



Technical Data Sheet
Homestead Finishing Products
PO Box 360275
Strongsville, OH 44136-0005
216-631-5309

GENERAL TIPS FOR SPRAYING PAINT WITH HVLP GUNS

Spraying paint requires a bit of practice, particularly vertical surfaces. Before using any of the paints mentioned below keep several pointers in mind.

- Do not use the cup or siphon filters that come with the gun (the type that insert into the gravity cup or slip over the bottom of the fluid tube). They're usually too fine a mesh and will just clog, slow down or even stop the paint. Use a coarse or medium mesh paper cone strainer instead and strain the paint into the cup. Stir the paint well before straining.
- Use reducer sparingly. Reducing viscosity minimizes runs and sags on vertical surfaces. Switch to a larger needle/nozzle setup instead of thinning if possible.
- Hold the gun the proper distance from the work. 6-8 inches is best. And don't move too quickly or in an arcing pattern.

SPRAYING LATEX PAINT

Latex paint (the kind normally used with a brush or roller) is a difficult medium for most spray guns, but with proper thinning and set-up, you should get great results. You should use at least the 1.9mm or 2.2mm needle/nozzle/air-cap for gravity feed guns, a 2.2mm -2.5mm for siphon feed, and a 1.3 - 1.8mm for pressure feed systems. Smaller sized nozzles generally give the best atomization, but larger sizes give you wider fan patterns and finish output (speed).

Latex paint must be thinned for HVLP spraying, and typically 5-10% works for pressure feed, while 10% works for gravity and 20% may be necessary for siphon feed. Water changes the chemistry and speeds up the dry time so we recommend adding a product made called **Floetrol®** to improve flow-out of the paint. You know you have to use Floetrol if a rough surface (called orange-peel) is present after spraying water reduced latex paint.

For furniture use, do not use latex wall paint. Instead use 100% acrylic enamel paint. Two brands are Sherwin Williams ProClassic® and Benjamin Moore Satin Impervo® Acrylic

Make sure that the paint is at room temperature as the viscosity increases when it's cold. Add the water and stir thoroughly. Pour some finish into the cup and see if it will spray. If it sputters, or doesn't spray at all, we recommend that you add an ounce of water at a time until a spray pattern is obtained. Use the maximum recommended pressure specified by the manufacturer for HVLP compliance, but you can increase it a bit if necessary to provide good flow-out. Most manufacturers discourage adding more than 10% water, or roughly 3 -1/2 ounces per quart. Try spraying without Floetrol® first, and if you experience orange peel, crawling or other drying problems add the Floetrol®.

Water is a thinner – it reduces paint viscosity
Floetrol® is not a thinner – it “reconditions” thinned paint chemistry and improves flow-out

The idea here is to add the least amount of water to the paint to get it through the gun, and spray at a low enough pressure to maximize HVLP and still get good flow-out. When using a pressure feed set-up, increase the pot pressure to 10-20 psi. If the paint sprays but severe orange peel is present, try increasing the pressure, thinning with more water or adding Floetrol®.

Note: For Accuspray turbine systems, users have found that the following formula works well: To each quart of latex paint add 3 oz water and 3-4 oz Floetrol. Use the #10 air cap/.072(1.8mm) N/N with the 23 series turbine or when you need fast delivery. For larger turbines use the #9 or #726 air cap/.061.

SPRAYING OIL-BASED PAINT

Oil based paint can be sprayed in larger NN setups without thinning. We recommend trying to spray it slightly thinned (5%) to help minimize runs on vertical surfaces. Use a 1.5mm setup in pressure feed, 1.7mm-1.9mm in gravity and a 1.9mm in siphon. When using a siphon feed, you'll probably need to thin it. If you have to thin the paint, use naphtha or lacquer thinner. Either of these solvents will flash much faster with lacquer thinner being the faster of the two. Most pro's use lacquer thinner.

Spray a light "tack" coat first, which means just mist on a light coat with the fan set wide. After several minutes spray a heavier coat. The lighter coat you sprayed first helps to keep the last coat from sagging.

SPRAYING ACRYLIC (NON-LATEX) BASED WATER BASE PAINTS

When spraying water based acrylic paints such as Target USL or Enduro series, use a 1.1mm-1.3mm for pressure feed, a 1.7mm for gravity and a 1.9-2.5mm for siphon. We recommend that you practice a bit to get the feel for how much coating thickness you can apply on a vertical surface without runs. Aim for a medium fluid delivery and use the upper limit atomization pressure you can without violating air quality standards. Spray a light tack coat on, then come back within several minutes and spray a heavier coat. With practice, your finish should come out free of defects.

TIP – When spraying any of the paints mentioned reduce the atomization pressure on the initial pass to allow the paint to get into corners and crevices. Then turn up the atomization pressure for the remaining coats and flat surfaces.

GENERIC VISCOSITY CHART AND NOZZLE SETUPS

Generic Viscosity	Viscosity time (1)	Gravity	Suction	Pressure Feed
Water thin	10- 15 (2)	1.1	1.3-1.4	0.7
	15-23	1.2-1.3	1.5	.8-1.0
	23-35	1.5	1.7	1.1
Medium	35-40	1.5-1.7	1.9	1.1 – 1.2
	40-45	1.7		1.2-1.3
	45-55	1.9	2.2	1.3-1.5
Thick	55+	2.2	N/R	1.5-1.7
				1.7-2.2

1. Measured in a Ford #4 viscosity cup with finish @ 70 degrees F
2. Water = 10 seconds
3. To convert millimeters to inches multiply by .03937. For example 1.3 mm x .03937 = .051"