

SUCCESSFUL SPRAY APPLICATION

Using an airless sprayer for paint application can be an efficient and effective means to completing a variety of paint projects. There are many sizes and types of airless sprayers in the market, and all can increase productivity and lower labor and material costs with proper set up and use.

The first step to any successful paint project is to ensure that the surfaces are properly prepared, clean, dry and free of any dust, grease or other surface contaminants. Mask off all areas you want to protect from overspray such as doors, windows or trim with the appropriate masking materials. Also, it is important that the applicator use the appropriate Personal Protective Equipment (PPE) for respiratory, eye and skin protection (see Product Data Sheets or Safety Data Sheets available at www.dunnedwards.com).

Optimizing Airless Spray Pressure

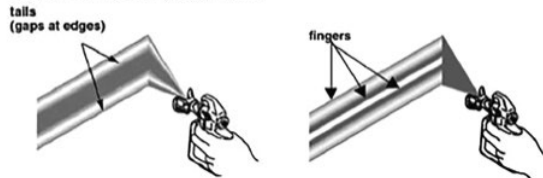
Good spray pattern provides uniform coverage



When setting the airless spray pressure, always adjust the pressure up to achieve the best spray atomization. Maximum pressure settings are generally reserved for heavy bodied materials, such as elastomerics & block

fillers. Excessive pressures with typical interior and exterior architectural coatings can cause overspray, which can lead to unnecessary material waste and increased material cost.

Examples of poor spray pattern



Optimizing Pressure & Spray Tip Performance

After proper equipment set-up, begin by turning the spray pressure down, and then increase to the point where the spray pattern shows no atomization defects. Fine tuning the pressure will eliminate any blotchiness in the spray pattern,

minimize overspray, reduce wear on the tip, and provide a consistent smooth and uniform finish.

Typical atomization defects can be caused by several factors, such as using a worn spray tip, using the wrong tip size or incorrect hose length. This can result in a spray pattern that has “tails” (gaps at the edges of the spray pattern) or “fingers” (gaps within the spray pattern).

Effects of using a worn .517 tip

SPRAY PATTERN WIDTHS			
New 517	Worn to 419	Worn to 321	Worn to 223
FLOW RATES			
.31 gpm (1.17 lpm)	.39 gpm (1.47 lpm)	.47 gpm (1.78 lpm)	.57 gpm (2.15 lpm)
FLOW RATE INCREASE			
0%	26%	52%	84%

Tip Sizes, Filters, Orifice & Pressure Settings

There are many different sizes and types of spray tips. Determining the ideal spray tip depends on several factors; the surface texture or porosity, size of the surface (large versus smaller area), and the viscosity and type of coating applied.



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Tip Sizes, Filters, Orifice & Pressure Settings.

Airless spray tips come in a variety of fan widths and orifice. A typical spray tip is comprised of three numbers. The numbers associated with the specific tip will indicate the spray fan width and the orifice size. For example, a .515 spray tip will spray a 10" fan (first digit x 2) through a .015 orifice (second and third digit).



Helpful Hint
Tip Number Calculation:
 The first digit is half of the width (#5 x 2 = 10 in. fan Width).

515 The last two digits are the sizes of the tip opening thousands of an in.

Airless spray tip sizes should be selected based on the type of material being applied and area of the surface to be coated. In most cases, materials such as stains and non-flat architectural paints apply well using tips ranging from .011 - .015 orifice. Primers

and most interior flat paints can be sprayed using tips ranging from .015 - .017 orifice, with exterior flat tip ranges falling with .015 - .021, depending on paint viscosity.

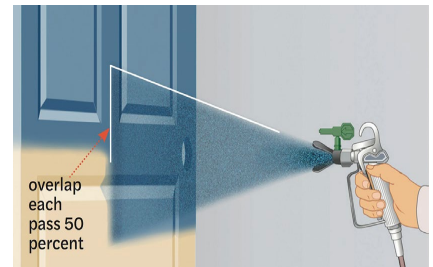
Using an airless spray pump filter can help mitigate larger particles from passing through the spray lines resulting in tip blockages that decrease productivity. It is important to use the appropriate mesh filter to optimize the spray application. Typical filter sizes are 30, 60, 100 and 200 mesh. A 30-mesh filter has a larger screen size which will allow for coarse or more heavy bodied material application and should be used with a larger tip orifice. A 100-mesh filter will have a much

Choose the Right Filter			
Mesh Size			
200	100	60	30
T	T	T	T
0.007	0.012	0.015	0.029
0.013	0.017	0.029	+
inch	inch	inch	inch
Tip opening			

smaller screen and should be used with a smaller tip orifice. Using the incorrect filter/tip combination can be too restrictive reducing material flow or deliver unwanted particulate to the tip causing blockages.

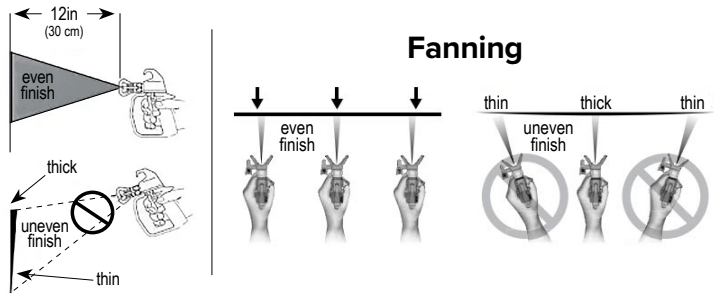
Spray Application Techniques

Now that the airless spray equipment is optimized to achieve professional results, it is time to apply the coating to the surface. The technique that delivers the best



results is to maintain approximately a 12" distance from the surface and overlap the spray pattern by 50% to ensure a smooth, uniform finish.

When applying the coating, it is important that the applicator use the proper airless spray technique. The spray gun should be held perpendicular (horizontally and vertically) to the surface creating a 90° angle between the fan pattern and the surface. Additionally, it is important that the applicator's wrist be flexed to prevent "fanning" the spray gun.



Following these best practices will ensure that your project will achieve the desired results and improve your productivity saving time, labor and material leading to a better bottom line.

