



## Press Information

### **Caribbean plant extends tube life from two to 15 years with Sandvik hyper-duplex stainless steel**

A major Caribbean producer of furfural, an organic compound derived from agricultural byproducts, chose to replace the existing tube in its heat exchangers with hyper-duplex stainless steel by Sandvik Materials Technology. As a result, its tube lifecycles have extended from two to 15 years, with a profound impact on material costs.

The furfural plant, based in La Romana, the third-largest city in the Dominican Republic, was experiencing problems with the lifecycles of existing standard stainless steel tube in several of its heat exchangers, used to process untreated seawater as the cooling media.

In some cases the existing tube needed replacing after just two years. A new material was therefore required that would better withstand exposure to seawater with sewage load, microbiological influenced corrosion (MIC) and sulfur ions, with lower costs for the customer.

The plant gradually upgraded the quality of its tube and, in 2008, Sandvik SAF 2707 HD® tubes were installed in two overhead heat exchangers. Replacement material was installed in a distillation column that condenses furfural acid and low boiling components.

Sandvik SAF 2707 HD is a hyper-duplex stainless steel with excellent resistance to pitting corrosion and chloride induced stress corrosion cracking. The

material is an alternative to nickel alloys with similar performance, but is more attractive economically in terms of material and life cycle costs.

“Our hyper-duplex stainless steel was selected for its mechanical strength, that is higher than all super-duplex stainless steel grades available on the market, and excellent chloride corrosion resistance suited to much more aggressive service conditions,” explained Marcelo Senatore, global Technical marketing, Sandvik Materials Technology.

After two years of successful operation, the heat exchangers were inspected and found to be as good as new, showing no signs of pitting corrosion. The furfural producer will introduce periodic washing of metal surfaces to keep the equipment free from seawater debris.

Marcelo added: “Sandvik SAF 2707 HD is helping to increase service life and reducing maintenance in many types of heat exchangers. The material is a cost-competitive alternative to standard grades by minimizing risks and outperforming super-duplex stainless steels.

“The customer now expects a tube life of 15 years minimum. This increased service life from two to 15 years will have a profound impact on material costs.”

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