

# EZ COVER

## The Easy Way to Protect Flooring

By Tim K. France, PE.

During construction, how can you prevent newly poured, colored concrete floors from going from pristine to filthy? How do you help safeguard these freshly polished floors from construction traffic and spills or dents and scars from dropped tools and building materials?

These questions haunt contractors and building owners, especially since cleaning and repairing soiled, damaged decorative colored floors is expensive and cuts into profits.

Over the past 18 years as a professional engineer, I've seen contractors try a variety of different techniques and materials to protect exposed concrete floor slabs from construction debris, abrasion, impact and stains caused by acidic liquids, oils and fuels. Most often, contractors turn to sheet plastic, house wraps, carpet, MDFB, plywood or Masonite as protective materials. While each of these products offers some protection, what I've observed is that they all have definite limitations.

For example, plywood, MDFB, Masonite and Masonite-like products may protect against impact and construction traffic, but these products are heavy, and their 4 x 8 ft. size means they can't be easily repositioned around a job site. Their protective ability is often compromised when the 4 x 8 ft. sheets move or when wheeled traffic finds the open joints between the sheets. Also, because these products are non-absorptive, liquid spills run off the sheets to the joints and damage the floor. Instead of protecting, some of these hard surfaced products when they become wet, can stain the concrete surface. More importantly, using these products can be expensive with costs ranging from \$.30 to \$.60 per square foot.

Some contractors use sheet plastics to keep spills from reaching the concrete surface. Less expensive than the hard surface sheets, the plastic runs from \$.03 to \$.05 per square foot. The plastic sheeting, which comes in rolls, is easy to move, can be taped to prevent open joints, can be cut-to-fit, and is generally reusable. However, plastic sheeting has just as many negatives as positives. First, the plastic doesn't breathe, which can lead to concrete discoloration and delayed joint filler separation from delayed shrinkage. Also, liquid spills sit on the plastic's surface until they are removed or until they drain to the concrete flooring through faulty seams or holes in the sheeting and damage the concrete.

Finally, the thin sheeting offers virtually no protection from dropped heavy objects, tends to move and turn under lifts, and wrinkles to create tripping hazards.

Other options that contractors sometimes use for concrete protection are house wraps and similar vertical surface-moisture-stops. Overall, in my opinion, house wrap/moisture stop products do a marginal job of protecting the surface.

Like plastic sheeting, this material comes in large rolls, can be easily trimmed around objects, can be taped on the edges, and can even be re-used to some extent. However, while these products are easy-to-use and have reasonable vapor transmission, they offer just so-so performance with spill containment and have somewhat reasonable durability.

From what I have observed, these products offer no protection against impact, tear relatively easily, and do not absorb liquids. Spills must be cleaned up almost immediately before holes or tears allow liquids to fall to the concrete surface and possibly create stains. In addition, some of these products, due to their chemical incompatibility, can lose their ability to withstand liquid spills. With prices of \$.09 to \$.19 per square foot, these surface-moisture-stop products fall between plastic sheeting and hard sheeting.

Some contractors utilize carpets to protect concrete floors. Typically, the carpet they use is indoor/outdoor carpeting with rubber-like backing, which does not breathe well. On the plus side, carpeting offers fairly good impact and abrasion resistance, can cover large areas, and is reusable until it becomes worn. On the negative side, carpets are heavy and awkward to move, do not typically absorb spills well, and, at \$.50 to \$.72 per square foot, are one of the most expensive protective products a contractor can use.

Obviously, none of these products are ideal as concrete floor protectors. Contractors, building owners, architects and engineers have all used these protective methods, and yet, we are still searching for the perfect product. The ideal product would breathe, prevent the floor from differential drying, allow shrinkage to continue, easily contain or absorbs a spill, or give reasonable run-time to replace the material prior to the fluid coming in contact with the concrete floor surface. This product would resist impact from dropped tools, be durable enough to handle construction traffic, allow construction trades to work comfortably on it, and be able to be repositioned where needed. Most importantly, this product would be reusable and be reasonably priced.

For many years, I didn't think such a product existed. Then, I discovered EZcover™, which in my opinion, comes pretty close to being ideal. New to the market, EZcover by McTech Group is a natural cellulose fiber composite with several unique features. One of the product's best features is that it immediately starts absorbing a spill without degrading and gives reasonable run time for larger quantity spills. Two sided, with a dense top layer and a softer cushion on the bottom, EZcover is designed to take impacts from both resistance and energy absorption perspectives. In addition, the product, which is primarily for interior use, breathes well, is relatively easy to cut/shape around objects, comes in large rolls for easy placement over large areas and, if not too badly damaged from previous usage, EZcover is re-usable.

Another definite benefit of EZcover is its durability against construction traffic and wheeled traffic. The edges can be taped if needed, and if a large enough area is covered, the product lays flat for traffic to go over. Another plus is that the product's natural cellulose fiber is recyclable, which can earn a project green points if needed.

To determine just how good EZcover is, we tested it. First, we tested its stain prevention ability by pouring five different liquids - vinegar, pigmented carbonated beverage, transmission fluid, cooking oil and pigmented acidic fruit juice - on the covering. For testing purposes, we used one standard measuring cup of each liquid and poured each liquid concentrated in one place on the top/hard side of the EZcover to monitor absorption and fluid spread.

Initially, each of the five fluids was contained without any contamination on the bottom side of the cover. Of the five liquids, the vinegar caused the material to swell somewhat, but not excessively, and the only fluid to leak through was the transmission fluid which appeared on the underside of the covering and that was only after several days.

To test EZcover's impact resistance, we dropped a 24" pipe wrench several times at random positions on a concrete floor protected by EZcover. From 10 feet, the damage to the concrete was minimal to none, although in some tests, the top protection layer was damaged and the two layers punctured. Overall, we observed that this product's impact resistance for general construction use is good, even though when the product gets wet, we found a slight degradation and unraveling on the top surface.

Since testing the product, I've talked to several contractors who tried EZcover at their work sites and were positive about the product. One contractor selected EZcover for a historically registered high-rise building in Tulsa, OK. For the project, the contractor had to take the existing flooring from the concrete floor slabs and then polish the concrete to marble-like finishing. Since this process had to be completed prior to any other trade being allowed on the project, protecting the flooring was paramount. For that protection, he used EZcover because of the product's spill absorption and its ability to be tightly cut to adjacent surfaces and obstructions.

Another contractor on a large box retail project used EZcover to protect the building's exterior concrete slab from pipe cutting, EFIS installation and masonry trades. The contractor used EZcover for seven weeks on the exterior of the building. He reported that he was quite pleased with the EZcover's performance. The only downside, according to him, was that the product's durability was not good when the product got wet. However, he pointed out that once the product dried, it returned to its original properties. Overall, he rated EZcover as excellent.

Decorative colored concrete is now a major trend in retail and residential markets, so protecting that flooring from spills and construction traffic is becoming increasingly more important. Based on our test findings, from all the options that contractors and owners have, EZcover comes the closest to being the ideal flooring protector for concrete, or any flooring surface for that matter. For protecting against stains, spills and construction damage, In my professional opinion, EZcover is definitely a "best choice" for owners and contractors. For additional information, contact McTech Group, Inc. at 1-866-913-8363.

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