



CASE HISTORY

MEDIA ANALYSIS FROM CONFIDENTIAL CUSTOMER'S PETROLEUM AMINE PROCESS

November 18, 2005

PURPOSE:

The FTC Lab optically inspects and analyzes spent filter media from Filtration Technology Company's ABP-40-P33, in a Petroleum amine process. Historically, these filters provided the required filtration quality and filter life. However, a decrease in filter life prompted a laboratory action to understand why there was a change.

PROCEDURE:

A section of a spent filter was removed and shipped to FTC's laboratory for evaluation. Hydrocarbon extraction and optical inspection of the material was conducted. The extraction was conducted to determine if hydrocarbons were present in the media, and if so, how much. This was conducted by soaking a one square inch swatch of media in an organic solvent to extract the hydrocarbons. The saturated media was heated to evaporate the solvent, leaving the hydrocarbons behind. The results are reported in grams of hydrocarbons per filter. Two, one square inch samples were cut and tested for hydrocarbons. Each sample contained hydrocarbons at a concentration of 25.89 and 22.32 grams per cartridge respectively.

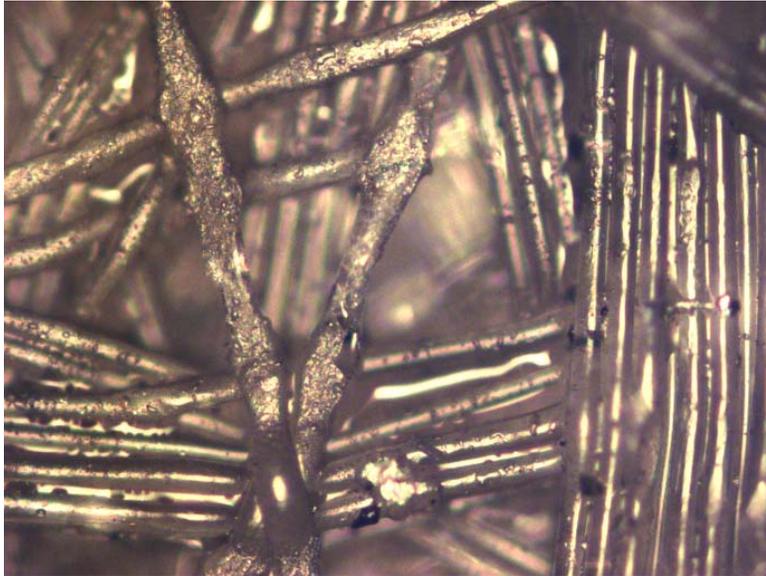
Optical inspections were conducted to determine if the media fibers and pore spaces were blocked with solid contaminants or chemically altered. Photomicrograph I was taken at 5x magnification and shows that the media is not overwhelmingly challenged with solid particles, but coated with a substance thought to be oil.

PHOTOMICROGRAPH I



Photomicrograph II was taken at 10x magnification and shows some fibers to be slightly altered in shape, (fibers in the middle) compared to those on the right side of the photo. This altered shape appears to be a substance that is attached to the media fibers rather than a deterioration of the media. Also present in this photomicrograph are a few solid particles and droplets of oil.

PHOTOMICROGRAPH II



CONCLUSION:

Oil in contact with polypropylene media can shorten filter life as the hydrocarbon coats the media fibers thus closing the pore openings to fluid flow. Solid particles do not appear to be the reason for filter short life. It is not clear as to the nature or what function the unknown substance may have in reducing the life of the filter, but if as shown in the photo, the “coating“ of the fiber is occurring and closing pore openings, then one could expect shorter filter life.

Filtration Technology Corporation

5175 Ashley Court
Houston, Texas 77041
(713) 849-0849 • 888-436-0849 • FAX (713) 849-0202
www.ftc-houston.com