture resistant and rated to withstand the RH moisture levels on the project.
- Properly prepared and installed 2-part epoxy moisture mitigation systems conforming to ASTM F3010.
- Radiant-heat systems that have been properly installed and that are maintained at a maximum of 85°F (29.4°C) surface temperature.

SURFACE PREPARATION

- All substrates must be prepared in accordance with ECOsurfaces written instructions and comply with all current standards and regulations.
- All substrates must be structurally sound, dry, solid, and stable.
- The substrate should be clean and free of dust, dirt, oil, grease, paint, curing agents, concrete sealers, loosely bonded toppings, loose particles, old adhesive residues, and any other substance or condition that may prevent or reduce adhesion. If the surface contains these substances, they

must be mechanically removed. Do not use chemical means.

- All surfaces must be flat to 3/16" in a 10-foot span (4.5 mm in a 3.05 m span), even, and smooth.
- Concrete and cement-based underlayments/patches must be cured and free of any hydrostatic and/or moisture problems.

PRODUCT APPLICATION

Thoroughly read the ECOsurfaces Technical Manual for acclimation requirements and installation instructions before installation and install accordingly.

1. Ready to use, no mixing necessary
2. Key the adhesive into the substrate surface using the flat side of the trowel.
3. Select the appropriately notched trowel (see the "Approximate Coverage" chart) and spread the adhesive evenly over the subfloor, keeping the trowel at a 45-degree angle to surface.
4. Do not spread more adhesive than can be covered within 30 minutes. After spreading the adhesive, immediately install the flooring material into the adhesive while it is still fresh.
5. Periodically lift the material to confirm proper adhesive transfer (100%) to the backing.
6. Roll the flooring surface across the width and length with the Technical Manual's recommended roller to break down adhesive ridges and to ensure complete removal of trapped air. Pull (rather than push) the roller, so that footprints are not left on the floor.
7. Complete the installation per the ECOsurfaces Technical Manual.
8. It may be necessary to apply weights, particularly at seams, to maintain contact until adhesive sets.

CLEANUP

- ES-90 Urethane Adhesive is extremely difficult to remove when cured.
- Clean fresh/wet adhesive smudges on flooring and tools immediately using mineral spirits or denatured alcohol. Use the mineral spirits or denatured alcohol sparingly. Follow with a rag damp with water to remove the mineral spirits or denatured alcohol.

PROTECTION

- Protect floor from foot traffic for at least 24 hours, heavy loads for 48 hrs. and rolling loads for 72 hours.
- Protect from rain / water exposure and freezing conditions for 72 hours after installation.
- Follow the ECOsurfaces Technical Manual temperature requirements during installation.

Product Performance Properties

Laboratory Tests	Typical Results
Percent Solids	100%
VOC's (Rule #1168 of California's SCAQMD)	< 40 g per L
Density	13.35 lbs. per U.S. gal. (1.6 g per mL)
Flash point (ASTM D56)	> 200°F (93°C)

Shelf Life and Product Characteristics

Shelf Life	1 year when stored in original, unopened container at 73°F (23°C)
Storage Conditions	Store at 65°F to 80°F (18°C to 27°C)
Polymer Type	Moisture-cured urethane
Consistency	Smooth paste
Color	Dark gray

PROTECT FROM FREEZING

ES-90 is freeze-thaw stable. It is best to protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 48 hours before work begins.

Application Properties at 73°F (23°C) and 50% relative humidity

Flash Time [†]	Working Time ^{††}	Adjustability Time ^{†††}
0-10 minutes	20 to 30 minutes	30 to 45 minutes

[†] Flash time: Time for freshly applied adhesive to be exposed to air before installation of floor covering.

^{††} Working time: Maximum time adhesive can be exposed to air and effectively bond to floor covering.

^{†††} Adjustability time: window of time when adjustments can still be made to position of floor covering without compromising adhesive bond.

Note: Flash time and working time vary based on temperature, humidity, substrate porosity, trowel size, and jobsite conditions.

Packaging

Size
Metal pail: 4 U.S. gals. (15.1 L)

Approximate* Coverage

Typical Trowel	Approximate* Coverage
1/16" x 1/32" x 1/32" (1.6 x 0.8 x 0.8 mm) U-notch trowel	120 sq. ft. per 1 U.S. gal./ (2.9 m ² per L)
1/16" x 1/16" x 1/16" (1.6 x 1.6 x 1.6 mm) Square-notch trowel	90 sq. ft. per 1 U.S. gal. (2.2 m ² per L)
1/8" x 1/8" x 1/8" (3.2 x 3.2 x 3.2 mm) Square-notch trowel	45 sq. ft. per 1 U.S. gal. (1.1 m ² per L)

* Trowel dimensions are depth/width/space. Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions, type of trowel used and setting practices.

RELATED DOCUMENTS:

Refer to the Safety Data Sheet for specific data related to health and safety as well as product handling.