

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2017

DateRun: 12/13/2017

Experimenters: Carla De La Cruz, Jenna Davidson

ClientType: General

ProjectNumber: Project #1

Substrates: Brass, Nickel

PartType: Part

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Visual, Visual, microscopic

Purpose: To assess whether Gemtek products are comparable to TCE when cleaning Bird Precision provided parts.

Experimental Procedure: Clean parts were provided by Bird Precision, and initial observations were taken using a microscope. Photographs were taken through the eyehole of the microscope and visual observations were recorded. This was repeated once soiled and after the parts were cleaned. Brass parts were hollow, and photos were taken on both sides. Nickel parts were only photographed on the perforated side. Parts were soiled with skin oils, cloth fibers, and a lubricating oil provided by Bird Precision. Parts were placed in a beaker of solution for a minute using a basket with slight agitation. After cleaning, the parts were removed and placed over a heated air gun for 1 to 5 minutes. Final observations were recorded after drying.

Results: SC 1000/SC SuperSolv 95/5

Initial

Brass: Part reused from precious test showed some residue around jewel from oil.

Nickel: Part reused from previous test appears to have blue residue outside of orifice and debris.

Dirty

Brass: Oil visible on the inside of the jewel.

Nickel: Oil visible on the inside of the jewel.

Clean

Brass: Oil still present in the jewels and orifices completely or partially blocked with some discoloration on outer surface.

Nickel: Some fluid inside opening with debris outside and blue coloration.

SC 1000/SC SuperSolv 90/10

Initial

Brass: Parts reused still show signs of oil inside jewels from previous test

Nickel: Parts reused show little to no residue visible.

Dirty

Brass: Oil visible on the inside of the jewel.

Nickel: Oil visible on the inside of the jewel.

Clean

Brass: Outer surface appears scratched with oil completely burnt on top of jewel blocking orifice. Appears crystallized.

Nickel: Blue residue with some fibers present on surface and some pitting. Jewels appear darkened to a brown color.

Summary:

| | | | | | |
|----------------------|--|---------------|--------------------|--------------------------|----------------------|
| Substrates: | | Brass, Nickel | | | |
| Contaminants: | | Oil | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Gemtek Products | SC-1000 Super Concentrate /SC Supersolve Mixture | 95%/5% | | <input type="checkbox"/> | |
| Gemtek Products | SC-1000 Super Concentrate /SC Supersolve Mixture | 90%/10% | | <input type="checkbox"/> | |

Conclusion:

The Gemtek cleaners showed little removal of the lubricating oil for this particular application. Further testing can be done with other cleaning methods.