

# Painting Indoors Without Ventilation



Modelers who live in the south can paint in their garages, but those of us in the northern wilderness must usually paint indoors, especially during the winter. An exhaust fan is best, but many shops are not amenable. In order to maintain peace in the household, we must minimize the stink. Here are some tricks that help:

## Use low-odor paint:

Latex house paints and epoxy paints such as Klass Kote and water-based acrylic paints like Model Master Acryl and some catalyzed paints have low odor levels. If applied in small quantities, the odors are manageable. See Roy Vaillencourt's excellent article, *Latex House Paints For Models* at <http://www.vaillyaviation.com>.

## Let us spray - not!

Much of the odor of paint comes from the reducer. Little or no reducer need be used if the paint is brushed or rolled onto the surface. Brushes leave brush marks that must be sanded out, so I prefer mini rollers--also called trim rollers.



Applying primer with a 3-inch mini roller

Mini rollers leave the surface smoother than a brushed surface, but not as smooth as a sprayed surface. Mini rollers are excellent for applying primer because the primer

## Wet-sand the first coat of primer, 220-grit sandpaper



can be applied in a thick coat. Thinning isn't required, and the pressure of a mini roller tends to push primer into the weave and pinholes of a fiberglass surface. Rollers and brushes waste much less paint than spraying.

## Wet sand:

To eliminate dust and its mess, wet sand. Use wet-sand sanding paper—220 grit for the first coat of primer, 400 to 800 for color. Keep a big bowl of water nearby and a roll of paper towels. Dunk the sandpaper into the water and apply dripping wet. Work in a circular motion to drive the debris to the outside. Rinse the sandpaper frequently and wipe up the mud from the surface with paper towels.

## Use an activated charcoal air cleaner:

Select an air cleaner that includes an activated charcoal HEPA (High-Efficiency Particulate Air) filter. Activated charcoal is carbon particles that are very porous so that they have huge surface areas. The carbon particles are imbedded in a replaceable mat of random fibers. The air cleaner includes a fan that draws air thru the filter. Vapors of organic compounds chemically bond to the surface of activated charcoal. The molecular bonding phenomenon is called *adsorption*. Temporarily shut off the furnace while painting. Close doors. This slows the flight of fumes to the rest of the house, confining the fumes to your shop where the air filter can *adsorb* them.



Some activated charcoal air cleaners

Place the air cleaner as close as possible to the surface being painted and let it run until the paint dries. Once the pores of the charcoal have been filled with paint odors, the filter is no longer effective for odor control. But it still removes airborne dust well. As a general rule, start each painting project with a new filter.

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## Odor eliminators:

Another variation on the activated charcoal filter is the odor eliminator. These devices contain a waxy substance that evaporates to place activated charcoal particles into the air. This kills the odor without taking the particles out of the air. Best used in small spaces where an air filter won't fit.

## Paint in small quantities:

Apply no more than an ounce at a time. One ounce of gray primer applied with a mini roller covers about four square feet, including waste and cleanup. A large quarter-scale airplane will require several painting sessions but each session requires only a few minutes. Small applications allow the odor-reducing devices listed above to work more effectively. Immediately take the waste and cleanup materials outdoors. Do as much cleanup as possible outdoors. Small-batch painting wastes paint, mini-rollers and plastic gloves, but the additional cost is small.

## Respirator and gloves:

Activated charcoal respirators and plastic gloves don't clean the air but they protect you while painting when you have your nose in the stuff. Paints, especially catalyzed paint and solvents, are absorbed thru the skin and can damage internal organs. Always use latex or vinyl disposable gloves when handling paint and non water-based glues. Leave the shop as soon as you are done painting. If you can smell paint while wearing a respirator, the cartridges need replacing. To prolong the life of the cartridges, store the respirator in an airtight plastic bag.



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