

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2016

DateRun: 03/25/2016

Experimenters:

ClientType:

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Greases

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate the efficiency of various heated drop in solvent replacement in removing Momenitive Grease from Aluminum.

Experimental Procedure: Aluminum coupons were weighed to get their initial weights. The bottom third of each coupon was coated in the Momenitive Grease. The coupons were re- weighed. The weights were recorded. The coupons were placed in the heated drop-in solvent replacement for 5 minutes. The coupons were removed out of the cleaning solution and placed to dry on a rack for 15 minutes. Then the final weights were taken and recorded.

Results:

| Cleaner | Initial wt of cont. | Final wt of cont. | %Cont Removed |
|-----------------|---------------------|-------------------|---------------|
| Ethyl 408 | 0.1490 | 0.1665 | -11.74 |
| | 0.1595 | 0.1753 | -9.91 |
| | 0.1337 | 0.1378 | -3.07 |
| Methyl 408 | 0.1282 | 0.1387 | -8.19 |
| | 0.1091 | 0.1119 | -2.57 |
| | 0.0993 | 0.1035 | -4.23 |
| FluoSolv CX | 0.1183 | 0.0445 | 62.38 |
| | 0.1281 | 0.0573 | 55.27 |
| | 0.1269 | 0.0048 | 96.22 |
| FluoSolv NC | 0.1303 | 0.0666 | 48.89 |
| | 0.1399 | 0.0716 | 48.82 |
| | 0.1249 | 0.0545 | 56.37 |
| Honeywell PF | 0.1427 | 0.0751 | 47.37 |
| | 0.1137 | 0.0479 | 57.87 |
| | 0.1001 | 0.0520 | 48.05 |
| Honeywell PF 2A | 0.1303 | 0.0614 | 52.88 |
| | 0.1196 | 0.0615 | 48.58 |
| | 0.1361 | 0.0677 | 50.26 |
| Vertrel Sion | 0.2378 | 0.0371 | 84.40 |
| | 0.1646 | 0.0523 | 68.23 |
| | 0.2267 | 0.0438 | 80.68 |
| Fluosolv CX-500 | 0.3763 | 0.3539 | 5.95 |
| | 0.5120 | 0.4874 | 4.80 |
| | 0.5286 | 0.5069 | 4.11 |
| Fluosolv FR-110 | 0.3497 | 0.3335 | 4.63 |
| | 0.3472 | 0.3287 | 5.33 |
| | 0.3840 | 0.3653 | 4.87 |

Summary:

| | | | | | | |
|----------------------|----------------------|---------------|--------------------|-------------------|----------------------|--|
| Substrates: | Aluminum | | | | | |
| Contaminants: | Greases | | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: | |

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|--------------------------------|------------------------|-----|-------|-------------------------------------|--|
| Xf Technologies | Ethyl 408 | 100 | -8.24 | <input type="checkbox"/> | |
| Xf Technologies | Methyl 408 | 100 | -4.99 | <input type="checkbox"/> | |
| NuGeneration Technologies, LLC | FluoSolv CX | 100 | 71.29 | <input type="checkbox"/> | |
| NuGeneration Technologies, LLC | FluoSolv NC 786 | 100 | 51.36 | <input type="checkbox"/> | |
| Honeywell | Solstice PF with N2 | 100 | 51.09 | <input type="checkbox"/> | |
| Honeywell | Solstice PF-2A with N2 | 100 | 50.57 | <input type="checkbox"/> | |
| DuPont | Vertrel Sion | 100 | 77.77 | <input checked="" type="checkbox"/> | |
| NuGeneration Technologies, LLC | Fluosolv FR-100 | 100 | 4.95 | <input type="checkbox"/> | |
| NuGeneration Technologies, LLC | Fluosolv FR-100 | 100 | 4.94 | <input type="checkbox"/> | |

Conclusion: