

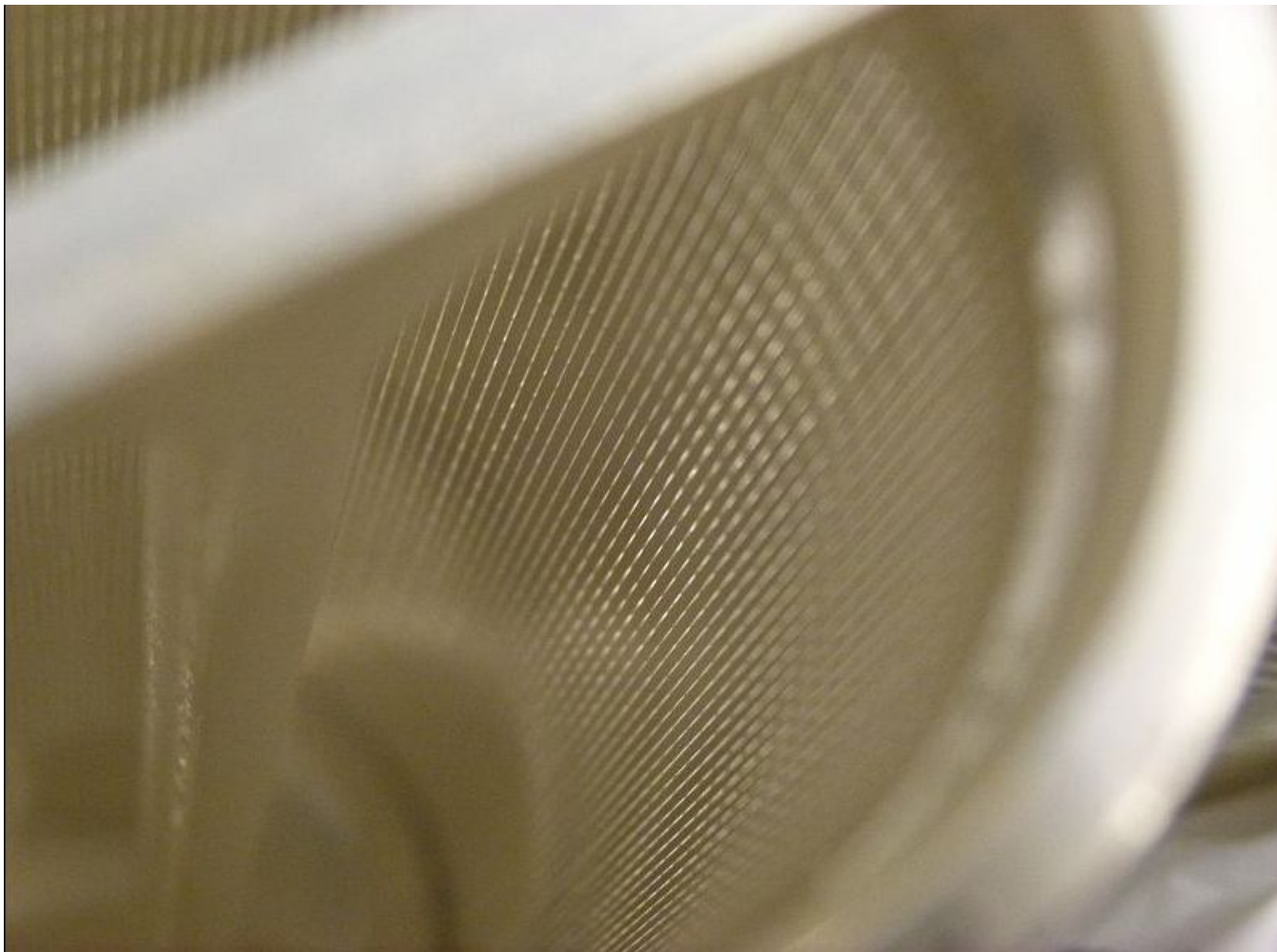
BOLL & KIRCH Filterbau GmbH

PROGRESS BY INNOVATION: WITH IDEAS TO SUCCESS





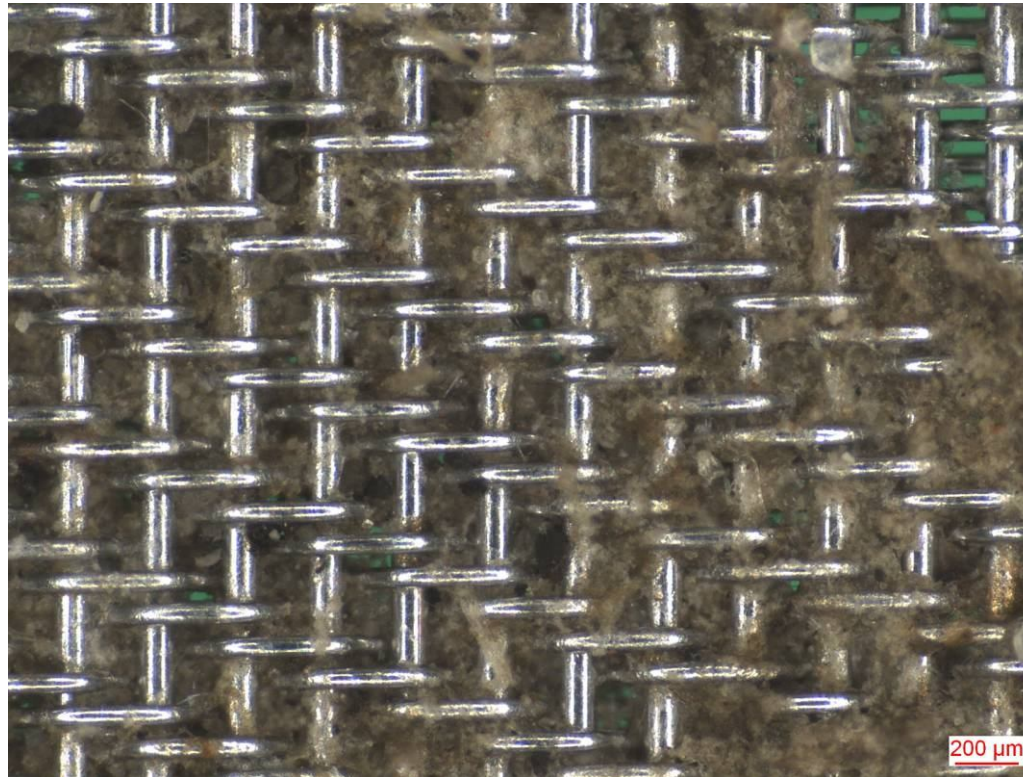
FouleX



FouleX

Why FouleX?

