



## PRISMATIC POWDERS

# APPLICATION GUIDE: GENERAL POWDER

\*PLEASE REFER TO EACH POWDER'S TECHNICAL DATASHEET FOR SPECIFIC PRODUCT INFORMATION

## PREP/PRETREATMENT

- Remove all coatings, oils, and contaminants from the substrate with either a chemical stripper (B17, Rim-Strip, Jem-Strip 427) or a degreasing agent (Acetone, Brake Parts Cleaner, or Simple Green®); these are some examples of chemical strippers and degreasers that work well depending on the condition of the substrate.
- Plug/mask off any areas that you do not want to be coated. Improper masking on certain mechanical parts or mating surfaces may cause tolerance or functionality issues.





- A sand-blasted profile is highly recommended for the substrate to remove any rust, scale, or other coatings. This is also a crucial step to ensure maximum coating adhesion. For best results, blast at 80 – 100 PSI using a 100-mesh dry grit material such as aluminum oxide or garnet sand.
- Fixture part(s) to allow for the best view and application access; this can be done by using support hooks and support wires. Make sure to place part(s) in such a way that they will not bump into each other. Ensure the part(s) being hung have a clean metal-to-metal contact point with the hooks, rack, and the part(s) themselves. This is imperative to complete a proper earth-ground connection via cold electrostatic spray application.
- Blow off the substrate with a high-pressure air nozzle to remove any sandblasting media/dust left on the surface. Work in a well-ventilated area and always wear proper Personal Protective Equipment (PPE), e.g., safety goggles and respirator.
- We recommend but do not require, that parts are placed in an oven at 450°F (232°C) for approximately 30 minutes. This will aid in discharging part(s) that have developed any static charge and evaporate any surface moisture or solvents from degreasing. If contaminants are drawn to the surface during this phase, the affected areas will need to be addressed. Applying Prismatic Powder Anti-Gas Primer can assist with parts more prone to outgassing (ESS-11152).





## APPLICATION

- Confirm all ground connections are properly made before the application begins. As mentioned above, a true earth-ground connection is always considered as best practice.
- Adjust your gun's settings to provide an adequate powder cloud that is not projecting too much powder but also not too little. You will be looking to verify that the spray gun does not surge while the trigger is pulled. If it does, additional gun/hopper adjustments will need to be made.
- In some instances, a gun system will come with multiple nozzle options (conical, fan, & castle). These nozzles will alter the powder path in different ways and can be advantageous for specific coating scenarios.
- Depending on the gun system being used, you may be forced to pre-heat parts to achieve adequate coverage. This tends to be more common on second-coat applications. If you find yourself in this scenario, we recommend the part metal temperature to be no more than 160°F. While 'Hot Flocking' at temperatures higher than this is common within the industry, we don't recommend it for beginner applicators.
- Once you believe adequate coverage has been achieved, we recommend utilizing a light source to check over your work. Add additional coating if needed.





## CURING

- If additional layers of powder are expected to be applied, it's imperative to flash/partially cure each layer beforehand. A flash cure will be based on a visual inspection of the coating just reaching the flow-out phase. Flash/partial cure time will vary based on metal type and thickness.
- Visually confirm the part(s) have completely flashed (reached the liquid-looking state) and wait an additional 2 – 3 minutes before removing the parts from the oven. Metallic coatings will require 3 – 5 additional minutes following the flash phase. This additional time helps to set the metallics in place.
- Once the part(s) are cooled to room temperature, check mil thickness to see if additional coats are required. For most powder applications, we recommend 2 – 3 mils (0.002 – 0.003) per coat.
- Once the part(s) have been completely coated, it's time to place them in the oven for a final cure cycle. It's important to understand powder cures based on part metal temperature. This means you will need to confirm that the thickest portion of the substrate reaches cure temperature before starting the cure timer. When applying multiple layers, substrates will take longer to reach part metal temperature.
- Cure schedules can be found on powder bag labeling and in the Technical Data Sheets (TDS) found at [prismaticpowders.com](http://prismaticpowders.com). You will always follow the cure schedule for the last powder applied to effectively cure any previous layers.

