

THE CONCRETE FLOOR REPORT

NEWS FOR EVERYONE WHO DESIGNS, BUILDS, MAINTAINS, OR OWNS CONCRETE FLOORS

A Publication of The MJA Company, Serving New York Since 1988



CONCRETE FLOOR TRANSFORMATION

The Treatment, Repair, and Renovation of New and Existing Concrete Floors

Concrete Floor Conditions

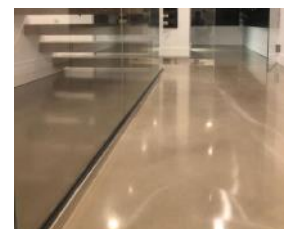
Your concrete floor is literally the base of your business. Though it's easy to overlook, the initial treatment of a new concrete floor or maintaining the condition of your existing concrete floor are critical for a healthy and productive work environment as well as keeping your employees, equipment, and products safe.

Over time, concrete floors are subjected to a variety of conditions which can cause them to crack, fade, spall, scale, chip, settle, and prematurely deteriorate. Factors such as humidity/moisture, sunlight, forklift traffic, improper installation, and neglect can shorten the lifespan of concrete.

Fortunately, there are many options for the treatment, repair, and renovation of concrete floors that can be done to enhance the function and appearance of your concrete floor. The following is a guide to give you an overview of the most common options.

Treatments

The term treatment is defined as “the use of a chemical, physical, or biological agent to preserve or give particular properties to something.” In the case of a concrete floor, the common treatments are as follows:



Polished concrete

Concrete Floor Treatments	
Install hardeners/densifiers	Improves abrasion resistance, reduces dusting, makes the surface easier to clean, and will slow the absorption of water.
Filling the control and construction joints	Reduces or prevents joint damage from occurring if filled when the concrete is new or slows further damage if old concrete.
Diamond polishing the concrete floor	A multi-step process resulting in an aesthetically pleasing appearance depending on finish level. Includes a densifier during the process.
Install a guard	Slows the penetration of liquids into a polished floor, allowing more time to clean up spills. Also enhances the shine level.

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Concrete Floor Treatments (continued)	
Install decorative patterns or logos with stencils	Concrete floors can be personalized with company logos or unique graphic designs.
Install decorative patterns using saw cuts	Concrete floors can be personalized with unique graphic designs. The saw cuts can be filled with a colored grout or joint filler.
Install dyes for decorative color	Concrete dyes are composed of micronized pigments that use water or solvents as carriers to impart color onto polished or tightly troweled concrete. Dyes are not typically UV stable, so they are best suited for interior applications where they offer a rich array of colors.
Install epoxy, urethane, or polyaspartic coatings	There are a wide variety of concrete coatings. Each coating has specific characteristics that are designed to meet the needs of the uses of the floor.
Remove a stain from an oil leak or spill	A chemical or biological treatment is used if you have an oil or grease spill/stain on the surface of a concrete slab. Biological cleaners have organisms in it that digest the oil. Chemical based treatments can remove stains from the surface.



Example of a concrete floor customized with company logo

Concrete Floor Repairs

Damage to an exposed concrete floor can come in a wide variety of sizes and types. The key is to get the damage fixed before it becomes a major problem. Although there can be a lot of different problems that occur on or in a concrete floor surface, here (top of next page) are the most common repairs that can be done to a concrete floor surface.

Concrete Floor Renovation

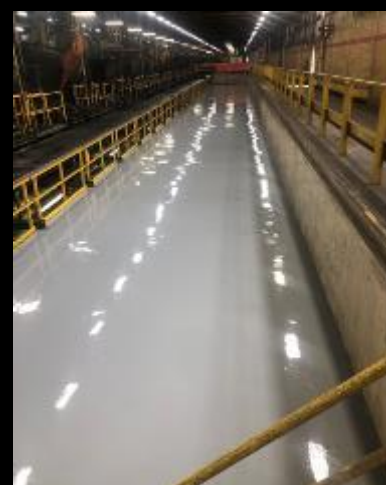
In renovating an old concrete floor, there may be repairs that have to be completed prior to moving on to the following renovation techniques. The use of the floor, the expectations of the owner and the budget will determine the best course of action—which are outlined in the middle of the next page. (Continued on next page)

MJA PROJECT WATCH

Industrial Epoxy Coating System for Old Concrete

Tonawanda, NY

The MJA Company refinished 3,500 sq. ft. of old concrete with a new industrial epoxy coating system at a local facility for a new tire production line.



Concrete Floor Repairs

Repair of spalled control or construction joints	Depending on the extent of the damage, this work could simply involve the recutting and refilling of the joint or, for more extensive damage, the rebuilding of the entire joint and refilling it.
Random crack repair	Random cracks can be repaired using similar processes and techniques as control joints.
Surface spalling repair	For the repair of surface spalling where part of the concrete floor surface peels, breaks, or chips away there are two critical aspects. First, the preparation work to remove loose material, to get a surface that the repair material can adhere to, and the second step is selecting the right type of material used for the repair. Both are important to have a successful repair.
Pitting repair	The surface pitting often has to be taken care of by applying a grout to the surface, letting it cure, and then grinding the excess grout off, leaving a smooth surface.
Leveling out of a concrete floor	If a surface is low there are self-leveling materials that can be used to fill in the low area. If a surface is higher than the other parts of the floor, grinding and scarifying machines can be used to achieve a level surface.

Concrete Floor Renovation

Extensive cleaning and applying a hardener/densifier	Depending upon the previous use of the floor, the cleaning may be more involved than just washing the floor. Application of a hardener/densifier improves abrasion resistance, reduces dusting, makes the surface easier to clean, and will slow the absorption of water.
Diamond Polishing	Polished concrete is a multi-step process where a concrete floor is mechanically ground, honed, and polished in order to achieve a specified level of appearance.
Apply a coating (epoxy, polyurethane, polyaspartic)	There are a wide variety of concrete coatings. Each coating has specific characteristics that are designed to meet the needs of the uses of the floor.
Apply an overlayment	A concrete overlay is a cementitious based product that is placed over an existing concrete floor for repair or decorative reasons. Overlays can be applied as thin coat but usually is applied as a 1/4" to 3/4" coating depending on the application. Some overlays are polishable and are a decorative surface.
Decorative coloring	Decorative concrete, also commonly referred to as architectural concrete, can most easily be described as any technique that alters what would be plain, grey concrete to be more aesthetically pleasing. Decorative concrete can encompass many different looks and techniques. In the case of old concrete floors, the techniques are generally limited to adding color to the surface.

Conclusion

The concrete industry is evolving. Not only are there new techniques and materials being developed to treat concrete, the very nature of what concrete is made of is changing.

As specialists working with concrete surfaces, The MJA Company is committed to keeping up with emerging technologies and evaluating new products and trends.

This overview just scratches the surface of what concrete treatment, repair, and renovation options are available. If you have any questions or concerns about your concrete floors, please contact The MJA Company at **716-831-7091** or email us at info@themjacompany.com.



Concrete surface and crack repair



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