

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008
 DateRun: 08/15/2008
 Experimenters: Jason Marshall
 ClientType: Nano manufacturing
 ProjectNumber: Project #1
 Substrates: Glass/Quartz
 PartType: Part
 Contaminants: Clay, Oxides
 Cleaning Methods: Ultrasonics
 Analytical Methods: Visual

Purpose: To evaluate effective products to optimize cleaning performance

Experimental Procedure: Two products were selected from the previous trial based on performance. The two products were used at 20%. Products were used at room temperature. Each solution was used in a 40 kHz Branson 1510 ultrasonic unit after being degassed for 5 minutes.

The inner jacket was filled with the cleaning solution and the tube was partially immersed into the ultrasonic tank and cleaned for 20 minutes. Following cleaning, parts were rinsed with a tap water spray for 1 minute at room temperature. The cleaned part was dried with compressed air at room temperature for 30 seconds. Observations were made to determine how well each solution worked.

Results: Both products removed nearly all of the oxide layer from inside the jacket within 20 minutes of ultrasonic cleaning. There was some adhesive left on the ends of the part but the material was not as sticky as it was before and could be easily wiped off.

Summary:

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|----------------------|----------------------|---------------|--------------------|-------------------------------------|----------------------|
| Substrates: | | Glass/Quartz | | | |
| Contaminants: | | Clay, Oxides | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Gemtek Products | SC OmniBrite Acid | 20 | | <input checked="" type="checkbox"/> | |
| Valtech Corporation | Valtron SP 2700 KB | 20 | | <input checked="" type="checkbox"/> | |

Conclusion: The two products will be tested on the supplied stainless-steel filter following similar procedure.