

## CASE HISTORY

SEMICONDUCTOR  
SOLAR  
PHARMA  
POWER GENERATION  
FOOD & BEVERAGE  
PULP AND PAPER  
**CHEMICAL**  
OIL AND GAS  
MINING  
AEROSPACE AND TRANSPORT



# Outokumpu Stainless



## 1 The Client

Outokumpu Stainless Ltd. is one of the world's largest manufacturers of stainless steel strip, plate and rod. It was previously known as Avesta Stainless Ltd.

Its Sheffield Rod Mill rolls wire in a wide variety of alloys and diameters, which it supplies to customers all over the world.

## 2 The Project

In 1995 the company embarked on a modernisation programme, integral to which was the addition of wire pickling and annealing facilities, allowing it to supply bright annealed rod to its clients.

The pickling project involved a fully automatic immersion process line for handling 1.5 tonne loads of coiled stainless steel wire in a mixture of sulphuric acid, hydrofluoric acid and hydrogen peroxide, together with rinsing and high pressure washing. To serve this plant, bulk chemical storage and dosing systems, fume scrubbing and effluent treatment systems were also included.



**Main Effluent Treatment Plant Building**

The project was so successful that Avesta (as it then was) filled the additional capacity very quickly with new orders, and had to expand even further to keep pace with enormously increased customer demand.

## 3 On-going Business

During the intervening years, H+E has received contracts for a number of small-to-medium upgrades to the original plant plus a larger order for what became a doubling of the original design capacity. This second plant was designed to use a mixture of nitric acid, sulphuric acid and hydrogen peroxide to handle certain higher grade alloys that are more difficult to de-scale, and therefore additional facilities for bulk storage and automatic dosing of pickling chemicals were required, plus, effluent transfer systems, and further upgrading of the original effluent treatment plant.

More recent upgrades have concentrated more on the continuous drive to reduce operating costs, whether by changes to the pickling chemistry or to water recycling. The success of this part of Outokumpu's business is a testament to this policy of continuously re-examining the business in detail to determine how operating costs may be driven down by sensible investment in new equipment and systems.



**Bulk Pickling Chemicals Storage Facility**

The original design capacity for the pickling facility was 25,000 tonnes per annum over 100 working hours per week. The factory is now producing 40,000 tonnes per year.

## **4 Long-Term Support**

Throughout this period, H+E has provided technical support to Outokumpu when they require it, plus spare parts.

If you have a similar problem, or would simply like to know more, please contact us.

H+E ranks among the world's leading suppliers in the fields of: water & wastewater treatment, and energy efficiency. Based on its global presence, the **H+E GROUP** has completed projects in over 50 countries.



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