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## Primetals Technologies completes first ultra-low emission technology project for BOF off-gas at Changzhou Eastran

- **New wet electrostatic precipitator system applied for BOF primary gas cleaning**
- **Dust content of off gas reduced to approximately 5 milligrams per standard cubic meter**

In late 2020, Primetals Technologies received the final acceptance certificate (FAC) for a newly installed advanced gas cleaning system based on wet electrostatic precipitator (WESP) technology. This first project was successfully implemented at Changzhou Eastran Special Steel Co. Ltd. in China's Jiangsu province. Based on very strict requirements of the local city government an emission limit of 10 mg/Nm<sup>3</sup> was requested for the steelmaking plant with two 80t basic oxygen furnaces (BOF). Primetals Technologies developed a suitable solution for the customer in terms of performance and minimal space requirement. The contract was signed in February 2019 and the plants for both BOF lines were commissioned in March 2020. Clean gas dust emission values of approximately 5 mg/Nm<sup>3</sup> were measured during the performance tests later in 2020 and the final acceptance certificate was subsequently issued by Changzhou Eastran.

The technical concept of this newly developed ultra-low emission technology is based on dust removal from off gas by electrostatic precipitation. Wet-type electrostatic precipitators have been used in iron- & steel industry for decades already, however, the special nature of the BOF process with its toxic and explosive off gas and the batch-process type operation required some special design features for this new application.

The WESP is located in between the existing wet type gas cleaning plant and the ID fan. One main advantage of this configuration is that the old gas cleaning plant can remain unchanged as all the deep cleaning down to the required emission limit is done in the WESP. At the same time maintenance requirements for the ID fan such as regular manual cleaning and re-balancing are greatly reduced as the off gas is already ultra-clean when entering the ID fan.

For this project Primetals Technologies have also implemented two special technology packages for WESP operation in an existing gas cleaning system: a process safety module for minimization of explosion risk and an Energy saving module for reduced ID fan power consumption.

This new, innovative technology application is especially useful for revamping- and upgrading projects of old and inefficient wet-type BOF gas cleaning systems due to its space saving single-tower design and the almost unlimited range of application in terms of converter size and inlet dust concentrations. Moreover, the WESP can be built and tested offline, as was the case in the project at Changzhou Eastran. The tie-in to the existing gas cleaning system was then carried out within only three days during a planned BOF relining shutdown.



WESP towers from Primetals Technologies for BOF #1 and #2 at Changzhou Eastran Special Steel Co. Ltd.

This press release and a press photo are available at [www.primetals.com/press/](http://www.primetals.com/press/)

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