

CLEANING CLOTH WITH STAINS

TASK

Special cloths that are already soaked in a cleaning and care product are often used to clean surfaces. Wrapped in foil, they are only removed shortly before use. In one case, some of these cleaning cloths showed clear dark stains as soon as the packaging was torn open. It was suspected that this could be grease.

SOLUTION

Analytik Service Obernburg uses microscopic techniques to analyze such stains. The thread-like structure of the very dark contamination clearly indicates a fungal infestation. Consultation with the customer revealed that the cleaning medium had recently been changed to a new product and that the new medium no longer contained alcohol. To prevent this, a cleaning solution with fungicidal components or subsequent sterilization was recommended.

Industries

Automotive Suppliers
Chemicals
Electronics
Paints and varnishes
Plastics processors
Mechanical
engineering Medical
technology

Objectives

Damage analysis

Materials

Contamination
of all kinds

Analysis method

Light microscopy
Scanning electron
microscope

Supplementary methods

IR spectroscopy

Similar questions

Inclusions



SOLUTION

In addition, individual particles were observed between the large dark spots, which were also to be characterized. For this purpose, this area of the cloth was analyzed under a scanning electron microscope. In addition to a representation of the topography or material differences (Fig. 2), this method allows elemental analysis of the smallest areas (Fig. 3).

Due to their composition, the particles can be assigned to mineral impurities and probably represent subsequent soiling caused by handling when the cloth was removed from the packaging.

ADVANTAGES

The combination of light and electron microscopy is an effective method for stain analysis if the images obtained are interpreted professionally. Analytik Service Obernburg also has extensive expertise in other microscopic and spectroscopic methods.



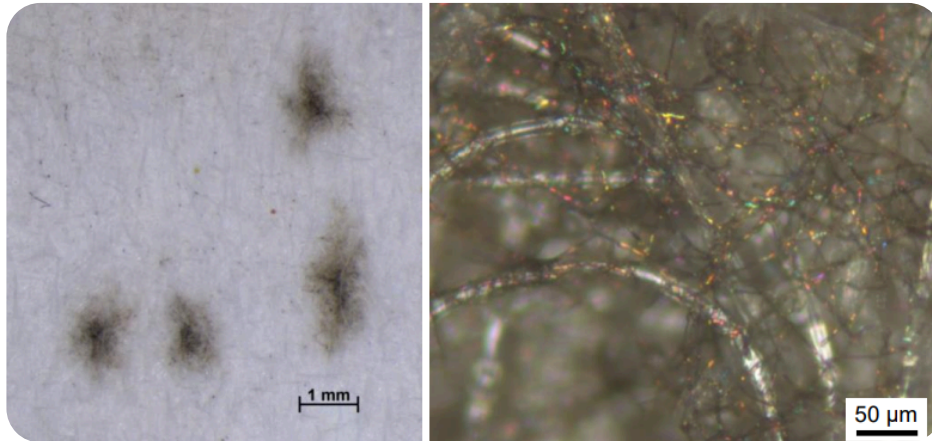


Fig. 1: Dark stains on cleaning cloth, which show a thread-like structure at higher magnification.

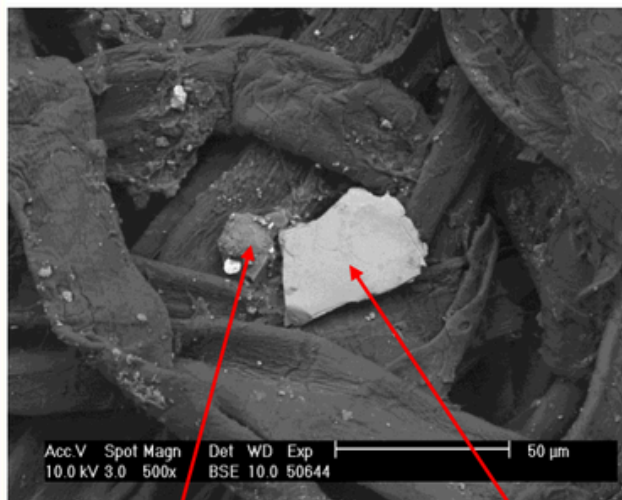


Fig. 2: Particle deposits on the cleaning cloth (material contrast)

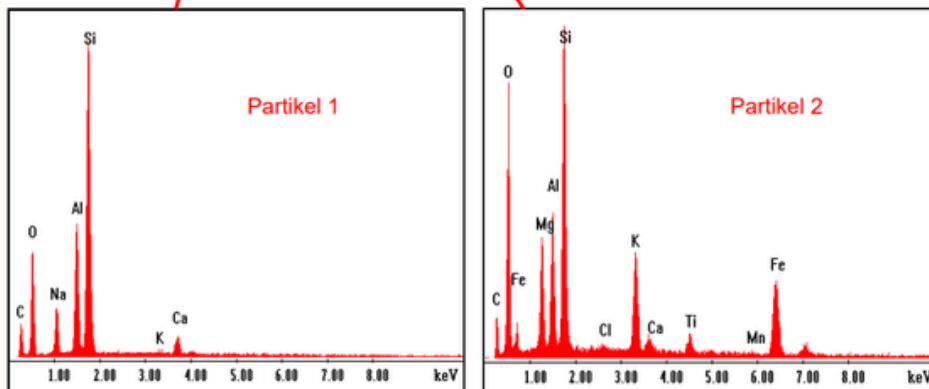


Fig. 3: Elemental composition of the particle deposits.