

# 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](http://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](http://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](http://www.troychemical.com).



# Trouble Shooting Guide

## Problem

Loss of Coating Adhesion

## Possible Cause

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](http://www.troychemical.com).

