



## ASK SHERWIN-WILLIAMS

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### Cold Weather Painting with Interior Latex Paints

We're all aware of problems that can and do occur when painting outside in cold weather. There are also special precautions that need to be taken when applying interior latex paints in cold temperatures. If you look at data pages for interior latex paints, they commonly state that temperatures must be above 50 degrees Fahrenheit. This means not only does ambient temperature need to be above 50 degrees, but also so does surface temperature, and even the temperature of the paint. Application of interior latex coatings below this temperature can lead to several problems: poor film formation due to the latex resin not coalescing properly, slowed or retarded drying from humidity, and color and gloss variations.

When the temperature drops outside, painters are often hesitant to open windows. Lack of ventilation, however, causes solvent and water levels to increase proportionate to the amount of paint applied. Condensation may appear on cold surfaces. This is normally more noticeable on windows, but to some extent, may also be a problem on walls. The high humidity and condensation, together with low temperatures, slow drying of the latex paint. The result can be detrimental.

Slow drying from temperature and humidity can lead to problems up front as well as down the road. What may be noticeable right away are defects in the paint film. One of the more noticeable is mud cracking. Generally, mud cracking occurs where the film is excessively thick, however when temperatures are below 50 degrees Fahrenheit during the initial drying, it may occur at wet film thickness of 4 to 6 mils. Another problem that may not be noticeable right away is gloss and color variation. If the temperature and humidity affect the way the paint cures, and in turn the color and gloss development, the finish may look uniform throughout the job. The problem here arises when its time to come back days, weeks, or even months later and touch-up. If ambient temperature was 40 degrees and surface temperature was 40 degrees at the time of application, now its two or three weeks later, the building is occupied or environmental temperatures have risen, giving ambient and surface temperatures that are in the 70 degree Fahrenheit range, color and gloss development *will be different*. The result is touch-ups with an appearance far different from the original paint.

Even the temperature of the product itself will have an effect. If the paint is left at the job-site overnight when temperatures dip down low and is then applied the next day, the temperature of the paint may be much lower than ambient temperature, again causing color and gloss problems. Where and how the paint is stored will be a factor in the temperature of the product as well. During the winter months, keep interior latex paints in an area that will ensure the product temperature is above 50 degrees Fahrenheit.

Its important that temperature of the product and the substrate, as well as ambient temperature, are all in the desirable range for good results. Consider that when a contractor is painting in a new home with no heat, overnight temperatures may drop at times to 30 or 40 degrees Fahrenheit or lower. With no heat inside the structure, this means the walls, ceilings, and floors are going to get cold. The following day, although outside temperatures may rise above 50 degrees, the surface temperatures inside may still be cold and well below what's desirable. Its going to take time for drywall, wood, and concrete to get warm enough to paint.

How can these problems be avoided? Taking precautions to ensure working conditions are proper is the best way. Interior painting during cold weather will be risky if the contractor does not have equipment to ensure proper conditions. This may require a

dry electric or radiant heater to elevate temperatures as well as reduce humidity. Open flame gas heaters typically produce moisture and raise humidity if used in enclosed areas. Ventilation may also be key to help reduce moisture and humidity. Remember that even though a painter is working in an enclosed building, proper environmental conditions are critical in ensuring an acceptable end product.

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