

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2017  
 DateRun: 12/12/2017  
 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:

<b>Substrates:</b>		Brass, Nickel			
<b>Contaminants:</b>		Oil			
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Gemtek Products	SC-1000 Super Concentrate /SC Supersolve Mixture	95%/5%	0.00	<input type="checkbox"/>	
Gemtek Products	SC-1000 Super Concentrate /SC Supersolve Mixture	90%/10%	0.00	<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.