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## **OUTOKUMPU STAINLESS STEEL WORKS IN THE EXTREMES IN POWER PLANT IN JYVÄSKYLÄ, FINLAND**

Outokumpu supplied Ultra 254 SMO stainless steel grade for Jyväskylä Energy Group's power station in Jyväskylä, with peat and wood as main fuels, after comprehensive field tests with a wide range of materials. Ultra 254 SMO is one of Outokumpu's most corrosion resistant grades and performed significantly better in comparison to the lower-alloyed alternatives. Ultra 254 SMO is typically used in challenging environments where standard materials will corrode.

Jyväskylä Energy Group had built a new power station with a 143 meter tall chimney made of coated carbon steel in 2010. However, the circumstances were more aggressive than thought, and in few years the chimney was in need of renewal.

Says Aleksi Vuorenmaa, Project Manager at Jyväskylä Energy Group: "We decided to renew the chimney because of its widespread corrosion damage. We needed a material that could withstand the conditions in the flue gas duct and chimney, while also being cost-efficient. The most important requirement was a high corrosion resistance, and for that reason we chose stainless steel."

In order to find the optimal stainless steel, Outokumpu's corrosion department in Avesta R&D Center performed two long-term field tests with a wide range of materials, paying attention for weight loss and visible corrosion. The circumstances inside the flue gas duct and chimney are very unpredictable, given the combination of wet and dry conditions with relatively high temperatures. In addition, the presence of deposit forming particles can make the conditions very aggressive to material.

Outokumpu also provided technical support in the welding of Ultra 254 SMO. Jyväskylä Energy Group felt important to receive support in using the material, as they had no prior experience of that type of stainless steel. "Together with the subcontractor, the manufacturer of the chimney, we received technical support from Outokumpu whenever needed," says Vuorenmaa. The project was completed in September 2016.

Ultra 254 SMO has proven throughout the years to be an excellent material choice for many challenging applications when low maintenance and long service life are of high priority.

For more information:

Corporate communications, tel. +358 9 421 3840

### **Outokumpu Group**

Outokumpu is a global leader in stainless steel. We create advanced materials that are efficient, long lasting and recyclable – thus building a world that lasts forever. Stainless steel, invented a century ago, is an ideal material to create lasting solutions in demanding applications from cutlery to bridges, energy and medical equipment: it is 100% recyclable, corrosion-resistant, maintenance-free, durable and hygienic. Outokumpu employs 11,000 professionals in more than 30 countries, with headquarters in Helsinki, Finland and shares listed in Nasdaq Helsinki.

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