

## Powder Coating Troubleshooting Tips

Problem	Cause	Remedy
Adhesion Poor	1. Inadequate cleaning or pretreatment	1. check pretreatment equipment and chemicals
	2. Under cure	2. Increase oven temp and/or time in oven
	3. Film thickness too high	3. Reduce thickness by lowering voltage or shorten spray time
Chipping	1. Powder not fully cured	1. Check pretreatment equipment and chemicals
	2. Coating thickness too high	2. Reduce thickness by lowering voltage or shorten spray time
Corrosion Resistance (Poor)	1. Inadequate cleaning or pretreatment	1. Check pretreatment, equipment, and chemicals
	2. Under cured	2. Increase oven temp or dwell time
Cratering	1. Contamination with other powder	1. Clean the system and start with virgin powder
	2. Inadequate pretreatment of substrate	2. Check the pretreatment
	3. Contamination with incompatible materials from spray area (i.e. silicone)	3. Check for presence of incompatible materials
	4. Oil or moisture in air lines	4. Check air lines. Install filters if necessary
Flow (Poor)	1. Curing temp too high	1. Reduce oven temp and/or time in oven
	2. Preheat oven too high	2. Reduce pretreat oven temp and/or time in oven
	3. Coating thickness too low	3. Increase coating thickness by using a higher voltage, longer spray time, or more dense powder cloud
Out-Gassing	1. Air entrapped in substrate (i.e. castings, sandblasted parts)	1. Preheat above curing temp and coat hot
Gloss Difference	1. Curing temp too low or too high	1. Increase/decrease oven temp and/or time in oven
	2. Contamination caused	2. Clean guns, hoses, and

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	by other powders with different flow or gel characteristics	hoppers, use virgin material
Impact Resistance/Flexibility (Poor)	1. Under Cured	1. Increase oven temp or increase dwell time in oven
	2. Poor cleaning or pretreatment	2. Check pretreatment equipment and chemicals
	3. Film thickness too high	3. Reduce film thickness by adjusting application equipment
	4. Change in substrate thickness or type	4. Check substrate with supplier
Off Color	1. Improper oven exhaust	1. Check exhaust fans
	2. Bake time too long or too short	2. Adjust line speed and/or temp
	3. Oven temp to high or too low	3. Adjust oven temp
Opacity (Poor)	1. Coating thickness too low	1. Increase coating thickness by using higher voltage, longer spray time, or more dense powder cloud
Orange Peel	1. Warming up of the coated material is too slow or too fast	1. Check curing cycle and curing oven, if necessary, contact your powder supplier
	2. Heat damage of the powder	2. Replace the powder
	3. Film thickness too low	3. Increase the thickness by raising voltage or lengthen spray time
Pencil Hardness/Abrasion Resistance (Poor)	1. Under cured	1. Increase dwell time or temp in oven
Penetration (Poor)	1. Powder Delivery	1. Adjust powder delivery
	2. Poor ground	2. Check ground
	3. Improper spray pattern	3. Select proper deflector or use suitable barrel and cover (consult your equipment supplier)
	4. Voltage too high or too low	4. Adjust voltage settings so powder builds on pans edges and leading surfaces do not repel powder from corner
	5. Poor gun placement	5. Adjust gun position so powder cloud has a direct path to recess area
	6. Powder too fine or too coarse	6. Consult powder supplier
Pinholing	1. Coating thickness too low	1. Increase coating thickness by using a

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		higher voltage, longer spray time, or move dense powder cloud
	2. Curing temp too high	2. Decrease oven temp and/or time in oven
Sags	1. Coating thickness too high	1. Reduce coating thickness by using a lower voltage, shorter spray time, or less dense powder cloud
	2. Cure temp too low	2. Increase oven temp
Soft Surface	1. Curing temp too low	1. Increase oven temp and/or time in oven
	2. Contamination with an incompatible powder, especially a thermoplastic	2. Clean guns, hoses, and hoppers, use virgin materials