

# Conductive Paint Application Note

Most of Parker Chomerics conductive paints consist of flake or powder shaped metal particles in a relatively low viscosity paint solution. As such, special care must be taken to keep the metal particles from settling in the paint solution during mixing and application.

Paint applied from large quantity vessels (> one liter) requires mechanical agitation, i.e. an air driven mixer in the paint vessel.

## Mixing the Paint

- Conductive paint should be mixed well by placing the can on a paint shaker for 3-4 minutes or mix by hand with a large spatula until all solids are in a homogeneous suspension. Make sure that no unmixed material remains on the bottom or sides of the container.

## Spray Guns

(External atomization/material and air mix out side of the spray nozzle):

- Use an air atomized spray gun with a fluid nozzle of 0.040" (1mm) or greater.
- Siphon feed spray guns work well for small quantity work. A siphon gun with an 8 ounce (~240 ml) paint cup is easy to manage considering that the paint can be kept suspended in the solution by shaking the cup and gun between paint passes. The operator can cover the air inlet hole at the top of the paint cup with a finger and shake the paint as needed. A small volume cup will



require more frequent refilling. Siphon guns with larger paint cup sizes can be equipped with an air driven mixer built into the cup assembly. The mixer adds weight and bulk that the operator must work with. Avoid magnetic driven mixers when using nickel filled paints as the nickel particles will be attracted to the magnet, which will be a problem.

- Gravity feed guns can also work with conductive paints, and the same considerations regarding settling must be observed.
- Larger quantities of paint can be applied with a pressure feed assembly with a mechanical mixer inside the paint pot. High Volume Low Pressure (HVLP) spray guns work well with pressure pots, siphon and gravity feed systems. By applying a pump that moves the paint from the paint pot to the spray gun and back to the paint pot again, one can avoid any settling of the metal particles in the paint lines. A peristaltic pump works well in this type assembly.

## Additional Application Notes:

The paint should be applied using best application practices as outlined in literature from Spray Gun manufacturers like Binks or DeVilbiss.

- These low viscosity paints don't require high pressure to apply; 30 to 40 psi will produce a wet coating without a lot of wasteful overspray.
- Keep the gun at ~ 6 to 10 inches (15 to 25 cm) from the surface to be painted.
- The spray gun should be held parallel to the surface to be painted and moved perpendicular to the surface. The spray gun should be held the same distance from the surface to be painted through the entire length of the stroke to avoid thin and thickly painted areas across the stroke. Each succeeding stroke should overlap the previous stroke by 50%.
- Minimize the length of the paint lines to and from the pressure vessel to minimize the chance of conductive particles settling in the lines.
- Chomerics does not recommend spraying from a pressure vessel without constantly recirculating the paint to and from the pressure vessel. If no paint recirculation is used, lines should be purged after every work stoppage greater than 30 seconds.

**Note:** Parker Chomerics will spray samples, however it is not a production paint house.

## Contact Information

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