

MicroZapp media at a crude oil plant, November 2015

MicroZapp was used downstream of a DAF (Dissolved Air Flotation) unit. The feed contained free oil, solids (fine Calcium carbonate) and residual sticky polymer which was not fully separated by the DAF unit.



The MicroZapp media loading was 300-400 micron with a bed depth of approximately 70 cm. The flow rate was 8-10 m³ per m² of filter area and the job lasted for 6 weeks.



Normal filter feed and results with around 1.0 to 1.5 bar differential pressure

After a backflush the filter always regenerated fully to a differential pressure of 0.2 bar.

Occasionally the feed contained much higher levels of contaminants including sticky polymers. In the picture below the filter was run until a differential pressure of 2.2 bar and was then back flushed using the same dirty feed water..

The filter again came back to its original conditions.

After the job the media was found to be homogeneously free flowing and did not contain any lumps.

MicroZapp proved to be a failsafe solution which coped with the most difficult of circumstances. It provided a perfect barrier to protect the downstream expensive active carbon filters.



SEPARATE FILTRATION TEST

After this job, using the same media loading, A further test was done on a 5000 m³ tank which contained a haze of very fine solids, again coated in hydrocarbons. The results (after active carbon):



		untreated	filtered
Mineral Oil (free oil)	mg/l	4	0.72
CZV (COD)	mg/l	78	27
BTEX	µg/l	1600	40.9
PAK's	µg/l	16	<0.26
onopgeloste bestandelen (TSS)	mg/l	23	10