APPLICATION PROBLEMS IN POWDER COATING

1.1 Escaping of powder from fluidized bed

Possible Causes	Solution
Too high air pressure in gun	Reduce air pressure in gun
Too fine powder	Check the recycle amount, keep recycle amount as specified by powder manufacturer

1.2 Poor fluidization in fluidized bed

Possible Causes	Solution
Too low fluidization pressure	Increase air pressure
Air feeder obstructed	Check and clean air feeder
Too high moisture content of powder	Check storage conditions, keep product as specified in product label

1.3 Poor powder feeding, not a regular powder cloud

Possible Causes	Solution
Insufficient powder in fluidized bed	Adjust powder level as 2/3 volume of fluidized bed and check oftenly
Moisture content of powder too high	Increase air pressure and check pressurized air humidity

1.4 Separation of powder in two layers in fluidized bed

Possible Causes	Solution
Too high level of powder in fluidized bed	Adjust powder level as 2/3 volume of fluidized bed and check oftenly
Too fine powder	Check the recycle amount, keep recycle amount as specified by powder manufacturer
Incompatible with other powder coatings	Clean application equipments before changing type and color of powder

1.5 Agglomeration

Possible Causes	Solution
Powder stored too long, causing prereacted	Check storage conditions

1.6 Blockage in pump feeding and pipes

Possible Causes	Solution
Type of the equipments used	Clean application equipments and renew
Too high air preesure	- Shorten the pipe lengths -Reduce air pressure of gun and pump
Moisture content of powder too high	Check moisture presence in air source
Out of date pipes and pump feeders	Renew deformed equipments
Too fine powder	Check the recycle amount, keep recycle amount as specified by powder manufacturer
Structure of coating	Consult powder manufacturer
Twists and kink on pipes	Keep pipe lengths as short as possible

1.7 Poor charging and poor wrap on the part

Possible Causes	Solution
Voltage too low	Check electrical continuity from voltage source to electrode, including cable, resistors and fuses
Poor earthing	-Check earthing of all equipments -All contact area must be free of powder build, heavy grease and other insulating material
Powder output to gun is too high	Reduce the powder feed until all material adequately charged
Too high air humidity	Check air humidity oftenly
Too fine powder	Check the recycle amount, keep recycle amount as specified by powder manufacturer
Structure of coating	Consult powder manufacturer

1.8 Poor penetration, that is powder can not penetrateFaraday cage areas

Possible Causes	Solution
Too low transportation of powder to the gun	Increase air pressure
Poor earthing	-Check earthing of all equipments -All contact area must be free of powder build, heavy grease and other insulating material
Powder cloud too wide at the exit of the gun	-Use a smaller deflector -Select variable nozzle
Voltage too high	Reduce voltage, powder on part edges and leading surfaces do not repel powder from corner
Output of powder too low/high	Adjust air pressure
Incorrect gun position	Adjust gun position so powder cloud has a direct path to recess area
Too fine powder	Check the recycle amount, keep recycle amount as specified by powder manufacturer

1.9 Back Ionizition

Possible Causes	Solution
Voltage too high	Reduce voltage
Incorrect gun position	Adjust gun position so powder cloud has a direct path to recess area
Poor earthing	-Check earthing of all equipments -All contact area must be free of powder build, heavy grease and other insulating material
Powder output to gun is too high	Adjust air pressure

1.10 Powder falls down from the substrate

Possible Causes	Solution
Insufficient or faulty pretreatment and cleaning	Test pretreatment if necessary, contact pretreatment supplier
Insufficient curing of coating	Check oven temperature and curing time
Too high film thickness	Reduce film thickness by decreasing voltage or coating time