



# TROUBLE SHOOTING GUIDE

## COLDIP NI-Z SAPPHIRE 400

06-12-18

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### GENERAL TIPS FOR OPERATION

Photo shows the relationship between film color and film thickness. From left to right, the film thickness increases. Leftmost bolts have not been passivated.



Deeper blue results from higher nickel.

Deeper blue results from COLLOY Ni-Z Posit II bath with high brightener.

For a silver/clear appearance, apply any sealer following passivation.

Increased COLDIP NI-Z SAPPHIRE 400 concentration will result in shorter dip times to achieve blue color.

Green precipitate is normal byproduct of passivation. Filter installation is recommended. See TDS.

Bright dip is recommended prior to passivation to prevent zinc-nickel passivation.

<u>PROBLEM</u>	<u>CAUSE</u>	<u>SOLUTION</u>
Iridescent blue-purple parts	Poor surface activation	Ensure bright dip prior to COLDIP NI-Z SAPPHIRE 400 maintains a pH between 1.5 - 2.0 using hydrochloric acid for at least 20 - 40 seconds
	Slightly low film thickness (short immersion time)	Increase immersion time in increments of 10 seconds
	Low pH	Adjust pH up in increments of 0.1 with dilute sodium hydroxide
	Low concentrations of COLDIP NI-Z SAPPHIRE 400A	Increase concentration in increments of 1.0% by volume
	Nesting parts inside barrel	Maintain barrel rotation at 4 - 6 RPM or include larger scrap parts to separate nested pieces
Tan or tan-purple parts	Poor surface activation	Ensure bright dip prior to COLDIP NI-Z SAPPHIRE 4000 maintains a pH between 1.5 - 2.0 using hydrochloric acid for at least 20 - 40 seconds
	Low film thickness (short immersion time)	Increase immersion time in increments of 15 seconds
	Low pH	Adjust pH up in increments of 0.1 with dilute sodium hydroxide
	Low concentrations of COLDIP NI-Z SAPPHIRE 400A	Increase concentration in increments of 1.0% by volume
	Nesting parts inside barrel	Maintain barrel rotation at 4 - 6 RPM or include larger scrap parts to separate nested pieces
Yellow or yellow-blue parts	High film thickness (long immersion time)	Decrease immersion time in increments of 10 seconds
	High iron/zinc contamination	Dump or decant solution
	High concentration of COLDIP NI-Z SAPPHIRE 400A	Decrease immersion time in increments of 10 seconds
Non-passivating part sections	Poor pretreatment prior to plating	Strip & replace pieces after optimization to pretreatment process has been implemented
	Nesting parts inside barrel	Maintain barrel rotation at 4 - 6 RPM or include larger scrap parts to separate nested pieces