

ASCO INDUSTRIES - Zaventem Physico-chemical treatment of waste water from surface treatment of metals

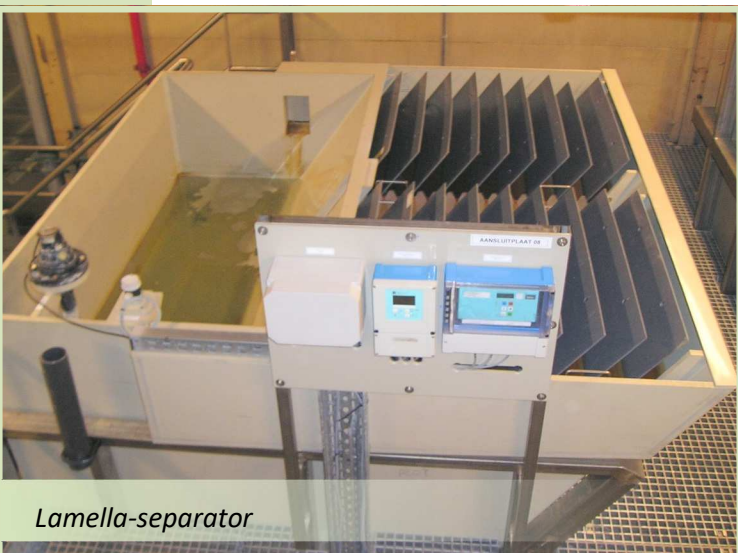
ASCO Industries is an independent and leading Belgian enterprise producing high-quality components for the air traffic industry. Besides the head quarter in Belgium there are settlements in Canada and Germany. Zaventem encloses 5 production buildings, 1 assembly plant and 1 office, covering a total surface of 84 000 m². Air craft components are designed, manufactured and assembled by precision-engineering

The surface treatment division was extended with 4 new lines in 2005 to increase production capacity. By this, an extension of the waste water treatment plant was required.

TREVI provided the design, erection, start-up and follow-up of the new physico-chemical treatment plant which is able to treat the daily waste water efficiently in only one shift with low operational costs.

Design capacity		
parameter	unit	design
flow per shift	m ³ /shift	50
flow	m ³ /h	10

Effluent concentrations			
parameter	unit	Limit	effluent
chromium	mg Cr/l	0,5	0,05
chromium 6+	mg Cr ⁶⁺ /l	0,1	< 0,03
nickel	mg Ni/l	0,5	0,05
zinc	mg Zn/l	0,3	0,05
cobalt	mg Co/l	0,03	0,005



Lamella-separator

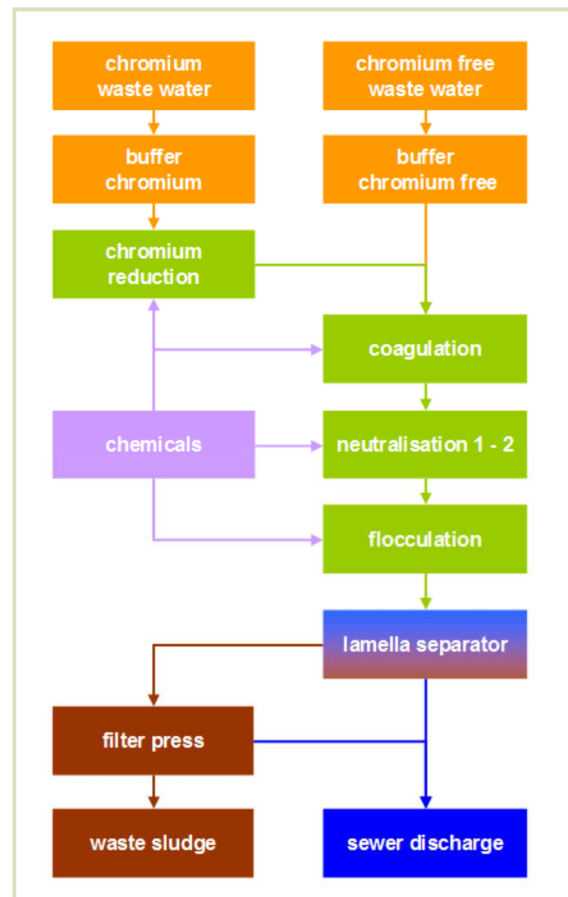
The plant has a capacity of 10 m³/h and reduces among others the concentrations of heavy metals (chromium, nickel, zinc, cobalt,...), and phosphates and fluorides.

The chromium containing waste water is stored in a separate buffer tank and is first treated in a chromium reduction plant. The chromium free waste water is stored in a separate buffer tank and treated with the effluent of the chromium reduction in a physico-chemical treatment plant with 3 different steps. The total content of all tanks together amounts to 85 m³ for storage and treatment of waste water and storage and dosing of chemicals.

By coagulation, neutralisation (1 - 2) and flocculation the contaminants are transformed to solids, which are separated from the water by decantation in the lamella-separator. The settled sludge is further dewatered by means of a filter press.

The filtrate of the press and the purified water from the lamella separator is discharged in the sewer.

Concentrated flows and rinsing waters are separated automatically. The elaborated automation minimizes follow-up and eventual interventions.



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Trevi is a Belgian company with a team of specialised professionals at its disposal: environmental consultants, process experts, programmers and installers. This diversity offers you as a client the advantage to solve all environmental problems with only one partner in all disciplines: water, air, soil and energy as well. Our consequent approach by research, pilot tests, design, realisation, start-up, follow up and exploitation guarantees the provided quality.