CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2024

DateRun: 03/25/2024

Experimenters: Amelia Wagner

ClientType: Chemical Company

ProjectNumber: Project #1

Substrates: Cold Rolled Steel

PartType: Coupon

Contaminants: Rust/Scale

Cleaning Methods: Immersion/Soak

Analytical Methods: Visual

Purpose: To test the efficacy of two products in removing flash rust from cold rolled steel coupons provided by the client (presoiled).

Experimental Procedure: Cold rolled steel coupons were provided pre-soiled with flash rust by the client. The coupons dirtiness levels were visually ranked according to the visual observations criteria listed below. Half of the coupons were cleaned using the Picklex Degreaser by method of heated immersion at 125 F for 90 seconds. The other half of the coupons were cleaned using the Picklex 20 spray (ambient temp) by spraying the product onto their surface and allowing a 90 second contact time before wiping the surface with a paper towel (single wipe). Each coupon was then rinsed with cold tap water for 60 seconds. At this point, the coupons were visually ranked according to the visual observation criteria below. The coupons were then dried in the conventional oven for 20 minutes at 300 F. Once coupons were removed, observations were made about the brown coating left on the surface to prevent oxidation.

Visual Ranking criteria:

1= 100% soil removed (most clean)

2= 75% soil removed

3= 50% soil removed

4= 25% soil removed

5= 0% soil removed (most dirty)

Results:

Cleaner	Dirty Visual Ranking	Clean Visual Ranking	AVG Clean Ranking
Picklex Degreaser	5	1	1
	5	1	
	5	1	
Pickelx 20 spray	5	1	1
	5	1	
	5	1	

Coating observations:

A brown coating was left on the surface of the coupons after removing them from the oven, however the coating is uneven. This may or may not lead to uneven protection against oxidation.

Summary:

Substrates:	Cold Rolled Steel				
Contaminants:	Rust/Scale				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
International Chemical Products Inc	Picklex	RTU		☑	

Conclusion: Both products were highly effective in removing flash rust from the surface of cold rolled steel. Both products were effective in leaving a brown coating on the surface of the coupons, although this coating was visually uneven. The unevenness of the color of the coating will likely not pose any issue of oxidation because at a microscopic level, all areas of the surface are likely sufficiently protected by a coating of a nano-thickness that is not able to be seen by the eye.