



Painting Concrete Floors

Paints and coatings are used to decorate concrete floors and to protect them from erosion, staining and other damage. Due to the unique chemical and physical nature of concrete, special considerations must be given to surface preparation and coating selection.

Why Is It Necessary To Cure New Concrete Floors Before Painting?

Concrete floors are initially very alkaline or "hot" having a pH of 13 to 14. A curing period of at least 30 days before painting is required for the concrete to react and become less alkaline. This curing period also allows the initially high moisture content to drop or normalize. pH paper should be used to verify curing. When adequately cured, the pH of the concrete should be around 9.0 to 10.0. In the event that the pH has been determined not to have dropped sufficiently, additional curing time, acid etching, and/or the use of an alkali resistant primer, such as an epoxy type, will be necessary.

How Can Excess Moisture In Concrete Floors Be Detected Before Painting?

An easy, fairly reliable method is to tape down a one foot square piece of heavy gauge plastic to the surface in several areas. The plastic will act as a moisture barrier and trap any moisture migrating through the concrete. The test areas should be inspected after 12 to 24 hours. If, on inspection, condensation appears on the underside of the plastic or if the underlying concrete is darker, excessive moisture in the concrete is indicated. Under such conditions, painting should not be undertaken.

What Surface Preparation Is Necessary Before Painting New Floors?

New concrete floors should be acid etched before painting. Acid etching performs two important functions. It removes laitance and also acts to neutralize the surface. A solution of water and muriatic (hydrochloric) acid is used for etching. Sprinkle the acid solution on the surface (a plastic sprinkler can works well) and let stand for several minutes. Follow manufacturer's application and safety directions. The solution will bubble as it etches the concrete surface. It is extremely important to thoroughly rinse with plenty of clean water. Otherwise, the acid residues will adversely affect applied paints or coatings.

Can Acid Etching Be Used To Remove Grease And Oils From Older Unpainted Concrete Floors?

Acid etching is not effective at removing greases, oils or other such contaminants. These contaminants must be removed by detergents, TSP or other appropriate cleaners such as **DEVPREP 88 Heavy Duty Cleaner**. If both degreasing and acid etching are necessary, the degreasing must be done prior to etching.

What Paint Or Coating Systems Can Be Used On Concrete Floors?

The most durable pigmented solvent based floor coating system is either **TRU-GLAZE 4508 Chemical Resistant Epoxy Coating**, **BAR-RUST 235 Multi-Purpose Epoxy Coating** or **DEVTRAN 224HS Epoxy High Build Coating**. When a low odor, nonflammable system is desirable, use **TRU-GLAZE-WB 4408 Waterborne Epoxy Gloss Coating** or **TRU-GLAZE-WB 4406 Waterborne Epoxy Semi-Gloss Coating**.

For exterior gloss and color retention and extra abrasion resistance, prime with either **TRU-GLAZE 4508 Chemical Resistant Epoxy Coating**, **BAR-RUST 235 Multi-Purpose Epoxy Coating** or **DEVTRAN 224HS Epoxy High Build Coating**, and finish with **DEVTHANE 379 Aliphatic Urethane Enamel**. For normal service on interior or exterior floors use **3118 Concrete Coatings Polyurethane Floor Enamel** or **3018N Concrete Coatings Acrylic Floor Enamel**.

What Is The Fastest Return-To-Service Coating System?

The fastest return-to-service coating system is a prime coat of **BAR-RUST 235 Multi-Purpose Epoxy Coating**, finished with a coat of **DEVTHANE 379**, **369** or **359 Aliphatic Urethane Enamel**.

What Is Recommended For Extra Slip Resistance?

Floors coated with paints or coatings may become slippery when wet. For additional slip resistance in areas of pedestrian traffic, add one pound per gallon of coarse pumice, white silica sand or other texturing material. Textured floor coatings may be more difficult to clean.

What Colors Are Preferred For Floor Coatings?

From a performance standpoint, pastel or medium depth colors are generally preferred for floor coatings. These colors tend to show fewer scuff marks than dark colors. Although scuff marks will actually occur on all floor coatings, they are more easily noticed on dark colors due to the contrast. Additionally, crocking (removal of color by abrasion or rubbing) may also be more easily noticed with deep, bright colors. Waxing the floor will lessen this occurrence.