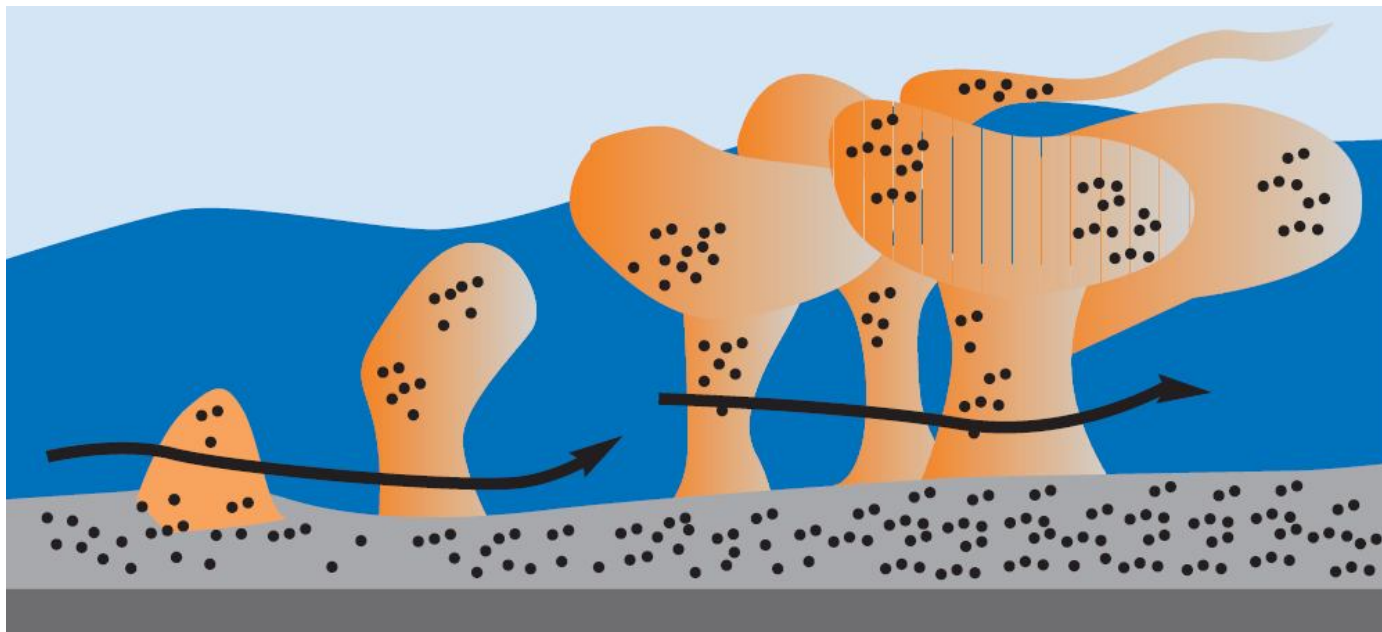
In water and aqueous solutions a film, that is known as biofilm, forms at the boundary layer between liquid and solid phase (e. g. filter medium).



