Concrete surfaces are not always uniform in color when form work is removed. They may have a blotchy appearance, and there is often a bond breaker residue in some spots, due to an excessive amount applied on the forms. Rust and moisture stains also are often apparent. Where appearance is important, concrete surfaces typically require cleaning and further finishing.

For decades “sacking” was one of the most popularly employed methods for producing acceptable surfaces on formed concrete work without using lath and basecoat plaster. It was an alternative to the slower and more costly techniques of “brush-hammering” the smooth surface of the concrete, or “dash-bonding” it with a slurry of cement dashed over the surface (after form oils and bond breaker had been removed) to provide sufficient coarseness for subsequent plaster coats to bond.

Sacking produced a finish for cast-in-place concrete surfaces (after fins, from oils and bond breakers had been removed) by filling in pits and air holes, by dampening the surface and rubbing mortar all over it. Then, before the mortar dried, the surface would be rubbed with a wad of clean, dry burlap to remove surplus mortar and to fill voids. The completed surface should

By Walter F. Pruter
Liquid bonders help the plaster adhere to the concrete but they are not surface sealers.

be moist cured by keeping the entire area damp the day following the sacking.

This procedure also was slower and more labor intensive than desired. It was destined to be replaced by more efficient methods and/or materials. With the development of liquid bonding agents, concrete surfaces could be finished with thin coats of gypsum or Portland cement finish plaster, providing the surface of the concrete were reasonably level and uniform. If not, one or two basecoats of plaster could be used to level the surface over the liquid bonder. Gypsum-based plasters should not be used if moisture exposure was likely.

**Surface Consideration**

Liquid bonders are typically aqueous resin and provide a chemical bond of the plaster to the concrete, but they are not considered surface sealers. Should the surface require minor leveling to produce the desired degree of flatness, as much as 3/4-inch of basecoat plaster can be applied over a good bonding agent. If the surface of the concrete is sufficiently uniform and flat, a thin 1/8-inch finish coat might be applied directly over the bonder with satisfactory results.

Certain proprietary plasters are marketed for thin coat application over interior concrete surfaces, providing there is no moisture exposure. The U.S. Gypsum Company’s handbook of gypsum construction suggests that their gypsum veneer plaster can be applied in thin 1/16- to 1/8-inch applications over the appropriate liquid bonding agent.

USG and other manufacturers of gypsum wallboard (drywall) joint compounds, such as National Gypsum Company, Georgia Pacific, Lafarge, Hamilton and others, advise that their materials may be used over properly prepared concrete surfaces, but they must be limited in the thickness of their application due to their shrinkage characteristics. Gypsum wallboard joint compounds are much softer than plaster and are thus prone to be more susceptible to abrasion damage. Consequently, their use on interior ceilings is more appropriate than on wall surfaces.

**Finish It Off**

Concrete must be structurally sound, clean and smooth. Slight irregularities (less than 1/8”) probably would not interfere with a smooth application. New concrete should be allowed to age 60 days or more before pre-treating with a high quality liquid bonding agent applied in accordance with the bonding agent manufacturer’s directions. You should prime exposed metal with a good rust-inhibitive primer.

Setting-type joint compounds are typically applied in one coat (after voids and offsets have been filled), but additional coats, if
necessary, may be applied after preceding coat has set but not necessarily dried.

After the final coat of joint compound has dried, a prime coat of an unthinned good-quality interior flat, latex paint or proprietary material formulated for gypsum wallboard priming should be applied. If the finish is to be done with any epoxy coating, the coating manufacturer must be consulted to establish the suitability of the substrate for the epoxy coating. Many epoxy coatings exert shrinkage stresses on the substrate, which can cause bond failure of a joint compound finish.

About the Author
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