

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006
 DateRun: 03/21/2006
 Experimenters: Jason Marshall
 ClientType: Metal
 ProjectNumber: Project #2
 Substrates: Aluminum
 PartType: Part
 Contaminants: Oxides
 Cleaning Methods: Media Blasting
 Analytical Methods: Visual

Purpose: To evaluate media blasting with CO2 snow or baking soda for aluminum finish improvements

Experimental Procedure: A Va-Tran Systems Sno Gun-II Cleaner was used in combination with compressed liquid carbon dioxide. The compressed cylinder was equipped with a syphon tube to facilitate the making carbon dioxide snow. Additionally, a BCS Co Soda Blaster was used with Church & Dwight Baking Soda Maintenance Formula XL with SuperKleen rinse accelerator. The baking soda blasting was rinsed from the part using tap water and dried using air blow off. The supplied aluminum plate was first photographed to record its initial appearance. The part was then cleaned with the CO2 snow for 2 minutes. The flow of the snow passed across the plate in a side to side and top to bottom pattern during the 2 minutes of cleaning. Only a half of the part was cleaned so that a direct comparison could be made with the original condition. The finish of the part also was compared to the desired finish on the back side of the part. A photograph was taken of the cleaning. The process was repeated for 5 and 10 minutes of cleaning. Baking Soda blasting was performed on the other half of the supplied part for 2 and 5 minutes.

Results: The surface finish was only slightly improved after 2 and 5 minutes of abrasive cleaning. There was not much improvement from 5 minutes to 10 minutes. Observations are listed in the table below.

| Product | Time min | | |
|-------------|---------------|--------------------------------------|----------------------|
| CO2 Snow | 2 | 5 | 10 |
| | Slight change | Condensation build up | Not much change from |
| | | Some improvement but not like side B | 5 minutes |
| Baking Soda | Flat finish | No change from 2 min | Not evaluated. |

Summary:

| | | | | | |
|--|-----------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Substrates: | Aluminum | | | | |
| Contaminants: | Oxides | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Applied Surface Technologies | CO2 Snowflakes, Medium Flow | 100 | | <input checked="" type="checkbox"/> | marginal improvement |
| Armex Cleaning and Coating Removal Systems | Sodium Bicarbonate | 100 | | <input checked="" type="checkbox"/> | Flat finish |

Conclusion: The final finish of both the CO2 and baking soda blasted surface did not match the appearance of the abrasive disc finish but did alter the appearance.