

# SPRAY PAINTING

## Fast, Versatile and Tricky Here's Some Basic Background Info and Application Tips for the Apprentice Painter

Paint sprayers have been popular application tools for professional painters for more than a century. The reasons are simple:

- 1) Their application speed and subsequent potential for reducing labor costs. It has been estimated that spraying can be as much as four times faster than brushing and twice as fast as rolling.
- 2) Their versatility. Spray painting can be used to paint objects of varying geometry and materials, from flat wall and ceiling surfaces to highly profiled surfaces of wood, masonry and metal.
- 3) The appearance of the finished job. Because the coating can be applied heavily and does not show brush marks or roller stipple, spray painting provides a very uniform appearance, an important advantage, especially for interior work.

However, spray painting is also a complex system, and every contractor who uses it should follow the manufacturer's recommendations on the proper use of its equipment.

Guidelines concerning paint thinning and application techniques are equally important in attaining a good job. Here are some of those guidelines for three major types of spray painting: conventional, airless and high volume low pressure (HVLP).

### CONVENTIONAL SPRAYING

Conventional spraying uses compressed air to create the turbulence necessary for atomization and to propel the paint to the surface. Paint droplets form when a fast moving flow of air collides with a stream of paint.

The design of the spray gun nozzle determines the spray pattern of the droplets and also directs the paint toward the surface. Atomization takes place either in the spray gun or immediately outside the spray tip depending on the design. Conventional spraying remains popular because of the control it offers and the quality of finish it delivers.

### PAINT THINNING

Conventional spraying equipment can apply many types of paint, from thin lacquers to relatively heavy coatings. However, it sometimes requires adjusting the viscosity or thickness of the paint. This is typically done by diluting it with an appropriate liquid.



Spraying offers efficiency when coating most large surfaces, such as decking.

An important concern here is the effect of dilution on the application properties and performance of the paint. For example, paint coverage, as measured by dry paint film thickness, will be reduced for a given spread rate (wet film thickness) because dilution reduces the volume of solids of the paint.

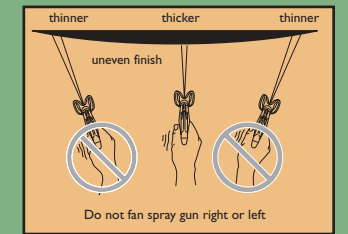


Dilution may also interfere with the balance of paint properties. This is because paint manufacturers optimize their formulations using a precise amount of pigment, binder, liquid and additives.

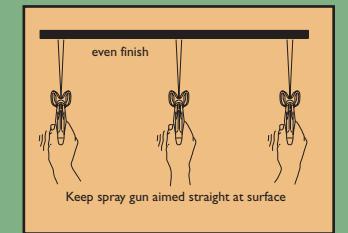
Additives (ingredients present at relatively low levels), in particular, are designed to function optimally when present at a certain proportion in the paint. Too much dilution could throw this proportion out of balance. That's why many paint manufacturers often do not include dilution on their spraying application instructions, or list only a nominal amount such as 1/2 pint of liquid per gallon of paint.

### CONVENTIONAL SPRAYING TECHNIQUES

The most common mistake made with a conventional spray system, as well as with the other methods, is arcing the gun while spraying. Arcing results when the wrist is kept rigid while the arm pivots at the elbow. This creates an uneven coating that is heavy in the middle of the pass and thin at the ends.



To prevent arcing, keep your wrist and arm rigid, and keep the spray gun parallel and at a right angle to the surface, at a distance of about 6 to 12 inches from the surface. Holding the gun closer deposits more paint on the surface (which may result in sags and runs) and produces a narrow spray pattern. Holding it farther from the surface results in a thin coat, greater overspray and a wide spray pattern.

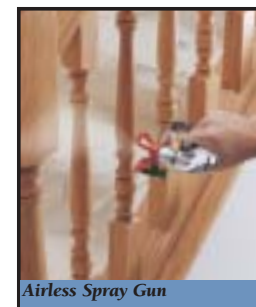


Also, start your stroke before you pull the trigger, and continue it after releasing the trigger. If you don't, there will be heavy spots of paint where you start and stop. Reverse your stroke direction and apply the return stroke in the same manner.

Moving the gun at a constant speed results in even coverage. The correct spraying speed allows for a full wet coat of paint without runs or sags. Overlap the edges of each spray stroke to get a uniform coating without streaks or thin spots.

### AIRLESS SPRAYING

An airless spray gun looks like a conventional spray gun except there is only one hose connected to it...the paint supply hose. There is no air supply hose. The size and shape of the orifice in the spray nozzle controls the application of paint. Forcing the paint through this small opening creates the atomization effect.



Airless Spray Gun

Airless spraying offers production speed nearly double that of conventional spraying. It is also more efficient because of reduced overspray, greater portability and easier cleanup. It is a good choice for large areas not requiring a fine finish, but usually not a good choice for small or confined areas because of the high pressure and distance from the surface needed to get good application.

# Using the INTERNET As a Marketing Resource

## PAINT THINNING

When used in an airless system, paints generally do not require adjustments in viscosity because application pressure is so high.

