CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2022

DateRun: 02/15/2022

Experimenters: Nicole Kebler

ClientType: Brass Instrument Manufacturer

ProjectNumber: Project #1

Substrates: Brass

PartType: Part

Contaminants: Adhesive

Cleaning Methods: Ultrasonics

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate the removal of sliding gel from brass parts provided by the company.

Experimental Procedure: Two parts per cleaner were weighed for intial weights. They were then dipped on one side into the sliding gel and weighed again for dirty weights. The cleaners were all heated to the recommended temperature of 140 degrees farenheit and were used at the vendor recommended concentrations. Once the dirty weights were taken, the two parts were put into the beaker which had the heated cleaner in it and was put into the ultrasonics tank for 15 minutes. The ultrasonics tank is used at 40 kHz. After the 15 minutes, the parts were taken out and placed on the tray to dry overnight. Once dry, the final clean weights were taken.

Results: Surface cleanse has about a 99% removal but there was sticky residue left on the surface. Liquinox had about a 72% removal and was sticky to the touch after cleaning. One of the parts for citranox showed a greater than 100% removal but the other was around 87% removal. Both parts were still sticky and the over 100% removal could be a gravimetric error. Shopmaster LPH also had over 100% removal for both parts and was not sticky to the touch after cleaning and was re-done to test effectiveness. The second trial showed a 99% removal, but was still sticky after the cleaning. The Metalnox 6435 had a 100% removal and was not sticky to the touch after cleaning.

Cleaner	Concentration	Initial wt. of cont.	Final wt. of cont.	Average	Combined Average	Notes
Surface Cleanse	2%	0.0876	-0.0006	100.68	99.91	Sticky Residue
		0.1029	0.0009	99.13		
Liquinox	2%	0.0660	0.0256	61.21	71.75	Sticky Residue
		0.0683	0.0121	82.28		
Shopmaster LPH	10%	0.1419	-0.0344	124.24	128.77	Clean to touch
		0.0892	-0.0297	133.30		
Shopmaster LPH	10%	0.1398	0.0002	99.86	98.77	Sticky residue
		0.2078	0.0048	97.69		
Citranox	2%	0.0705	-0.0485	168.79	127.86	Sticky residue
		0.0688	0.0090	86.92		
Metalnox 6435	15%	0.0802	0.0000	100.00	99.65	Clean to touch
		0.1127	0.0008	99.29		

Summary:

Substrates:	Brass
Contaminants:	Adhesive

Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
International Products Corporation	Surface Cleanse Concentrated Neutral 930	2	99.91	☑	
Alconox Inc	Liquinox	2	71.75	☐	
Buckeye International	Shopmaster LPH	10	128.00	☐	Run a retest to verify.
Buckeye International	Shopmaster LPH	10	98.77	☑	Sticky to touch during retest
Alconox Inc	Citranox	2	127.86	☐	

Conclusion: Metalnox 6435 performed the best at a 100% removal with no residue left on the surface of the part. The other cleaners that were tested left a sticky residue on the part after cleaning.