PAREXUSA

Airless Spraying PAREXUSA Coatings

Technical Bulletin

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Parex USA makes a wide variety of Primers and Coatings which can be spray applied. This Technical Bulletin gives recommendations on setting up an airless sprayer configuration that will work for the type of coating being sprayed. An airless sprayer is one of the most efficient and economical ways of spraying these materials. Airless Spray Atomizes, or breaks up fluid into small droplets without the use of compressed air. In an airless system, fluid is pumped under high pressure through a spray tip. The tip size and pressure is what determines the material flow rate. The tip also creates the fan pattern. There many things to consider when using an airless sprayer.

Material Being Sprayed: Consider the coating that will be sprayed. Different types of coatings have different viscosities. Lower viscosity coatings will flow easier and can use a small tip with lower pressure where higher viscosity coatings will need a larger tip with higher pressure.

Spray Tips: Spray tips determine the amount of coating applied and the spray pattern (fan width). Selecting the correct spray tip for the job is an important decision. (see chart below)

Sprayer Size: Airless sprayers are rated by Gallons per minute (gpm.), maximum pounds per square inch (psi), maximum spray tip size it will support and horsepower (hp.). Overall, the tip size rating is the most useful rating method for selecting tips and sprayers for the project.
Maximum tip size is a rating that indicates the largest tip size (i.e., orifice) that a sprayer is capable of supporting, while maintaining a good spray pattern. The maximum tip size will depend on the type of coating being sprayed and the amount of pressure needed to atomize the coating.

Hose Size: Selecting the correct diameter hose to meet your length requirements is critical to maximize spraying pressure. The larger the hose diameter, the greater the pressure at the gun. As you go down in hose diameter or increase the hose length, there will be less pressure at the gun, possibly affecting spray patterns. When coupling different hose sizes together, connect the larger diameter hose to the sprayer and the smaller diameter hose to the gun inlet for maximum pressure when spraying.

Filter Size: Use the appropriate size filter for the material being sprayed (see chart below). In some cases, it may be necessary to remove the filter completely.

It is best to spray at the lowest pressure that completely atomizes the coating. The pressure control should be set at a low-pressure setting and slowly increased until the coating is completely atomized. If the spray pattern has fingers or tails, then the pressure should be increased. If the maximum pressure of the sprayer is not enough to achieve a good spray pattern, a spray tip with a smaller orifice should be used. To test the quality of the spray pattern, the coating should be sprayed on scraps of cardboard or other waste material.

Controlling the Thickness of the Coating:
The key to proper coverage is controlling the coat thickness. Here are some helpful hints to ensure proper coverage and a quality finish: Do not adjust the pressure to make the coat thicker or thinner. The pressure should be adjusted to the lowest pressure with a good spray pattern.

<u>If the coating is too thick or running down the surface, one or more of the following will help:</u>
- *Move the spray gun faster*
- *Choose a smaller tip orifice size; be sure the sprayer is rated to handle the size tip being used*
- *Choose a tip with a wider fan*
- *Make sure the spray gun is far enough away from the surface (about 12")*

<u>If the finish is not covering the surface, one or more of the following will help:</u>
- *Move the spray gun slower*
- *Choose a larger tip*
- *Choose a tip with a narrower fan width*
- *Make sure the spray gun is close enough to the surface (about 12")*

Below are charts with recommendations for spraying ParexUSA Coatings. These recommendations are a suggested starting point and are not the only configuration that will work. Minor adjustments may need to be made in the field to dial in the best results.

Product	*Sprayer Type*	*Hose Diameter*	*Minimum GPM*	*Tip Size*	*Filter Mesh Size*	*Maximum Combined Water + Pigment*
Clear Sealers	Airless	1/4" to 3/8"	0.21	*FFT412	200	8oz.
310 Primer	Airless	1/4" to 3/8"	0.47	515	60	128oz.
DPR Coating	Airless	1/4" to 3/8"	0.47	517	60	16oz.
AquaSol Coating	Airless	1/4" to 3/8"	0.60	519	60	16oz.
Elastomeric Coating	Airless	1/4" to 3/8"	0.70	521	60	16oz.
ArmourFill	Airless	1/4" to 3/8"	1.00	625	60	16oz.
Metallic Coating	Airless	1/4" to 3/8"	0.47	*FFT412	200	16oz.
WeatherSeal Spray & Roll-On	Airless	1/4" to 3/8"	1.00	631	30	32oz.
WeatherBlock SP1 Spray & Roll-On	Airless	1/4" to 3/8"	1.00	631	30	32oz.

* HVLP-like Pattern: High Volume Low Pressure (HVLP) spray technology provides soft pattern edges and fine droplet size, and gives a fine finish spray pattern. Airless spraying using Fine Finish spray tips, combined with electronic pressure controls and low pressure, can provide an HVLP-like pattern.

Always strain material before spraying. Filters are not a replacement for straining material.

Videos on straining & spraying can be found at http://academy.parexusa.com

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