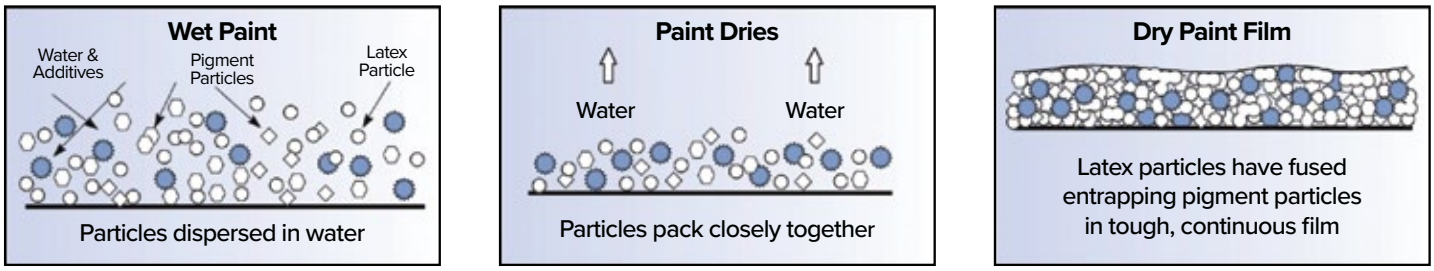
TECHNICAL BULLETIN

HOT WEATHER PAINTING

When starting on an exterior painting project, mild temperatures are favored not only by the painting contractor or applicator, but the paint itself. Just as cool, damp conditions adversely affect the performance of paints, so can extreme hot temperatures. Ideally, most latex paints should not be applied when air and/or surface temperatures are below 35° F. Primers can be applied as low as 50°F. It is industry standard for latex paints to be applied at surface temperatures between 50°F and 90°F, however, there are cases when products can be applied outside of these recommended temperatures. Hot weather is defined as temperatures ranging from above 90°F up to 120°F. We have included precautionary steps that may help mitigate some of the issues attributed to hot weather painting. While we recommend applying our exterior latex paints at the suggested temperatures, they can be applied at temperatures above 90°F and up to 120°F, so long as these steps are taken to help reduce the common challenges seen with application at these temperatures.



Latex Paint Film Formation

Latex paint consists of dispersed pigment and resin, along with some additives and liquid, which is mainly water. When the paint is still in its liquid state, the particles of pigment and resin are evenly distributed and spaced out. After application, the water begins to evaporate, and the particles of pigment and resin come closer together. As the remaining liquid evaporates, the resin particles gradually become more densely packed, causing them to fuse and bind the pigment into a continuous film. This process is called coalescence and is shown in the graphic above. (Source: DOW Paint Quality Institute)

Paints that dry too fast can have film defects similar to what is seen with mud cracking (dried paint film resembles the deep irregular cracks that form in dried mud). Additionally, if you apply paint through airless spray application during periods of dry warm weather, a phenomenon called dry spray can occur. This will result in a finish that is grainy or sandy and uneven in sheen and texture.

Open time refers to the length of time (workability) that a paint can be easily applied or spread onto the substrate. If the substrate is too hot or air temperature is too high, the ability of the paint to flow and level will be negatively impacted, leaving unsightly brush and roller marks. There may also be excessive lap marks and poor sheen uniformity in the dry film.

TECHNICAL BULLETIN

HOT WEATHER PAINTING

Precautionary Measures

• **Check the weather forecast.** Determine the weather pattern for the days you are going to paint. If the temperature is going to rise above the maximum mark during the application and drying phase, it will be necessary to take the following steps to ensure there are no application issues or damaging effects to film formation.

• **Follow the shade.** In the summer, the rule is, don't paint in the sun and follow the shade around the house or building. South-facing surfaces should be painted in the morning hours before the full heat of the day.

• **When humidity or dew points are low,** begin the painting project earlier in the morning when possible. During midday, when the sun is at its highest, avoid painting. As long as conditions allow, begin painting again in the late afternoon hours making sure to follow the shady areas.

• **Take special precautions to cover opened paint containers,** as direct sun and elevated temperatures will increase the tendency of the paint to skin in the roller tray or in the container.

• **Just as it is necessary for humans to hydrate during hot temperatures,** it may be necessary, and it is recommended to add up to 4-8 oz. (per gallon) of clean water to maintain workability of latex paints. It might be necessary to add more water at higher temperatures to keep the paint from drying to fast, and leading to an uneven finish, brush marks, and lap marks.