

**MECANA**  
UMWELTTECHNIK

# MICROPOLLUTANT REMOVAL USING POWDERED ACTIVATED CARBON (PAC) AND PILE CLOTH MEDIA FILTRATION



Using powdered activated carbon (PAC) to adsorb dissolved micropollutants is both efficient and cost effective. The pile cloth media filter (OptiFiber®) is able to remove PAC from the process flow, producing a high quality final effluent.

Results from the following independent pilot tests prove that the pile cloth media filter is a very suitable and highly efficient technology for removing PAC particles:

### FHNW (CH), EAWAG (CH) and others

Development of a new combination of PAC adsorption, flotation and pile cloth media filtration, supported by FOEN.

### EAWAG (CH), WWTP Neugut

Investigation of technologies to reduce the ecotoxicological effects and ozone reaction by-products in wastewater.

### EAWAG (CH) Part of MicroPoll Project (completed)

In all test phases the pile cloth media filter could reduce the solids concentrations significantly, in average down to 2 mg/l TSS.

### ISWA Uni Stuttgart (D) Part of MIKROflock project (completed)

In all test phases the pile cloth media filtration showed the best retention rates of all the processes studied. The cloth was in a very good condition after a full year of continuous operation with no signs of wear and tear and no operation performance reduction.

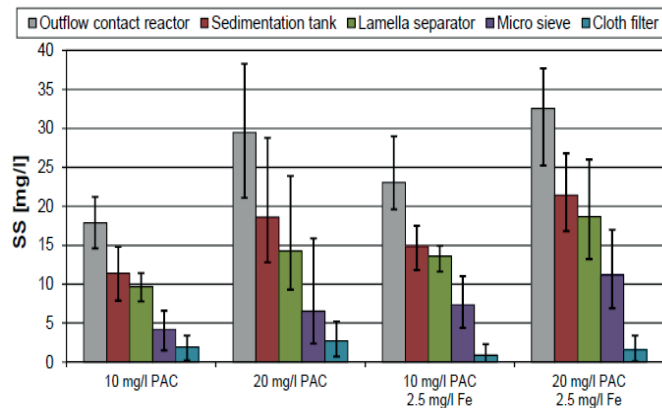


FIG. 1, SUMMARY OF ALL TEST PHASES

The following treatment works are currently being upgraded for the removal of micropollutants using PAC and Mecana pile cloth media filtration:

### Industrial Plant in Vertolaye (F)

Industrial wastewater treatment plant, upgraded to eliminate hormones and steroids through powdered activated carbon and two stage pile cloth media filtration, before and after the PAC reactor. The plant is designed to treat 250 m<sup>3</sup>/h. It goes into operation in May 2014.



FIG. 2, INDUSTRIAL PLANT VERTOLAYE (F), DURING CONSTRUCTION

### WWTP Lahr (D), 100'000 PE

Municipal wastewater treatment plant, upgraded to eliminate various micropollutants using powdered activated carbon and pile cloth media filtration. The plant is designed to treat 1200 m<sup>3</sup>/h with three 12-disc filters. The installation is planned for June 2014.



FIG. 3, WWTP LAHR (D), DURING CONSTRUCTION

OptiFiber® is a registered trademark of Aqua-Aerobic Systems, Inc.