

# KAUFMAN

PRODUCT  
INFORMATION

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## Diamond

### Description

Diamond is a colorless solution of chemically active magnesium silicofluorides, plus suitable surfactants in an aqueous solution. When applied to properly prepared flooring, the chemicals react with the free lime and calcium carbonates in concrete. So long as there is free lime available, (usually up to 15 years) this reaction occurs. This reaction forms a dense, granite-like, casehardened surface that produces a dustproofed, long-wearing surface.

Diamond has no odor, nor is it flammable. It complies fully with OSHA requirements. Application can take place even while people are working in the area.

### Uses

Diamond is particularly effective in hardening and dustproofing floor surfaces that are at least three weeks old and are only moderately hard and porous. The insoluble salts and silica deposits left by Diamonds in-depth hardening actions, serve to fill up small pores and reinforce weak floor areas. Steel troweled floors treated with Diamond develop a distinctive, polished sheen from traffic. As the sheen develops, porosity is reduced for easier maintenance. Since Diamond leaves no film, that can yellow or lose gloss as it wears, constant maintenance is reduced. Diamond is recommended for use on concrete floors to be carpeted and is compatible with most resilient floor tile adhesives.

### Compliances

Diamond complies with Veterans Administration specification - Master 601, section 4. Corps of Engineers CE-204 & Federal specification for magnesium and/or zinc silicofluoride hardeners.

### Special Features

The special wetting agents incorporated in Diamond, allow the liquid to penetrate deeper than homemade hardeners. Tests prove at least 50% greater penetration due to the special surfactants employed in Diamond. The deeper penetration means more in-depth hardening and longer life to the user.

### Guarantee

Kaufman Products, Inc. guarantees Diamond treated floors will not show signs of dusting as a result of wear and abrasion within 5 years from date of application. If dusting does occur, Kaufman Products, Inc. will furnish at no expense, enough compound to treat the affected floor or portion thereof, provided the floor treatment was applied according to directions printed therein.

### VOC

0 grams/liter

### Packaging

5 gallon pail  
55 gallon drum

### Application Rates

The number of applications and dilution ratios for Diamond are dependent on the density of the concrete. Two applications are generally required on concrete and cement terrazzo floors. Wood floated, broom finished or porous floors may require a third application applied at full strength.

### Coverage

| Surface Type                                | FT <sup>2</sup> /GAL<br>(Mixed<br>Material) | Applications | Dilution Ratio<br>(By Volume)<br>Diamond to<br>Water | Ratio |
|---|---|--------------|--|-------|
| Light to<br>moderately<br>troweled floors   | 100   | 2            | 1 to 1 first<br>2:1 second                           | 1.17  |
| Heavy-duty or<br>densely troweled<br>floors | 100-300                                     | 2            | 1:3 first<br>2:1 second                              | .92   |
| Rough-finished<br>Floors                    | 100   | 2            | 1 to 1 first<br>2:1 second                           | 1.17  |
| Terrazzo<br>(cement based)                  | 300   | 2            | 1:3  | .50   |
| Concrete,<br>Polished sheen                 | 200-300                                     | 3            | 1:4 first<br>1:3 second<br>1:2 third                 | .78   |

To estimate the quantity of Diamond needed for application, divide the area of the floor by the coverage rate (ft<sup>2</sup>/gal) of mixed material. Multiply this number by the ratio (in last column). Example: 8,000 ft<sup>2</sup> floor, moderately troweled: 8,000 divided by 100 equals 80 gallons mixed material times 1.17 equals 93.6 gallons of Diamond needed.

Recommendations for the number of applications and the dilution ratios are based upon average conditions. Coverage varies with application method, porosity, and texture of concrete.

## **Directions**

### **Surface Preparation**

Surfaces to receive Diamond must be clean, free from foreign matter, sealers and curing compounds. New concrete must be thoroughly set, dry and over 3 weeks old. Use K Pro CD to remove any oil stains and for general cleaning prior to application of Diamond. Rinse floor thoroughly and allow to dry.

### **Application**

Two or three applications are required on concrete and terrazzo floors. Apply by flushing onto the surface and spread evenly with a broom or squeegee. Avoid puddles or excessive solution. Apply each coat as above and allow the concrete to dry completely. This usually takes 4-12 hours. To avoid white crystalline deposits, when employing the third coat, flush floor liberally with clean water immediately after application of third coat. If a white deposit starts to appear after the second coat, a third coat is not necessary.

Bubbling on the concrete surface indicates that the material is working and is penetrating into the concrete.

To achieve the appearance of a polished sheen typically 2-3 applications of Diamond are required. While the last application is drying, wait for the uniform appearance of white crystals. Once that occurs, flood the concrete slab with clean, potable water and buff with a commercial floor buffer using a 3M or similar type of abrasive pad. Continue with the buffing process until the concrete slab acquires a patina or polish, and the whiteness is gone.

If applying Diamond to a terrazzo (non-resin based) floor, when applying the first application do not allow Diamond to dry, but flush with clean, potable, hot water while the surface is still damp. Then allow the surface to dry until it is not visibly wet prior to the second application of

Diamond. Follow the same procedure for the second application except make certain that excess wash water is mopped up and the surface is allowed to dry. If white crystals develop during either of these applications of Diamond this signifies that the slab is either too dense for Diamond to penetrate effectively or that the mix ratio is too strong and should be further diluted. If these white crystals develop, the slab should be cleaned immediately with potable hot water and a stiff bristle broom. Allow the surface to dry, and if further applications are required increase the dilution rate to avoid any further complications.

Clean all tool and equipment with potable water immediately following the application of Diamond. A routine maintenance program should be established using mild cleaners and detergents.

### **Precautions**

Do not use on surfaces that have a sealer or curing compound. Do not use on colored concrete floors. Use plastic or galvanized buckets for mixing. Do not allow Diamond to come in contact with any glass, fabric, metal or painted surfaces. Should this occur, wipe affected surfaces immediately with a clean water saturated cloth, wipe dry with another cloth. Diamond is toxic and appropriate precautions should be observed. Should white crystals occur the saturation of the surface and applications should stop. The surface should be flushed with clean, hot water, broomed with a stiff bristle broom and allowed to dry. Remove while still wet, as crystalline deposits are difficult to remove when dry. Protect from freezing. If Diamond does freeze in the container, allow it to thaw and stir well before use. If Diamond does not go back into solution, discard the product. Surfaces that will be wet or oily will become slippery. *Read Safety Data Sheet before using.*

### **Technical Information**

Test results were achieved under laboratory conditions. Statistical variations will occur based upon mixing methods, temperature & humidity, test methodology, site conditions, curing conditions, application methods, and equipment.

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