

Epoxy Coatings for Garage Floors

by Martin Holladay

Shiny epoxy coatings, used for years to seal concrete floors in commercial and industrial buildings, are increasingly showing up in residential garages. Homeowners who admire the glossy slabs at car dealerships are often willing to spend thousands of dollars to get the same look in their own garage. “We market in a high-end area,” says Sadegh Ghashghaie, owner of A Plus Garages, an epoxy-coating contractor in Anaheim, Calif. “A lot of our customers are car hobbyists. These floors are very comfortable to walk on, and maintenance is very easy.”

Epoxy contractors report that demand is booming from both homeowners and new-home builders. “Over the last 30 years, there has been an increasing demand for residential applications,” says Harvey Chichester, CEO of Concrete Floor Coatings of Minneapolis, Minn., an epoxy-coating manufacturer.

Epoxy floors are easy to clean and durable; epoxy can last 5 to 10 years in a residential garage. “Epoxy flooring

protects the concrete from salts and some solvents,” says Jim Muzzillo Jr., one of the owners of Northwest Floor Care in Elk Grove Village, Ill. “Epoxy coatings will sometimes stain, but the stains only affect the pigment, not the performance of the coating.” A garage floor is a tough environment for a coating, but epoxies are up to the job. “They have very good chemical and abrasion resistance,” says Garth Parker, president of Somay Products, a coating manufacturer in Miami, Fla. “Epoxy coatings have poor UV resistance, but this is generally only a problem when used outdoors.”

An epoxy coating can also cover defects in an old slab. “Half-inch cracks can be hidden,” says Muzzillo. “You can make an epoxy mortar, mixed with sand, and repair a deep crack with a hand trowel.”

The best coatings are two-component epoxies with 100% solids. “Never use a water-borne epoxy for a garage floor,” says Parker. “A water-borne epoxy is just not tough enough under

hot tires.” Coatings experts advise that it’s appropriate to be wary of inexpensive coatings, since a few manufacturers have been known to tout ordinary deck paint as an “industrial” coating. “There is no such thing as a one-component epoxy,” warns Muzzillo.

Prep It Right

A new slab needs to cure for at least 28 days before a coating can be applied. The most important step in a successful epoxy job is slab preparation, which takes much longer than coating application. “Without proper prep work, the adhesion won’t be there, and you can get delamination,” says Muzzillo. “But if the floor has been prepped right, the concrete will fail before the bond. If the floor ever chips, the coating will pull up a piece of the concrete with it.”

A smoothly troweled concrete slab needs to be roughed up by either acid washing or shot blasting. Acid washing (or etching) involves mopping a dilute solution of muriatic acid over the floor, then rinsing thoroughly. Because the procedure is fairly simple, it’s popular with many contractors. But most coatings specialists advise that abrasion with a shot blaster prepares a slab more thoroughly than acid washing.

A shot blaster is a self-contained portable piece of equipment that shoots metal BBs onto the floor, roughening it and removing about 1/16 inch of concrete. The shot is collected in a rebound chamber and recirculated, while the concrete dust is sucked up by a vacuum connection. Shot blasters are manufactured by BlastCat (800/524-0544, www.blastcat.com), B.W. Manufacturing (616/447-9076, www.bwmanufacturing.com), and SASE Co. (800/522-2606, www.sasecompany.com).

Most garage floors require a full day for prep and patching. The epoxy



POLYMAX

Once a slab has been thoroughly prepped for coating, the hard part of the job is over. An epoxy coating is usually applied with a roller.

Trade Talk

coating is then applied with brushes or rollers. A durable floor will require at least two coats of epoxy, which must cure overnight between coats. “There is no such thing as a good one-coat job,” says Parker. Once the final coat is down, it’s best to wait at least three days before allowing a vehicle into the garage; full curing can take up to two weeks.

Do you need urethane? After two or three coats of epoxy have been applied, some contractors recommend a polyurethane top coat. “A transparent urethane top coat is good for abrasion resistance,” says Muzzillo. “Urethanes also give a better resistance to solvents.”

But most coatings experts say that urethane is unnecessary. “Urethane is very good at UV light resistance, but if the coating is used indoors, you really don’t need it,” says Parker. Chichester agrees. “Polyurethanes are much harder than epoxy, and they will keep their gloss much longer,” he says. “But a urethane top coat makes it hard to recoat with epoxy, because nothing

sticks to it. That’s why we recommend just the epoxy. In five years, you can just wash the floor and recoat, and no screen sanding is necessary.”

Colors and Patterns

Coating contractors know that the main reason for the growing popularity of epoxy flooring is the look — the wow factor. Several contractors describe homeowners who have visited a neighbor’s epoxy-floored garage and declared, “I’ve got to have one.” That’s why epoxy contractors offer a wide palette of colors, as well as decorative patterns created by adding contrasting vinyl chips or colored quartz aggregate to the top epoxy layer. Coating companies describe these options variously as speckled, terrazzo, marble-like, or granite-like. Some types of color chips do double duty by providing an anti-skid texture to the floor.

Slippery when wet. Many homeowners insist on a high-gloss finish for their garage floor. “A lot of customers don’t want any skid-resistant

additives,” says Chichester. “They want to keep it smooth. An epoxy floor is like a basketball court — it’s not slippery unless it’s wet.”

But in colder climates, where cars leave puddles from melted snow, most epoxy contractors add skid-resistance aggregate to their floors. “At some point you have to find a happy medium between a very smooth surface that is easy to keep clean and an anti-skid surface, which is easier to walk on,” says Parker. Anti-skid additives include sand, pumice, ground walnut shells, and colored quartz granules from 3M. These additives can either be mixed with the liquid epoxy before application or broadcast on the top coat while it is still wet.

Moisture problems. For any coating to bond well, the concrete must be dry. “Moisture in the slab is the biggest problem with any kind of epoxy flooring,” says Brian Fortman, sales manager at HomePro Floor Coating Systems, an epoxy contractor in Farmington Hill, Mich. As long as there is a layer of polyethylene under the slab, there is generally no problem. “In one out of a hundred jobs, we have blisters in the epoxy coating because of excessive hydrostatic pressure,” says Ghashghaie. If there are any hints of a moisture problem, most epoxy installers won’t proceed before performing a moisture test. This generally involves taping a small square of polyethylene to the slab and checking under the poly for condensation 24 hours later.

How much? The cost of an epoxy floor depends on the prep methods and the number of coats, and ranges from \$1.50 to \$5.50 per square foot — about \$1,000 to \$3,500 for a two-car garage.



Epoxy garage floor coatings are popular with car hobbyists (left). Because epoxy cures to a glossy finish, the surface is easy to keep clean. Some types of coatings, like this one from Rust-oleum (right), include color chips for a granite-like look.