FouleX

Why FouleX?

This biofilm consists of microorganisms and their secretions, which produce hydrogels in connection with water. These hydrogels are relatively stable and therefore difficult to remove.

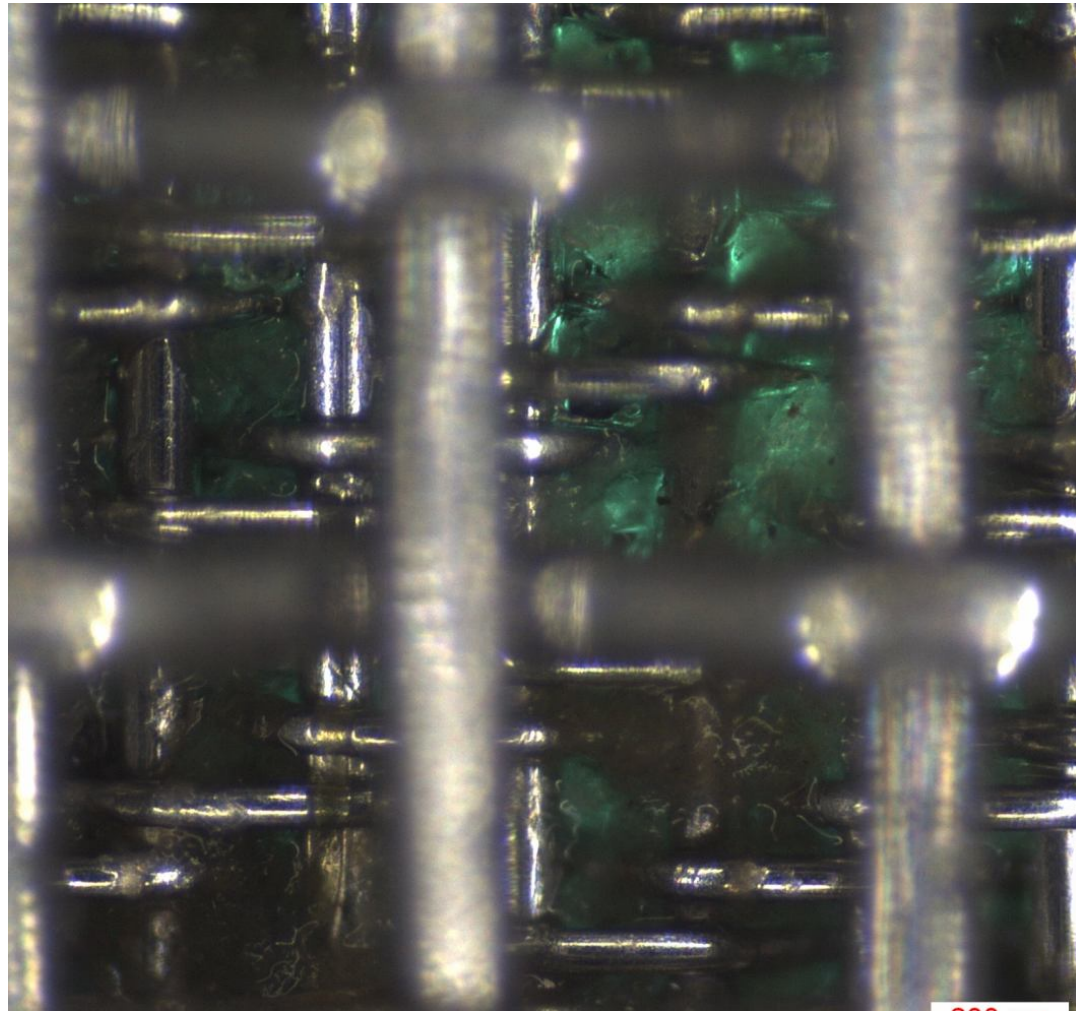


Source: J. W. Costerton, Z. Levandowski, D. E. Caldwell, D. R. Korber, D. de Beer, G. James: *Biofilms: the customized microniche*; *J. Bacteriol.* 1994 (176)

Foulex

Why FouleX?

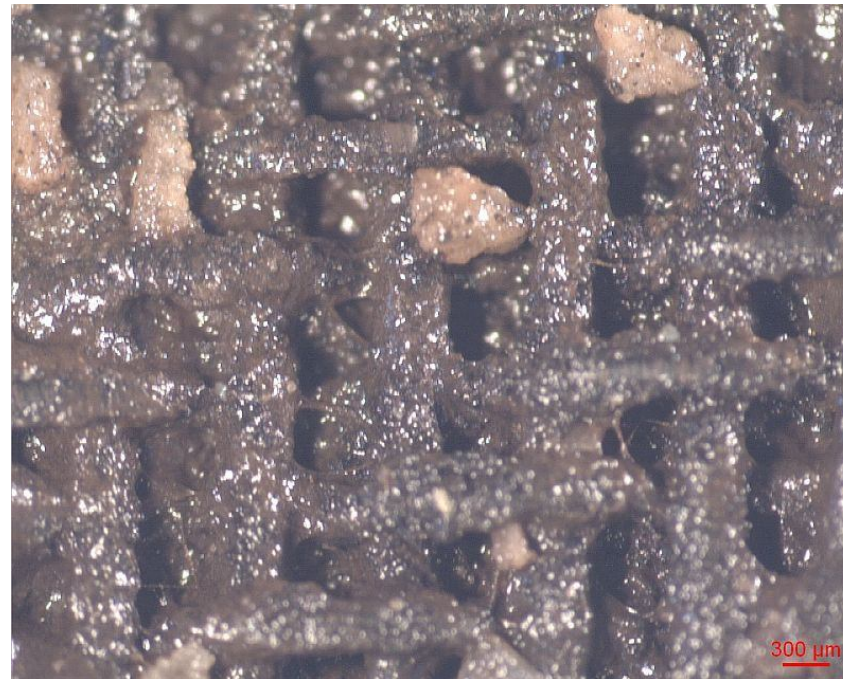
Hydrogels in the filter mesh



FouleX

Why FouleX?

The filter media gets blocked and has to be cleaned by hand. With usual flow rates, the thickness of the biofilm in filters lies between 10-100 μ m. Especially, in case of filtration < 300 μ problems may arise.





FouleX

Why FouleX?

Furthermore, biofilm leads to biocorrosion, which also attacks stainless steels.





FouleX

Why FouleX?

Biofilm is built up, until the flow leads to its erosion. The result is that detached particles of the biofilm are permanently carried along and contaminate the water.



Foulex

What is Foulex?

Foulex is a very thin, silver-containing layer which is applied permanently to the filter candles. Silver has an antiseptic effect and prevents or reduces the formation of biofilm.

This effect is also used more and more in other areas like medicine, (wound disinfection) or functional clothing (prevention of noxious odours).

