

Trouble Shooting Guide

Problems can still occur even though your parameters are within their process control limits. Some may come and go quickly while others may linger a little longer, but nevertheless, we must observe what is going on. Document all changes, record current process parameters and utilize our Process Control Sheets. All people involved should work together as a "detective unit" to attempt to resolve the problem. This should include Troy Chemical, Quality Control, Line supervisors, Painters, etc. Once the team is formed and ready to go, then follow these guidelines.

- 1 Check and double check to make sure all of the washer parameters are within their process control limits. This should include line speed, temperatures, concentrations, pH's, pressure, nozzles, rinse tanks (if rinse tanks are dirty then drain and recharge!!), etc.
- 2 Check and double check to make sure all ovens are operating at the suggested levels.
- 3 Check and double check to make sure all of the powder / liquid paint equipment is functioning the way they should.
- 4 Has the paint changed? Has the chemical changed? Has the substrate changed? Observe these things to make sure they look like they typically appear.
- 5 Check rinse tanks for cleanliness.
- 6 When did the problem first appear?
- 7 Record this date and zero in on where the parameters were at that point in time.
- 8 If you see a pattern then act upon it.
- 9 Run more tests and record all changes that are made and the results.



chemical industries, inc.

Corporate: 17040 Rapids Road - P. O. Box 430 - Burton, OH 44021
440/834-4408 - FAX: 440/834-1142
Missouri: 848 Courtwood Lane, St. Louis, Mo 63011
636/891-8012 - FAX: 636/891-8013
Minnesota: 1506 Buerkle Road - St. Paul, MN 55110
651/787-0717 - FAX: 651/787-0719

Visit us on the web at www.troychemical.com.



FM 36122

Trouble Shooting Guide

Conclusion:

A detailed and structured game plan should be followed during the fact finding mission. Document when the problem occurred. Once the problem has been revealed then be sure to take the necessary adjustments and then a plan to prevent this from occurring again. Be proactive and try to develop other plans for the other applications to prevent further problems in the future. Remember, the problem could have occurred before the part ever was brought into your plant.

Retain past records of parameters, preventative maintenance actions and anything else that you deem appropriate to help in problem solving measures. These become priceless when a problem comes up. Preventative maintenance is huge when it comes to preventing rejected parts.

Problem

Poor Cleaning

Mechanical Problems

Chemical Problems

Low Phosphate Coating Weight

Possible Cause

Low Pressure
Clogged Nozzles
Misaligned Nozzles
Poor Rack Design

Wrong Concentration
Dirty or Spent Bath
Temperature too Low
Need Detergent Additive

Insufficient time in process
Low temperature
Wrong pH
Poor cleaning
Plugged Nozzles
Poor Quality Steel



Troy

chemical industries, inc.

Corporate: 17040 Rapids Road - P. O. Box 430 - Burton, OH 44021
440/834-4408 - FAX: 440/834-1142
Missouri: 848 Courtwood Lane, St. Louis, Mo 63011
636/891-8012 - FAX: 636/891-8013
Minnesota: 1506 Buerkle Road - St. Paul, MN 55110
651/787-0717 - FAX: 651/787-0719

Visit us on the web at www.troychemical.com.



Trouble Shooting Guide

Problem

Possible Cause

Powdery Coating (not paint)

Excessive Sludge
High Temperature
High concentration of Phosphate
Insufficient Post Phosphate Rinse

Non-Uniform Coating

Poor Cleaning
Poor Spray Pattern, Misaligned or
Plugged Nozzles in Phosphating Stage
Interstage Drying
Excessively High Dry-Off Oven
Temperature
High pH
Variation in Substrate

Flash Rusting

Low Coating Weight
Low pH of Phosphating Bath
Slow Dry-Off
Non-Uniform Phosphate Coating
Excessively High Dry-Off Oven
Temperature
Drying Between Phosphate and Rinse
Stop of Line with Work in Progress

Whitish Streaks

Poor Rinsing
High Temperature of Post Phosphate
Rinse
Contaminated Rinse
High Temperature of Phosphate Bath
Interstage Drying



chemical industries, inc.

Corporate: 17040 Rapids Road - P. O. Box 430 - Burton, OH 44021
440/834-4408 - FAX: 440/834-1142

Missouri: 848 Courtwood Lane, St. Louis, Mo 63011
636/891-8012 - FAX: 636/891-8013

Minnesota: 1506 Buerkle Road - St. Paul, MN 55110
651/787-0717 - FAX: 651/787-0719

Visit us on the web at www.troychemical.com.



Trouble Shooting Guide

Problem

Possible Cause

Loss of Coating Adhesion

Hot Post Phosphate Rinse
Contaminated Final Rinse
High Final Rinse pH
Poor Phosphate Coating (coating problems)

Foaming

Build up of High Foaming Soil
Air Leak from Pump
Cracked Riser
Misaligned Nozzles
Low Temperature

Excessive Chemical Usage

Drag Out
Overspray into Adjoining Stages
Overflowing Chemical Stage
Leak in Valve, Heat Exchanger, Tank
High Temperature in Phosphate Stage
High Chemical Concentration
Hard Water
Cross Contamination from Carry Over
Poor Chemical Maintenance Practices
Dumping & Recharging Tanks too Often
Too Long Between Dumps



Troy

chemical industries, inc.

Corporate: 17040 Rapids Road - P. O. Box 430 - Burton, OH 44021
440/834-4408 - FAX: 440/834-1142

Missouri: 848 Courtwood Lane, St. Louis, Mo 63011
636/891-8012 - FAX: 636/891-8013

Minnesota: 1506 Buerkle Road - St. Paul, MN 55110
651/787-0717 - FAX: 651/787-0719

Visit us on the web at www.troychemical.com.

