

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008
 DateRun: 04/17/2008
 Experimenters: Jason Marshall, Shweta Bansal
 ClientType: Machining Company
 ProjectNumber: Project #1
 Substrates: Aluminum
 PartType: Coupon
 Contaminants: Inks
 Cleaning Methods: Manual Wipe
 Analytical Methods: Visual

Purpose: To evaluate new product with low voc and no HAPs on all six inks.

Experimental Procedure: One coupon was coated with each of the six supplied inks. These included Dykem Stop Off, Markal Valve Action Paint marker, Nu-Mark marker, Sharpie permanent marker, Sakura Coatings Product Company Solid Marker and the Avery Marks-A-Lot permanent marker (black). Once dry, coupons were cleaned using a handheld swab that was immersed into the cleaning product. Cleaning lasted for up to 1 minute. Following the cleaning, the coupons was wiped dry for 5 seconds. Observations were made and recorded.

| Results: | Contaminant | Observation |
|----------|-------------|--|
| | Dykem | Required under 30 seconds to clean |
| | Markal | Worked well |
| | Nu-Mark | Worked well |
| | Sharpie | Worked well - slight blue residue left |
| | Sakura | Worked well under 1 minute |
| | Avery | Worked well |

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|----------|----------------------|----------------------|---------------|--------------------|-------------------------------------|----------------------|
| Summary: | Substrates: | | Aluminum | | | |
| | Contaminants: | | Inks | | | |
| | Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| | Vertec BioSolvents | VertecBio Gold 3 | 100 | | <input checked="" type="checkbox"/> | |

Conclusion: The Vertec Bio Gold #3 worked on all six inks.