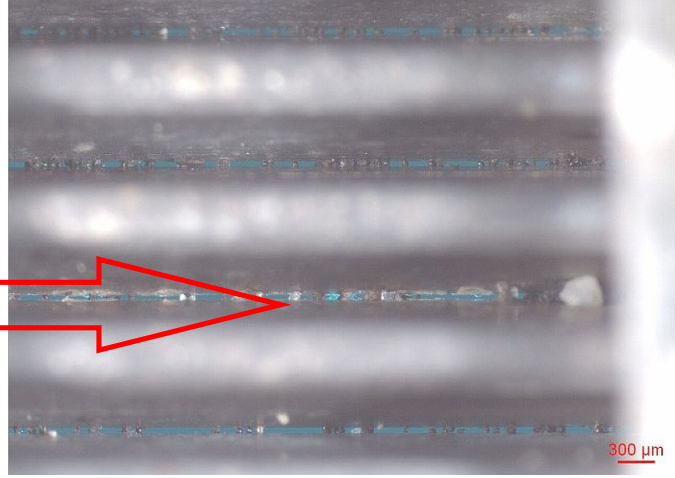


RWE Open Cast Mine Garzweiler

Surface water from open cast mine



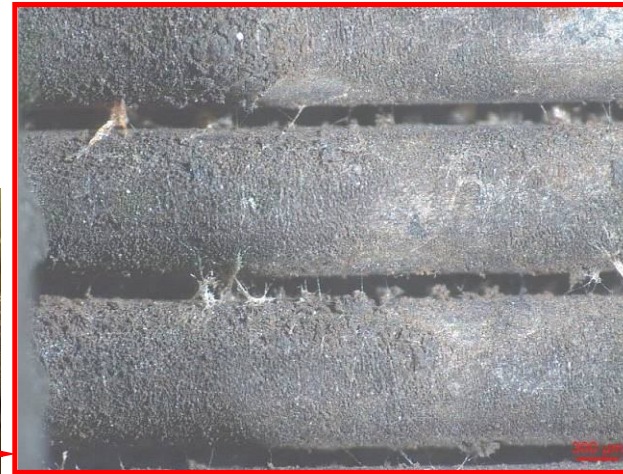
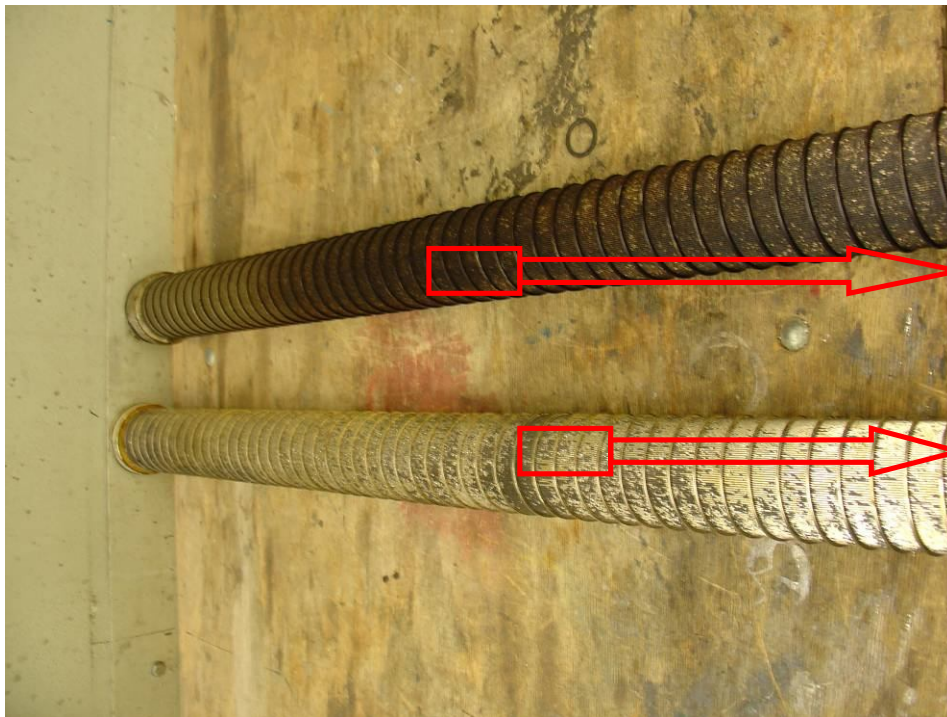
plastic fabric
uncoated



