

# Troubleshooting Guide to Common Cleaning Problems

FILM/DEPOSIT	IDENTIFICATION	PROBABLE CAUSE(S)	REMOVAL	PREVENTION	FYI...
<b>Minerals</b> (Sulfates/Chlorides)	Powdery white film	Rinsing with plain water in excess of 140°F (60°C) causing rapid evaporation of water on surfaces	Mix acid cleaner 1 oz. per gallon and circulate 10-20 minutes in 120°F (49°C) water - For manual surfaces, brush thoroughly with acid cleaner	Increase dilution rate of acid rinse as necessary - Reduce water temperature to 95-110°F (35-43°C)	While minerals are inorganic soil, they still provide nutrients and a home for bacteria.
<b>Blacking/Inking Smears</b>	Black residue from degraded rubber goods - smears or smudges when touched	Sanitizing with excessive amounts of chlorine - Excessive amounts of chlorine in detergent solution - Failure to acid rinse after each milking	Mix acid cleaner at 1 oz. per gallon and circulate 10-20 minutes in 140°F (60°C) water - Use an acid product containing surfactant	Ensure proper amounts of chlorine sanitizer	Chlorine accelerates normal rubber degradation, but is a necessary bacteria killer.
<b>Blacking/Inking Stains</b>	Black or brown stain on stainless steel - does not smear or smudge when touched	Contact with excessive amounts of alkalinity and chlorine over a prolonged period of time	Permanent damage - Repolish or replace stainless	Ensure proper mixing and complete solubility of caustic products.	Always follow label instructions for safety and proper product use.
<b>Silica</b>	White to gray glazed appearance	Use of mechanical cleaner for manual cleaning - Poor rinsing - Water supply - Failure to manually clean outside surface of equipment cleaned inside mechanically	There is no safe way to remove silica deposits - Pipelines heavily coated with Silica may need to be replaced	Use of a high phosphate chlorinated powder helps to prevent further build-up.	Over 30 ppm of silica in the water supply has the potential to leave unremovable deposits.
<b>Barium Sulfate</b>	Hard to remove white film - Uneffected by normal acid contact	Barium in the water supply	Shock treatment with WSS Big Rid™	Use of a water softener will remove barium from the water supply and prevent deposit reformation	Neither acid or alkaline affects barium sulfate.
<b>Factory Soil</b>	Grease, factory dirt, black deposit, rusting	Improper or no initial cleanup	Initial cleanup	Thorough cleaning before equipment is used initially	Routeman should initiate this.
<b>Corrosion</b>	Rusting or pitting	Iron - Metal particles - Improper chemical usage - Concentrated chlorine sanitizing solution leaks into bulk tank	Acid wash and abrasive action - Repolishing if bad corrosion or replacement of stainless steel	Proper procedures with a phosphate based acid rinse	All WSS acids are phosphate based.
<b>Etching</b>	Pitted and white discoloration "imbedded" in stainless steel surface	Use of improper chemicals - Incorrect application of chemical	Repolish or replace stainless steel	Proper procedures with a phosphate based acid rinse	All WSS acids are phosphate based.

\*\*Be sure all recommended acid rinses reach a pH of less than **3.5** in order to be fully effective in removal of the film/deposit.