

### EC141 EPOXY COATING (TOP COAT)

#### 1 – PRODUCT DESCRIPTION

**SİLİFİX EC141**, is a two component, solvent free, self leveling, high build epoxy top coat. Because of UV resistance and high gloss retention properties it is ideal for outdoor applications.

#### 2 – FEATURES & BENEFITS

- Solvent free, 100% solid
- Attractive, high gloss, reflective coating
- High impact resistance
- Durable, impermeable and seamless
- Excellent chemical resistance
- Excellent mechanical properties; high tensile and tear strength, abrasion resistance

#### 3– APPLICATION AREAS

Typical applications may include:

- Production rooms, offices and even pharmaceutical laboratories
- Laboratories
- Museums and galleries
- Animal shelters and veterinary clinics

#### 4 – SURFACE PREPARATION & APPLICATION PROCEDURE

**Surface Preparation:** Surface must be clean, sound and dry. Remove dust, laitance, grease, curing compounds, preparation bond inhibiting impregnations, waxes and any other contaminants. All projections, rough spots, etc. should be removed to achieve a level surface prior to the application.

**Concrete** - Should be cleaned and prepared to achieve a laitance-free and contaminant-free, open-textured surface by shot-blasting or equivalent mechanical means (CSP-3 to CSP-4 as per ICRI guidelines). Sweep and vacuum any remaining dirt and dust with a wet/dry vacuum. Removing residual dust will help ensure a tenacious bond between the primer/coating and substrate. Whenever “shot-blasting” is utilized, be careful to leave concrete with a uniform texture. “Over-blasting” will result in reduced coverage rates of the primer and/or subsequent topcoats. The “shotblast” pattern may show through the last coat, known as “tracking”. The compressive strength of the concrete substrate should be at least 3,500 psi (24 MPa) at 28 days and at least 215 psi (1.5 MPa) in tension at the time of application.

**Priming:** Priming for concrete substrate is required. After proper surface preparation, prime all surfaces with a suitable primer (choose primer based on moisture content of substrate) by using a roller, or a brush. Sprinkle dry silica sand (size 0,3- 0,5mm) evenly onto the wet primer. Allow the primer to cure (varies with temperature and humidity) until tack free. Ensure that the primer is pore-free, pinhole-free and provides uniform and complete coverage over the entire substrate. The consumption of the primer is around 0,3-0,5 kg/m<sup>2</sup>.

**Mixing:** Before mixing component A+B, Each component must be pre-mixed separately to ensure product uniformity. Pour Component B (hardener) into the Component A (resin) pail and mix using a low speed (300rpm) electric drill until mixture is completely homogenous. Be careful not to introduce any air bubbles while mixing. Make sure the contents are completely mixed to avoid any weak or partially cured spots in the coating. During the mixing operation, scrape down the sides and bottom of the container with a flat or straight edge trowel at least once to ensure complete mixing. Mixing ratio is 4:1.

**Application Method:** Pour a bead of product on to the surface to be coated, then spread with a notched squeegee or pin rake to the desired thickness. Roll immediately (within max. 10 minutes of application) in two directions with a spiked roller to ensure even thickness and the removal of entrapped air. To obtain a higher aesthetic finish, spike roll in two directions at a 90 degree angle by passing only once in each direction.

**Important:** Application on wet and frozen surfaces should not be done. Precautions should be taken in areas exposed to water from the negative side or water vapor. Substrate moisture content and also adherence should be checked before application. Epoxy based products have limited working time. Pot life and curing time will be shorter at high temperatures and also will be longer at low temperatures. Especially in hot environments, mixture should be applied immediately and should not be left in the mixture box. The mixture that started to gel should not be applied to the surface. Mixture other than the specified mixture ratio should not be done.

## 5- PACKAGING

Component A: 12 Kg (Epoxy Resin) & Component B: 3 Kg (Hardener)

## 6- SHELF LIFE & STORAGE CONDITIONS

**Silifix EC141** can be kept for minimum 12 months in the original unopened pails at a temperature of 5 °C - 25 °C in dry places.

## 7- TECHNICAL FEATURES

|                         | METHOD        | DATAS                           |
|-------------------------|---------------|---------------------------------|
| Mix Ratio               | -             | 4:1                             |
| Viscosity (Mixture)     | ASTM D2196-99 | 1200-1800 cps                   |
| Density (Component A)   | EN ISO 2811-1 | 1,70 g/cm <sup>3</sup> (25°C)   |
| Density (Component B)   | EN ISO 2811-1 | 1,02 g//cm <sup>3</sup> (25°C)  |
| Density (Mixture)       | EN ISO 2811-1 | 1,53 g/cm <sup>3</sup> (25°C)   |
| Pot Life                | INTERNAL      | 1 hour (23 °C 50% R.H.)         |
| Tack Free Time          | INTERNAL      | 4 hours (23 °C 50% R.H.)        |
| Light Traffic Time      | INTERNAL      | 24 hours(23 °C 50% R.H.)        |
| Full Cure Time          | INTERNAL      | 7 days (23 °C 50% R.H.)         |
| Shore D Hardness        | ASTM D2240    | 80 ( After 7 days)              |
| Shrinkage               | INTERNAL      | 0%                              |
| Adhesion strength       | ASTM D4541    | >3 N/mm <sup>2</sup> (Concrete) |
| Application Temperature | -             | 10 °C- 35 °C                    |

**Chemical Resistance Properties**

| Chemical Name                | Result |
|------------------------------|--------|
| Sulfuric Acid (10%)          | 5      |
| Sulfuric Acid (20%)          | 5      |
| Sulfuric Acid (30%)          | 5      |
| Hydrochloric Acid (10%)      | 5      |
| Hydrochloric Acid (20%)      | 5      |
| Nitric Acid (10%)            | 4      |
| Acetic Acid (10%)            | 5      |
| Chromic Acid                 | 5      |
| Hydrofluoric Acid (10%)      | 5      |
| Phosphoric acid (20%)        | 5      |
| Diesel                       | 5      |
| Gasoline                     | 5      |
| Ammonium Hydroxide (20%)     | 5      |
| Potassium Hydroxide (20%)    | 5      |
| Sodium Hydroxide (50%)       | 5      |
| Brake Fluid                  | 4      |
| Drinking Water (1mg/L chlor) | 5      |
| Vinegar (5%)                 | 5      |
| Hydrogen Peroxide (3%)       | 5      |
| Mineral oil                  | 5      |
| Hydraulic oil                | 5      |
| Engine oil                   | 5      |
| Toluene                      | 2      |
| Methanol                     | 2      |
| Ethanol (10%)                | 2      |
| Acetone                      | 2      |
| MEK                          | 1      |
| Diethyl Ether                | 5      |
| Xylene                       | 2      |

\*These tests were done by dipping into chemicals for 6 months.

5: RESISTANT 4: RESISTANT. ONLY COLOR CHANGE 3. SWELLING 2: CONDITIONS (SHORT-TERM DISCRIMINATION) 1: NOT RECOMMENDED

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