

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2003  
 DateRun: 09/22/2003  
 Experimenters: Jason Marshall  
 ClientType: Lab  
 ProjectNumber: Project #1  
 Substrates: Steel  
 PartType: Coupon  
 Contaminants: Inks  
 Cleaning Methods: Immersion/Soak  
 Analytical Methods: Gravimetric

Purpose: Laboratory evaluations of alternative cleaning products

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning. Five products were used at full strength, heated to 120 F on a hot plate. Fifteen preweighed coupons were coated with Cerdec Magenta (119-64-2, 65997-18-4, 1345-24-0, 20667-12-3) and allowed to dry for three days and reweighed. Three coupons were cleaned in each solution for 5 minutes using stir-bar-agitation, rinsed in a tap water bath for 15 seconds at 120 F and dried using air blow off for 30 seconds at 68 F. Coupons were allowed to dry overnight and then reweighed a final time. Efficiencies were calculated.

Note: Bio T Foam Plus was sprayed onto coupons at room temperature and allowed to sit for 5 minutes. The cleaner was then rinsed off.

Results: No cleaners removed over 85% of the ink. No cleaners removed over 50% of the ink.

Summary:

| <b>Substrates:</b>                 |  | Steel                     |        |             |                          |               |
|------------------------------------|--|---------------------------|--------|-------------|--------------------------|---------------|
| <b>Contaminants:</b>               |  | Inks                      |        |             |                          |               |
| Company Name:                      |  | Product Name:             | Conc.: | Efficiency: | Effective:               | Observations: |
| AW Chesterton                      |  | 278 Super Solv            | 100    | 3.11        | <input type="checkbox"/> |               |
| Bio Chem Systems                   |  | Bio T Foam Plus           | 100    | 0.12        | <input type="checkbox"/> |               |
| Invista S.a.r.l                    |  | Flexisolv DBE 3 ester     | 100    | 1.16        | <input type="checkbox"/> |               |
| Eastern Color and Chemical Company |  | Ecobrite Cleaner AK       | 100    | 34.29       | <input type="checkbox"/> |               |
| Gemtek Products                    |  | SC EZ Solv Safety Solvent | 100    | 44.91       | <input type="checkbox"/> |               |

Conclusion: The addition of mechanical energy, either ultrasonics or manual wiping would improve efficiencies.