

How Do I Clean Carbonaceous Soil?

Session Questions and Answers

Q: What type of oil is normally used in deep draw and other high pressure forming operations?

A: Normally it's an EP (excessive pressure) and temperature type oil. The most common that we see are chlorinated paraffinic oils. All by themselves they're more difficult than most to remove and they're generally are not water soluble. When they're burned on their difficult to remove. They represent sort of compound of difficulty, but it can be done.

Q: Will carbon smut show up on a Millipore particulate test?

A: The answer is probably. If you do a better job at your Millipore test flushing or some people will use ultrasonics in a beaker where you have high cavitation energy, you can remove the carbon that you didn't remove in the cleaning process. It will show up as positive weight on the Millipore gravimetric test.

Q: I am currently cleaning parts in several washers, using alkaline cleaners. The smut removal is not adequate. What action would you recommend I take to remedy this problem?

A: My recommendation would be to get with a company like KYZEN who is good at removing carbon. We'll take your parts and simulate your cleaning process with full scale equipment without tying you and your floor time up. We will get parts back to you for inspection. Once we have a process that we think is an improvement and meets your specs then we like to proceed to the plant trials I mentioned earlier. It is usually pretty obvious as to whether or not we can make an improvement, whether its bath life or how much carbon is left at the end that needs to be physically removed.

Q: What cleanliness tests are used for measuring the presence and amount of carbon smut on a part?

A: The most obvious and common test would be rubbing your fingers on a part, but it is not very accurate. Also, I see a lot of times in the industry utilizing a white towel test. Actually, white patch tests are sold, and these white patches are for seeing this visibly. However, it doesn't give you a good quantitative number. To do that, if you have the equipment and a lab, you can weigh the part and then clean the part thoroughly. Then, weigh again to see how much the weight of the carbon is that was on the part to begin with.

Q: Will vacuum degreasing with hydrocarbon or modified alcohol remove carbon smut?

A: Unfortunately, not. Solvents are great for removing oil and grease. Generally, they do not work for carbon smut. Normally, what we'll do is the initial clean with solvent and then follow with an aqueous process to remove the final carbon and then often

at the end we'll use vacuum degreasing with hydrocarbon or modified alcohol to meet a particulate spec. There may be 4 or 5 step cleaning process but unfortunately you can't just use a solvent.