

Industry: Chemical /// Foundry

Products Used: Modular PLCs /// HMIs

# Elementis Chromium choose Mitsubishi Electric for kiln control system

Elementis Chromium is the world's largest producer of chromium chemicals. These are used in a wide range of products including refractories, superalloys, magnetic media and leather goods. A Mitsubishi A series PLC was chosen recently as the core of a new advanced control system for one of Elementis' two rotary Dichromatic kilns (at its Eaglescliffe site on Teesside) following a major plant wide review of automation, which began in 1995.



Principal raw materials for chromium chemicals are chromite, a natural ore which is the 21st most abundant element in the earth's crust and soda ash. These products are subjected to a high temperature calcination process in the kilns to produce sodium chromate. This, when reacted with sulphuric acid produces sodium dichromate solution which is widely used in the metal finishing industry and is the feedstock for the Elementis range of chromium chemical products. The raw materials take many hours to travel through the kiln, during which time in excess of 40 different chemical reactions take place. Conversion efficiency within the kilns is a key cost driver for Elementis and by installing the advanced control system Elementis aim to minimise production costs.

*Application story first released July 1996 by Mitsubishi Electric UK*

The complex at Eaglescliffe uses over 100 Mitsubishi PLCs on site and the long history of using Mitsubishi PLCs and their proven reliability and their ease of programming (which allows on-line programming whilst the PLC controls the plant) were some of the main reasons for choosing an A2ASCPU Series high-speed advanced micro modular PLC for the kiln control system.

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Keith Bell  
Elementis Chromium

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Behind the long history of using Mitsubishi products also lies an excellent working relationship with Mitsubishi key partner L.C. Automation who, according to Keith Bell, Automation Manager at Elementis, has provided hardware, training and technical support over the years. "If we ever have a problem there is a guy here within two hours." Comments Keith who has also worked closely with the Customer Technology Centre (CTC) at Mitsubishi's headquarters in Hatfield, "The telephone helpline and fax back technical support in particular are first class." he says.