



Grounding

Anytime you are powder coating a metal part, it should always be grounded. Most basic powder coating gun set-ups come with a small 18 gauge ground wire and little alligator clip, which you clip to your part to ground it. Grounding is one of the most important parts of powder coating, without it the powder isn't attracted to the part and will fall right off. While this small grounding set-up will work, it is not a good example of a ground. For the best application, you should always have a dedicated grounding rod.

No matter how good you think the small ground wire and clip that came with the gun might be, once you see the difference a grounding rod makes, you'll never use the stock grounding clip again. But let me explain more on what a dedicated grounding rod is and it will make more sense as why it is so necessary when powder coating. A grounding rod is a long copper coated bar that is driven into the ground. They have a wide range in lengths, but for powder coating anywhere from a 6' to 12' rod will work. The rod will be hammered into the ground almost entirely, leaving only a few inches showing about ground. That remainder is then what you ground your hanging rack, and/or part to, via an alligator clip or a grounding clamp.

“Farraday Cage Areas”. Farraday cage areas are the areas on the part/item you are powder coating that are electrically shielded by a more prominent area of the part. As anyone who has powder coated before has seen, these are the recesses and tight corners that just don't want to take powder, no matter how much or how many times you spray them. What's happening is that, all of your powder is attracted to the more open surface areas on the part, leaving the recesses and tight corners bare. A proper ground with a grounding rod will effectively eliminate almost all of this issue, saving you time, money, and frustration!

The other main and major reason to use a grounding rod is that of multiple coats. Once you have powder coated and cured a part, you want to go back over it for a second coat. When you go to spray the powder on, you find that it falls right off the part with almost no coverage. That is because the first coat is acting as an electrical insulator, and the powder isn't being attracted to the part. This is another time where the grounding rod is essential because it gives you a ground that is sufficient enough to continue to attract the powder, even through other previous coats.