



For any acrylic coatings to be installed with a successful cure you will need a prolonged period of dry weather with temperatures of 50F and rising. Late season applications are extremely risky as the surface is receiving less direct sunlight and overnight temperatures frequently drop below the 50 degree minimum. Fall frost and morning dew can also develop beneath the surface causing the film to blister and delaminate.

A common misunderstanding is that the coating will be successfully installed if the application temperature is above 50. While the coating may be dry to the touch within a few hours it is still in the early stages of the curing process. (see below)

First Stage: Dry Film Formation

When acrylic coatings are applied the polymer emulsion (acrylic) particles are separated from one another in the aqueous phase. Dry warm air and direct sunlight will assist in the evaporation of water which drives the acrylic particles together until they touch.

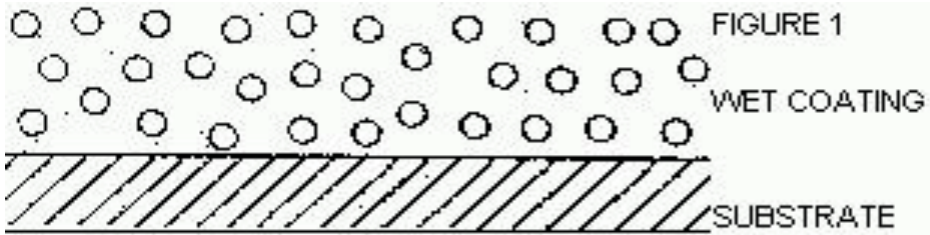
During this stage the coating may feel dry to the touch, but may still be dissolved by water. High humidity, cloud cover and cool temperatures will delay the next stage of curing. If the coating is exposed to a rain event before the second stage of curing is achieved a wash out or water penetration beneath the acrylic film could occur (causing blistering/delamination.)

Second Stage: Once the water has fully evaporated from the surface the acrylic particles begin to coalesce together forming an acrylic film. At this point the coating has limited resistance to water and is able to tolerate traffic.

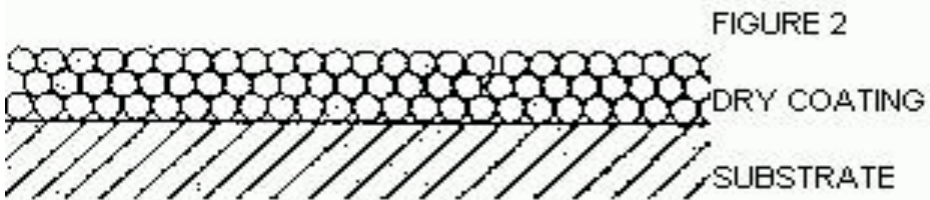
Final Stage: The acrylic binder will eventually crosslink forming a continuous film. At this point the acrylic surface has developed its maximum wear and water resistance. This may take several weeks with temperatures above 50F.

It is important to recognize that drying and curing cannot take place when water will not evaporate. Thicker coating films will take longer to reach the second stage of curing.

Based on average weather history in December, January and February conditions in Mississippi and Louisiana may not provide adequate temperature and sunlight to cure a 1mm coating film before it is exposed to morning dew. Winter coating applications are extremely risky and should be done only if the owner accepts all risk of failure.



WATER EVAPORATING



COALESCING OF
ACRYLIC PARTICLES

