

Technical Bulletin #46 Concrete Outgassing

Concrete is porous, full of tiny capillaries and air pockets. Air exiting the capillaries of a concrete slab is known as “outgassing” and is an inherent attribute of concrete typically caused by temperature changes within the concrete. As temperature increases air and moisture vapor expands and emits from the concrete. Outgassing may occur with indoor slabs in climatized areas or in exterior areas, where it may become more severe due to greater temperature fluctuations and rapid warming caused by sunlight. Air passing out of the concrete and through the wet resin floor material before it cures can form craters, bubbles, and pinholes. There is no method to test or predict the possibility of outgassing, so it is important to be prepared.

Depending on the type of resinous floor system it may be appropriate to apply one or more coats of a primer to ensure potential outgassing is prevented from affecting the floor system components. Applying an additional coat of resin is the standard solution to fill pinholes that form in a body coat or topcoat. For severe cases of outgassing which may cause repeated bubbles/pinholes to form over the previous hole it may be necessary to sand/grind raised “craters” flush with the coating surface and spackle a paste consistency resin that will resist air movement, followed by sanding and recoating.

Contact Key Resin Technical Service for additional recommendations.

REV 08/30/21 v1.0