

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2005

DateRun: 03/29/2005

Experimenters: Heidi Wilcox

ClientType: Wire & Cable Mfr

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Mold Releases

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To re-evaluate products for removing mold release agents only

Experimental Procedure: Eight products selected from the lab's database. Two additional product were selected based on client input. Nine products were diluted to 5% by volume in 600 ml glass beakers using DI water. The remaining product was used at full strength. Products were used at room temperature.

Thirty preweighed coupons were first coated with Valspar MR 225 mold release (100-41-4, 1330-20-7, 8052-41-3, 67-63-0, 108-88-3, 110-82-7, 64742-89-8), followed by a second coating with Valspar MR 225 Aerosol (75-28-5, 74-98-6, 100-41-4, 75-09-2). The coupons were placed into a convection oven at 150 F and allowed to cure overnight. After the coupons were cooled to room temperature, a second set of weights were recorded to determine the amount of contaminants were added.

Three coupons were cleaned in each product for five minutes using stir-bar agitation. After cleaning the coupons were removed and dried using compressed air at room temperature. Final weights were to be recorded after coupons were dry. Observations were made and recorded.

Results: Cleaning the mold release agents in immersion cleaning did not yield any successful products. The table below lists the amount of soil added, the amount remaining after cleaning and the efficiency for each coupon cleaned.

| Cleaner | Initial wt | Final wt | % Removed |
|----------------------|------------|----------|-----------|
| Aquavantage 1400 | 0.0541 | 0.0546 | -0.92 |
| | 0.0395 | 0.0400 | -1.27 |
| | 0.0518 | 0.0523 | -0.97 |
| Shopmaster LpH | 0.0367 | 0.0374 | -1.91 |
| | 0.0410 | 0.0413 | -0.73 |
| | 0.0503 | 0.0515 | -2.39 |
| Daraclean 282 | 0.0382 | 0.0394 | -3.14 |
| | 0.0402 | 0.0406 | -1.00 |
| | 0.0397 | 0.0414 | -4.28 |
| Beyond 2006 | 0.0338 | 0.0349 | -3.25 |
| | 0.0526 | 0.0540 | -2.66 |
| | 0.0342 | 0.0359 | -4.97 |
| Polyspray Jet 790 XS | 0.0207 | 0.0209 | -0.97 |
| | 0.0294 | 0.0302 | -2.72 |
| | 0.0246 | 0.0249 | -1.22 |
| Crest 211 | 0.0447 | 0.0443 | 0.89 |
| | 0.0418 | 0.0426 | -1.91 |
| | 0.0270 | 0.0272 | -0.74 |
| SC Aircraft 7 Metal | 0.0426 | 0.0425 | 0.23 |
| | 0.0343 | 0.0353 | -2.92 |
| | 0.0315 | 0.0310 | 1.59 |
| Amberclen L12 | 0.0282 | 0.0287 | -1.77 |
| | 0.0175 | 0.0181 | -3.43 |
| | 0.0254 | 0.0255 | -0.39 |
| Crest 14 | 0.0375 | 0.0376 | -0.27 |

CLEANING LABORATORY EVALUATION SUMMARY

| | | | |
|------------|--------|--------|--------|
| | 0.0320 | 0.0310 | 3.13 |
| | 0.0218 | 0.0211 | 3.21 |
| Ionox HC 2 | 0.0426 | 0.0445 | -4.46 |
| | 0.0322 | 0.0402 | -24.84 |
| | 0.0230 | 0.0292 | -26.96 |

Summary:

| | | | | | |
|-------------------------|---|---------------|--------------------|--------------------------|----------------------|
| Substrates: | Aluminum | | | | |
| Contaminants: | Mold Releases | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Brulin Corporation | Aquavantage 1400 | 5 | -1.05 | <input type="checkbox"/> | |
| Buckeye International | Shopmaster LPH | 5 | -1.67 | <input type="checkbox"/> | |
| Magnaflux | Daraclean 282 | 5 | -2.81 | <input type="checkbox"/> | |
| Today & Beyond | Beyond 2006 | 5 | -3.63 | <input type="checkbox"/> | |
| US Polychem Corporation | Polyspray Jet 790 XS | 5 | -1.64 | <input type="checkbox"/> | |
| Crest Ultrasonics | Crest 211 | 5 | -0.59 | <input type="checkbox"/> | |
| Crest Ultrasonics | Crest 14 | 5 | -0.36 | <input type="checkbox"/> | |
| Gemtek Products | SC Aircraft & Metal Cleaner Super Concentrate | 5 | -1.87 | <input type="checkbox"/> | |
| Innovative Organics Inc | Amberclean L 12 | 5 | 2.02 | <input type="checkbox"/> | |
| Kyzen Corporation | Ionox HC 2 | 100 | -18.75 | <input type="checkbox"/> | |

Conclusion:

The same ten products will be evaluated using heated ultrasonic cleaning.