

Risks Associated with common passivation practices

Safety

- Hazardous waste
- Chemical burns

- Chemical spills
- Pallets of fifty-pound bags of acids and bases
- Hoses through doors, hallways and stairwells

Time and Money

- Over Budget
- Unexpected change orders
- Unnecessary process steps
- Turn key project durations of days or weeks
- Delayed or cancelled product campaign
- Floor stains or damage
- Long rinse times

Quality

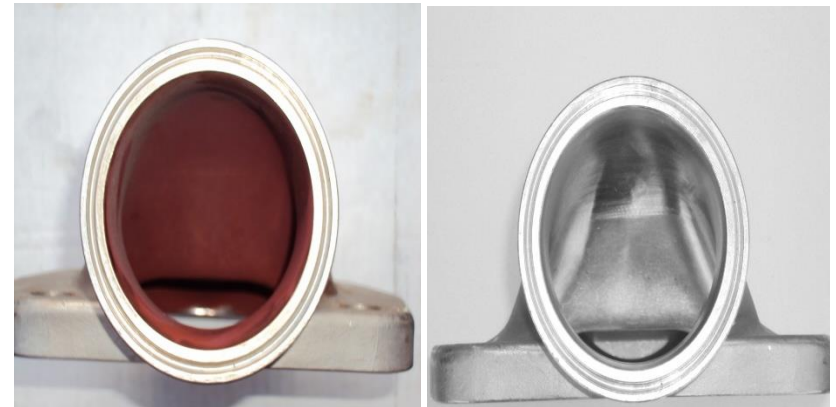
- Residual chemical or particulates left behind
- Equipment damage due to severe etching
- Severe rouge production
- Insufficient Cr/Fe ratio
- Unknown chemical concentration and/or formulation



1814 Sunny Dr. Houston, TX 77093

Ph: 281-442-2208 www.ultracleanep.com

Derouging with DIRUNEUTRA



Average derouging contact time 90-minutes

Average rinse time 30-minutes

Average project turnaround time 12-hours

SAFETY Antidotes			
1	Non-Hazardous Waste	No heavy metals in effluent	Effluent can go directly to most municipalities
2	Low Chemical Concentration	Low chemical concentration (Less than 0.2%)	Low risk potential to employees
3	pH Neutral	NO neutralization required	Simple disposal of effluent
4	Safe to use	Low risk potential to employees	No damage to floors or ancillary equipment
5	Flow not required	No skids or return hoses required	Minimally invasive to system
6	Small footprint	Minimal equipment/personnel required	No hoses through doors, hallways or stairwells
7	Practical packaging	Light weight containers (Max 10-pounds)	No bulk 50-pound bags of acids and bases
TIME AND MONEY Antidotes			
8	On Budget	Very predictable Pricing	No dreaded change orders
9	Short process time	Process time between 30 and 240-minutes	Low chemical concentration (less than 4%)
10	Substrate Compatibility	Compatible with all elastomers	Will not damage Floors or pump seals
11	Instrumentation Friendly	Does not require removal of flow, conductivity, temperature or other instrumentation	
12	Ease of use	Reliable procedures designed for the end user	Flow not required
PRODUCT QUALITY Antidotes			
13	Residue Free	No residual residue or particulates left behind	Chelated rinse with NO risk of precipitation
14	Non-Etching	Does NOT etch stainless steel	No heavy metals removed
15	Enhanced Cr/Fe ratio	Iron only affinity	Works through preferential chemical reaction
16	Reduced Rouge Rate	Stabilized surface finish	Prolongs return of rouge
17	Predictable chemistry	Known chemical constituent concentration	Reliable SOP and detailed protocol