

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1997
 DateRun: 09/18/1997
 Experimenters: Jason Marshall, Prashant Trivedi
 ClientType: Tire Manufacturer
 ProjectNumber: Project #1
 Substrates: Steel
 PartType: Part
 Contaminants: Cutting/Tapping Fluids, Lubricating/Lapping Oils, Mold Releases, Dirt, Rubber, Oil
 Cleaning Methods: Media Blasting
 Analytical Methods: Visual
 Purpose: Evaluate sodium bicarbonate media blasting

Experimental Procedure: Representatives from Church & Dwight Co, Inc. provided the equipment and the baking soda product to clean the mold at the Surface Cleaning Lab. The mold was cleaned at a pressure of 45 psi. The system used for delivering the media was designed for paint removal from buildings and other large outdoor structures, thus requiring a larger nozzle than would this application. The vendor made it clear that the operating conditions for cleaning this part should be considered as a worst case scenario.
 SUBSTRATE MATERIAL: Steel (Supplied from client)
 CONTAMINANTS: Oil, silicone, dirt, rubber

Results: After the initial demonstration of the cleaning capabilities of the baking soda blasting, part of the tire mold was cleaned to near completion. The time that it took to clean the part was effected by the operating conditions. Despite the infringements, the cleaning took less than fifteen minutes to remove the contaminants from the mold. The part was returned to the client for inspection.

Summary:

Substrates:	Steel					
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Mold Releases, Dirt, Rubber, Oil					
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:	
Armex Cleaning and Coating Removal Systems	Sodium Bicarbonate	100		<input checked="" type="checkbox"/>		

Conclusion: The baking soda media blasting proved to be a very effective means of removing the contaminants from the mold. Under close examination of the cleaned area, it can be observed that some of the contaminant still remains. The reason for this lies in the operating conditions. The ideal operating pressure is around 100psi. The effectiveness of the cleaning does drop off as the pressure goes down. Additionally, the nozzle size was much larger than what is normally used which does effect the cleaning efficiency. A further explanation for the occurrences deals with the operators visibility. Due to the conditions, the misting that develops is not easily controlled when you are outdoors. The vendor stated that they have ways of controlling visibility through spray cabinets. Under better conditions 100% cleaning of the mold can be achieved.

Enclosed is product literature on the equipment and the media used in cleaning the mold. Also listed below is a contact name and number of a representative you can contact if you have any further questions.
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