



Dr. Alex Rusinoff, President & Chairman

## TECHNICAL DATA SHEET KALMATRON® KF-E

**Based on the R.F. Patent 2072335 “Coating on the concrete and masonry structures”**

KALMATRON® KF-E was developed for application onto wet, damaged and/or aged structures to improve their impermeability and to add decorative color to the surface. Structures that are otherwise irreparable are saved from deterioration by **KF-E**. **KF-E** stops mold and mildew, stops and prevents rusting and provides 100% impermeability from most liquids. There are three types of **KF-E** available for different application requirements: **KF-E-coat (cement-based paint)**, **KF-E-hard (curing & densifying topping)**, and **KF-E-admix (admixture to stucco/mortar mixes)**.

### **The main advantages of KF-E are:**

- Low cost material with simple application by brush, trowel, roll or stucco technology
- Provides highest resistance to rusting and deterioration/festering of metal, concrete and wood
- Makes the surface impermeable to most liquids from both the positive and negative sides
- Strengthens cracked concrete under mechanical/hydraulic load
- Unlimited range of colors: supplied as a light gray powder to be mixed with pigment locally

### **Technical Data of KF-E**

Setting time: 45 minutes

Final Hardening Time: 4 hours

Minimum temperature on site: 5°C (23°F)

Freeze Thaw Resistance: 150 cycles

Superficial Compressive Strength: 250 kg/cm<sup>2</sup>

Shrinkage as low as: 0.007%

Impermeability up to 8 ATM: 100%

### **Preparation of surface**

Wash the surface from easily removable foreign materials

### **Curing**

Wet the coated surface with water 6-8 hours after application.

## KALMATRON® KF-E ~ COAT ~ APPLICATION INSTRUCTIONS

■ **KF-E-coat** is a coating for concrete, masonry and stucco surfaces. **KF-E-coat** adds beautiful, permanent color for visual appeal and increases compressive strength, impermeability to liquids and corrosion resistance. No cracks, non-fading colors.

### ■ SURFACE PREPARATION

Surfaces to be painted must be clean. Remove any contamination by pressure washing. Apply on dry or wet surface.

### ■ KF-E-coat PREPARATION

Mix the **KF-E-coat** powder thoroughly before use in a drum mixer (above 30 RPM) or in a high speed blender for 10-15 minutes. This will re-homogenize the mix, as the contents can settle or segregate during transportation and handling.

If pigment\* is used, add iron oxide based pigment at this stage and mix for 20 minutes. Begin with the lowest dose of pigment, at about 1/3 or less from the standard dose recommended by the pigment manufacturer.

To check for mix consistency: take 50 grams of powder from the center of the batch and mix it with 15 grams of water thoroughly. Apply with a brush onto plywood. If pale strips appear, mix again.

### ■ APPLICATION

Take **4** equal parts of **KF-E-coat** and mix with **1 2/3** parts of water by volume. Mix thoroughly with a trowel, synthetic brush or electric drill mixer, until the mix consistency is like that of oil paint. Don't add more water!

Stir product thoroughly before and during use. Apply with a quality synthetic brush or roller by the technology of oil paint. Apply onto dry or wet surface.

### ■ COVERAGE

Varies based on pigment type and surface porosity and texture. Regular coverage is 0.9 kg/m<sup>2</sup> to 5 kg/m<sup>2</sup>

### ■ DRYING

Dries to touch in 3 to 5 hours. Spray lightly with water 6-8 hours after application.

### ■ SAFETY

Operation with **KF-E-coat** is similar to finishing jobs. Always use an approved respirator and rubber gloves. In case **KF-E-coat** is inhaled or gets in contact with the eyes, rinse and wash abundantly with water **KF-E-coat** is non-toxic, not flammable, and non-explosive.

\*For best results, apply **iron oxide based pigments** at the standard dose by weight of the cement, as recommended by the pigment manufacturer. Iron oxide based pigments work optimally with **KF-E-coat** and colors will remain bright and vibrant.

## **KALMATRON® KF-E ~ ADMIXTURE ~ APPLICATION INSTRUCTIONS**

■ **KF-E-admix** is an admixture to concrete, mortar and stucco mixes. **KF-E-admix** increases compressive strength, impermeability to liquids and corrosion resistance, with 2-3 times lower shrinkage. There are no cracks, flaking or sliding. Stable, permanent color will not fade.

### ■ **KF-E-admix PREPARATION**

Mix the **KF-E-admix** powder thoroughly before use in a drum mixer or in a high speed blender. This will re-homogenize the mix, as the contents can settle or segregate during transportation and handling.

