

Painting in Hot Weather

When starting an exterior painting project, mild temperatures are not only preferred by the painting contractor or applicator, but the paint as well.

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 50° F or above 90° F. Precautionary Measures have been added that may help mitigate some of the issues attributed to hot weather painting.

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.

Paints that dry too fast can have film defects that are like 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.

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 insure 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.
- 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. While 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 high 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 to add up to 4-6 oz. (per gallon) of clean water to maintain workability of latex paints.

Submitted by Tim Garver, CSI, CDT, Dunn-Edwards Paints.