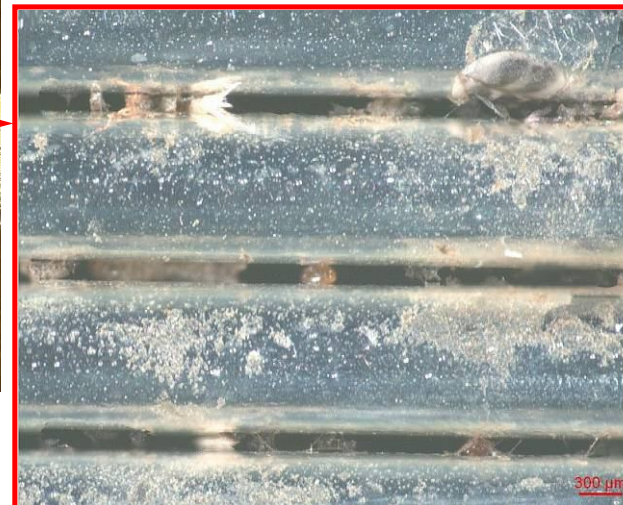
FouleX
coated

Potable Water System Roetgen

Surface water from dam



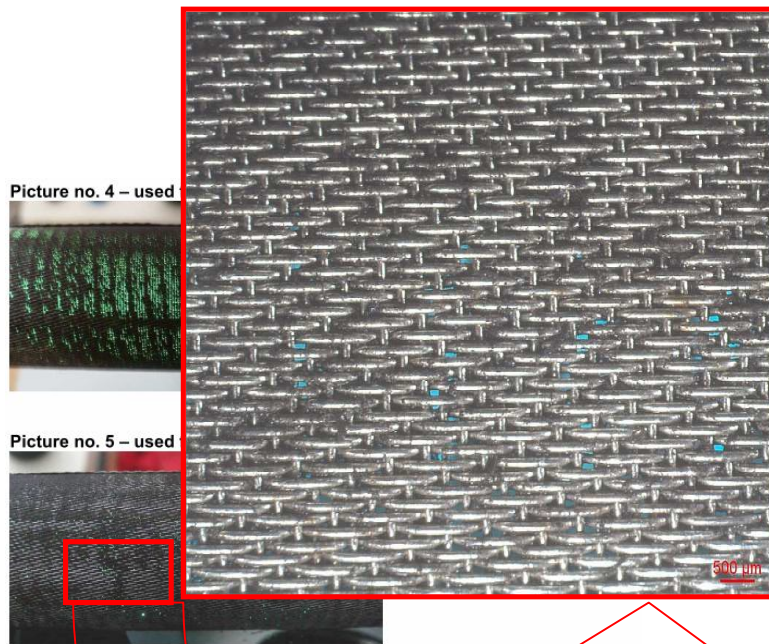
uncoated,
dried up
in moist
condition
completely
blocked



Foulex
coated

Vallourec & Mannesmann

Untreated roof-surface water for descaling

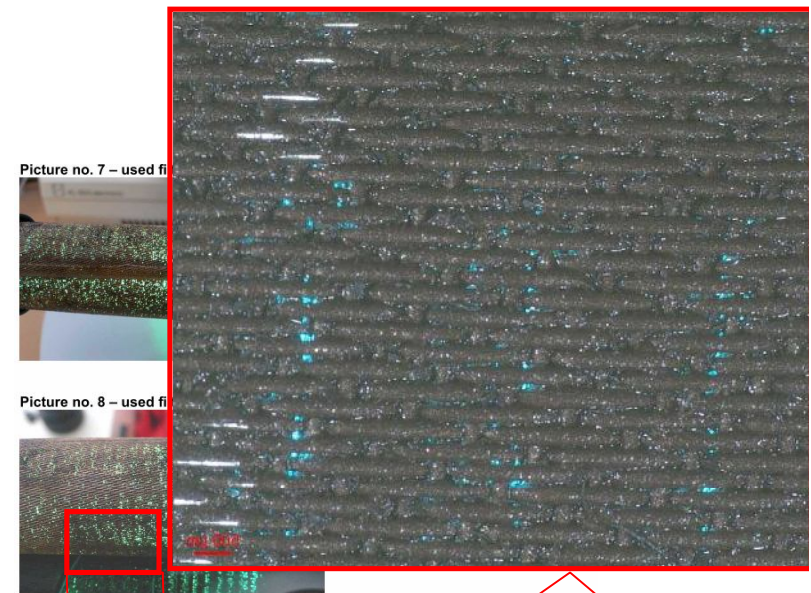


Picture no. 4 - used

Picture no. 5 - used

Picture no. 6 - used filter area upper third mesh candle not coated

occupancy rate 95 %



Picture no. 7 - used fi

Picture no. 8 - used fi

Picture no. 9 - used filter area upper third mesh candle Foulex coated:

Occupancy rate approx. 40 %

Kerpen, 27.01.2009
Boll & Kirch Filterbau GmbH
i.A. Michael Possekel
F & E - Labor