## AIRLESS SPRAYING TECHNIQUES

Airless spraying techniques are similar to those of conventional spraying, with the following exceptions:

1) Because of the higher pressure involved, maintain a distance of about 12" to 14" from the spray gun to the surface rather than the 6" to 12" for conventional spraying.

2) Unlike conventional spraying, which allows you to vary the paint flow, an airless system may have only two settings: on and off, which can make it more difficult to control the paint flow. As a result, it is important to move the gun at a comfortable speed that provides proper coverage. Some airless units do have an adjustable spray rate, which can be helpful. For example, increasing the spray pressure can eliminate unevenness, or "trailing," at the lower part of the spray pattern.



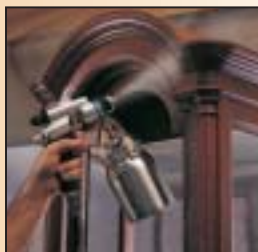
### SPRAY SAFELY!

The fine mist formed by spraying can enshroud the operator in a fog of paint. The need for personal protective equipment, therefore, is very important. Whenever spray painting, always review the pertinent material safety data sheet in order to identify proper personal protection equipment such as an approved respirator, safety goggles and gloves.

If you find yourself moving the gun too quickly in order to prevent excess paint buildup, lower the pressure or use a tip with a smaller orifice. If you find yourself moving it too slowly in order to get a good coating, raise the pressure or use a tip with a larger orifice.

## HVLP SPRAYING

High volume low pressure (HVLP) refers to systems that use a high volume of air that flows to various compartments in the spray gun. Some of the air pushes paint up the fluid tube into the nozzle. Another stream of air goes out through the nozzle and meets the paint, atomizing it at very low pressure and creating a very soft spray that provides a fine



HVLP Spray Gun

## HVLP SPRAYING TECHNIQUES

HVLP spraying techniques are similar to those of conventional spraying such as holding the gun about 6 to 8 inches from the surface and overlapping the sprayed areas. The application speed of HVLP is as fast as or faster than conventional spraying.

Compared to an airless system, however, HVLP is much slower. That's why it is typically not used for large, flat areas. To adjust application speed, change the nozzle size. Remember, the larger the nozzle, the faster the application.

As you can see, a large number of factors impact on spray applications. As a professional painter, it is imperative that you master all these factors through consultation with the equipment supplier, with the paint manufacturer and through your own personal experience. This will be important as you strive to maximize your productivity as well as your reputation for quality painting. ■

When spray painting, follow the manufacturer's recommendations on the proper use of its equipment.

finish and minimal overspray.

Because more of the paint reaches the surface, HVLP is very well suited for interior applications; for working in small, confined areas; and for painting trim, doors, frames, cabinets, shutters and other surfaces that require a fine finish.

## PAINT THINNING

When initially introduced, HVLP systems were more suitable for thin coatings such as varnishes, but manufacturers have since developed increasingly more powerful machines so that the range of paints has now expanded. However, some HVLP units still may not be able to handle heavy paints such as some latex or high solids coatings without thinning.

Unfortunately, thinning can result in a lower dry film thickness and reduced hiding that could require multiple coats, so production suffers. In addition, there is the concern that paint properties could be compromised.

Photos for this article courtesy of Graco Inc.

Much has been said and written about the wealth of helpful information on the Internet, but all-too-many professional painters are making less than full use of it. That's a shame, because the Internet can be the painting contractor's best friend when it comes to marketing assistance.

The Web is full of helpful domains offering everything from technical information on paints and coatings to market research, free sales aides and even special opportunities to promote one's own painting business.

Take PQI's own Website, for example—[www.paintquality.com](http://www.paintquality.com). It has loads of useful information, including an entire section devoted to the special needs of the professional painter.



### Handy Q&A

"FAQs," which can be accessed directly from the paintquality.com home page, has an encyclopedia of questions and expert answers. This section can not only save time, money and trouble for the painting contractor, but it can also be used to help convince customers what type of paints and coatings should be used in a particular situation. And there is a link there to submit your own question to our experts. The "FAQs" link can be accessed directly from the home page. (The "Problem Solver" in the Contractor section of the Website can be used in much the same way.)

### Sales and Marketing Aids

The Contractor portion of paintquality.com contains a full menu of special interest to professional painters. For example, there's a link that provides access to market research with homeowners and contractors (go to "Market Trends").



Another link is titled "Selling Your Services." There, painting contractors can find professionally prepared and designed "sell sheets" that can easily be downloaded and used in ads, direct mailers and sales presentations. Topics include "Elastomeric

Wall Coatings," "Painting Vinyl Siding," "Painting Aluminum Siding," "Interior Priming," "Exterior Priming," "Treating Mildew" and "Top Quality Paint as an Upgrade in New Construction."

Each of these sell sheets describes the benefits of doing the job in question. For example, the one on EWCs describes such benefits as crack bridging, moisture resistance, and other important features—which help make a compelling presentation to a prospect.



### Contests for Recognition

Internet sites also present great opportunities for professional painters to showcase—and then promote—their own work. On paintquality.com, for example, there is information about PQI's "America's Interiors" contest.

This competition, which will run through December 2001, is a great way for contractors to have photos of their best interior paint jobs posted on the Web, where they'll be seen by thousands of people. Of course, marketing-savvy contractors will not only enter the contest, but direct their customers to visit the site as well. ■

