

Water Processing

Membralox[®] Ceramic Membrane Bio-Reactor for Industrial Wastewater Treatment

Société d'Impression d'Hem (SIH)

Created in 1974, the Société d'Impression d'Hem (SIH) is a major company specializing in bleaching, the impression, the dyeing and the finish on textiles. SIH generates highly coloured effluents due to the presence of pigments.

In 1992, SIH applied the first membrane filtration unit equipped with **Pall Membralox** highly compact industrial modules allowing the complete retention of the insoluble pigments and a reduction of the chemical oxygen demand (COD) to the standards set by the administration.

In 2004, to comply with new Directives of the Urban Community of Lille and to be able to discharge the treated effluent into the environment, SIH decided to treat its highly loaded effluents (10 - 15 g/L COD) with the **Pall Membralox** Ceramic Membrane Bio-Reactor, which combines a biological treatment with ceramic ultrafiltration.



Buffer Tank Inlet



Buffer Tank Inlet



Pall Membralox Ultrafiltration Unit

The system consisted of 4 filtration loops in parallel, corresponding to a total filtration surface area of 432 m², treating up to 58 m³ of effluent per hour.

The fully automated plant operates continuously 24 hours a day, 7 days a week. Permeate quality is beyond the standards required by the legislation. This new plant enables the recycling of 50% of the treated effluent for use as washing water for the printing machines.

Thanks to recycling, SIH has significantly decreased its city water consumption and made profits on taxes on water discharged into the wastewater network.

Benefits of the **Pall Membralox** Ceramic Membrane Bio Reactor vs. Conventional Activated Sludge Treatment (biological treatment with settling tank)

- Higher quality of the produced water (0.1µm filtration rate)
- Complete removal of suspended solids
- Reuse or recycling of treated water without the need for additional treatments or polishing steps
- More reliable and stable performances: no risk of bacteria or suspended solids leaks and easy absorption of pollution peaks
- Higher yields/efficiency: Biological Oxygen
 Demand reduction up to 99%
- Small foot print of the plant, modular, easy to operate, fully automated
- 2 3 times lower volume of the bioreactor
- 2 3 times lower sludge production



Raw water



Treated water



Pall Water Processing

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