### ■ **APPLICATION**

1. Prepare at least **0.5 m<sup>3</sup>** (½ cubic yard) of any dry concrete or mortar mix. Use Portland Cement Type I or II, and blend all the dry ingredients of the mix first for 10 minutes.
2. The surface of the wall, floor, or pavement should be wetted before **KF-E-admix** application. Spray surface with water at 1 Liter per m<sup>2</sup>.
3. Strew 3 Kg - 12 Kg **KF-E-admix** for every 100 kg of Ordinary Portland Cement type I or type II in the concrete/mortar mix. Mix it all dry for 20 minutes. Clean the mixer's walls from any residual pigment.\*
4. Turn on the mixer and add water. Start with a water-cement ratio of 0.38. The less water, the better the results.
5. Mix for 5 minutes. If the mix is still stiff, add **0.25 Liters** (<sup>1</sup>/<sub>16</sub> GL) of water while continuing mixing, until the mix is workable and creamy. The "creamy effect" is a sign that mixing is complete and the product is ready for application. Application on walls should be done with standard stucco technology.

### ■ **CURING**

6. Spray the surface with water 10-12 hours after application, until the surface is slightly wet (without any remaining water spots).
7. Please watch for any possible water spots and wipe them off with a mop immediately.

### ■ **SAFETY**

Operation with KF-E is similar to cement mixing and finishing jobs. Always use an approved respirator and rubber gloves. In case KF-E is inhaled or gets in contact with the eyes, rinse and wash abundantly with water. KF-E is non-toxic, non-flammable and non-explosive for transportation and handling.

\*For best results, apply **iron oxide based pigments** at the standard dose by weight of the cement, as recommended by the pigment manufacturer. Iron oxide based pigments work optimally with KF-E and will stay bright and vibrant.

Varies based on pigment type and surface porosity and texture. Regular coverage is 3 kg/m<sup>2</sup> to 5 kg/m<sup>2</sup>

#### ■ DRYING

Dries to touch in three to five hours.

#### ■ SAFETY

Operation with **KF-E-hard** is similar to finishing jobs. Always use an approved respirator and rubber gloves. In case **KF-E-hard** is inhaled or gets in contact with the eyes, rinse and wash abundantly with water **KF-E-hard** is non-toxic, not flammable, and non-explosive.

\*For best results, apply **iron oxide based pigments** at the standard dose by weight of the cement, as recommended by the pigment manufacturer. Iron oxide based pigments work optimally with **KF-E-hard** and will remain bright and vibrant.

## KALMATRON® KF-E ~ HARDENER ~ APPLICATION INSTRUCTIONS

■ **KF-E-hard** is a coating applied onto fresh concrete, masonry and stucco surfaces. **KF-E-hard** adds color for visual appeal and increases compressive strength, impermeability to liquids and corrosion resistance.

### ■ SURFACE PREPARATION

Surfaces to be painted must be clean. Remove any contamination by pressure washing. Apply on dry or wet surface.

### ■ KF-E-hard PREPARATION

Mix the **KF-E-hard** powder thoroughly before use in a drum mixer (above 30 RPM) or in a high speed blender. This will re-homogenize the mix, as the contents can settle or segregate during transportation and handling.

If pigment\* is used, add iron oxide based pigment at this stage and mix for 20 minutes. Begin with the lowest dose of pigment, at about 1/3 or less from the standard dose recommended by the pigment manufacturer.

To check for mix consistency: take 50 grams of powder from the center of the batch and mix it with 15 grams of water thoroughly. Apply with a brush onto plywood. If pale strips appear, mix again.

### ■ APPLICATION

Take **4** parts of **KF-E-hard** and mix with **1.5** parts of water by volume. Mix thoroughly until the mix consistency is like that of oil paint.

Stir product thoroughly before and during use. Apply with a quality synthetic brush or roller by the technology of oil paint.

### ■ COVERAGE

Varies based on pigment type and surface porosity and texture. Regular coverage is 3 kg/m<sup>2</sup> to 5 kg/m<sup>2</sup>

### ■ DRYING

Dries to touch in three to five hours.

### ■ SAFETY

Operation with **KF-E-hard** is similar to finishing jobs. Always use an approved respirator and rubber gloves. In case **KF-E-hard** is inhaled or gets in contact with the eyes, rinse and wash abundantly with water **KF-E-hard** is non-toxic, not flammable, and non-explosive.

\*For best results, apply **iron oxide based pigments** at the standard dose by weight of the cement, as recommended by the pigment manufacturer. Iron oxide based pigments work optimally with **KF-E-hard** and will remain bright and vibrant.

