

Restoration of Distillation Column Heat Exchanger Performance at an Industrial Ethanol Production Plant

Global Advantech has developed a range of special purpose industrial cleaners, degreasers and descalers, including a product which may be used to break up and solubilise hard proteinaceous deposits in heat exchangers in food and drink processing plant, sugar beet processing plant and distilleries.

An industrial alcohol production plant, which produced ethanol by distillation of fermented sugar beet molasses, had been in operation for ten years since its heat exchangers had been replaced. Over this time it had been noted that the rate of alcohol distillation had been falling and after three years of operation had dropped by 30%. During construction pipe joints connecting the distillation column heat exchangers had been made with welds rather than flanges. This meant that it was not possible to replace one of the heat exchangers without taking the entire plant off-line and cutting and re-welding the connecting pipework.



Global Advantech supplied a tanker load of 20 tonnes of its product to break up proteinaceous deposits for cleaning the distillation heat exchangers. The distillation columns were taken off-line one at a time and flushed out with clean water. A 5% solution of the product was circulated over each heat exchanger at the bottom of each distillation column, with steam being supplied to the heat exchanger for 3 to 5 hours. The process was repeated twice for each distillation heat exchanger. The entire process was scheduled over a three week period, after which the alcohol production was observed to have increased by over 30% and was back to its original level.

Global Advantech Limited

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Energy House, 14 Maurice Close, Kimbolton, Cambridgeshire, PE28 0HD, United Kingdom
 † +44 (0)845 519 0159 / e enquiries@globaladvantech.com / www.globaladvantech.com