

TECHNICAL BULLETIN

Dry Rate Factors

Weather/Air Conditions

Humidity: High relative humidity (moisture content in the air) retards evaporation of liquids from the paint, and relative humidity over 90% can cause extremely slow drying.

Temperature: Low temperatures impede evaporation of liquids from paint; significant slowing of dry is generally observed with temperatures below 60°F. Painting in direct sunlight can dramatically increase paint temperature (and thus speed of drying) if the paint is a dark color, which absorbs heat from the sunlight.

Wind: Air movement speeds drying because fresh air passing over a wet paint film helps liquids in the paint to evaporate; dry times are generally specified assuming little or no air movement.

Application

- Application of the paint in a thick film will retard drying.
- If the paint is cold during application, it causes it to go on heavy and this increases dry time.

Surface Characteristics

- All else being equal, paint on a porous surface will dry more quickly than it will on a sealed surface because some of the liquid is absorbed by the surface.
- A warm or hot surface will contribute to speed of drying.

The Paint Composition

Factors contributing to high-film build include:

- High viscosity: high thickener content of high solids content.
- Nature of the thickener used in making the paint

Factors that hold onto water longer include:

- Nature of the binder: Vinyl-acrylic latex dry more slowly than all acrylic or styrene acrylic types, all else being equal.
- Nature of the thickener: Cellulose types may hold onto water more so than do some synthetic thickeners.
- Solids content: At equal wet spread rate and all else being equal, a lower solids paint takes longer to dry than a higher solids paint because there is more liquid to evaporate.