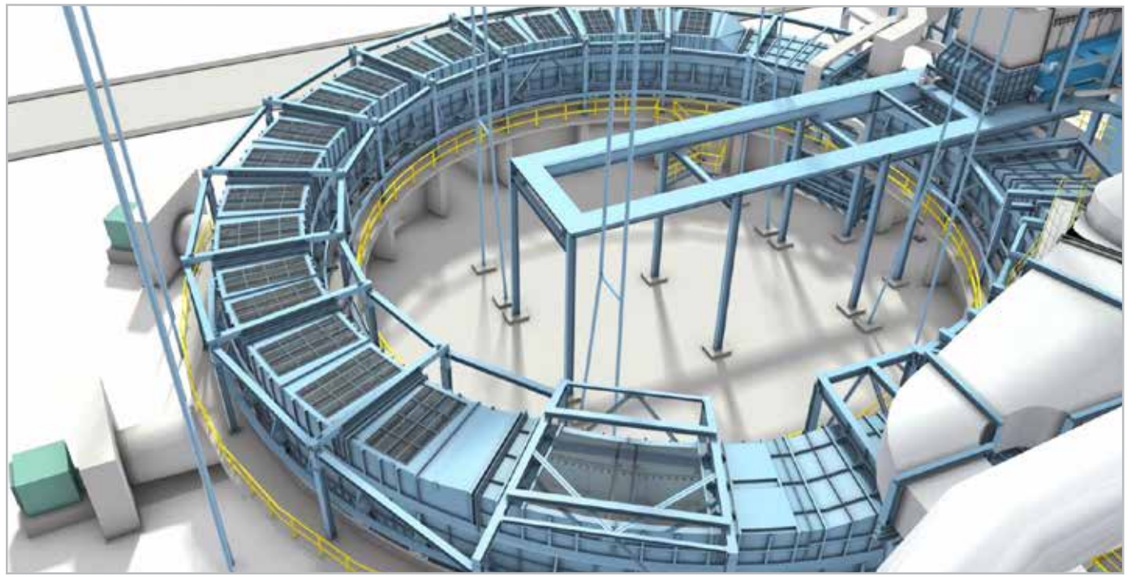
PRIMETALS TECHNOLOGIES

ILVA SPA, TARANTO, ITALY
REVAMPING SINTER COOLER

REVAMPING SINTER COOLER
UNIQUE COOLER CHARGING SYSTEM AND COOLER HOOD DESIGN

ACHIEVED RESULTS

- Increased cooling efficiency and therefore lower sinter discharge temperature by
  - Increased cooling area
  - Optimized segregation of charged sinter due to new patented charging chute
  - Reduced air leakage
- Optimized hot air temperature to waste heat recovery system by design of cooler hood
- Reduced dust emissions by
  - Reduced air leakage
  - Covering the usually open cooling area with a special hood



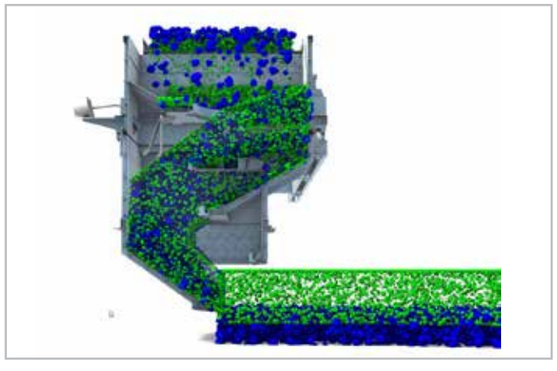
By installing a special hood covered with expanded metal an optimized solution for efficient cooling and minimized dust emissions was achieved.

THE CHALLENGE

In November 2011 Primetals Technologies received an order from the Italian steel producer ILVA to modernize the sinter coolers of the company's No. 4 and No. 5 sinter plants. The target of this modernization project, which was completed in May 2014, was to increase the cooling efficiency of the existing sinter coolers and to minimize dust emissions.

THE SOLUTION

The patented Primetals Technologies design of the cooler charging chute has been provided, as an optimized segregation of the sinter particles across the sinter bed increases the efficiency of the cooling system. To raise the efficiency of the sinter coolers, the cooling area has been increased, a new cooling air fan has been installed and the sealing between the cooler channel and pallets has been improved. Furthermore a new cooler hood which is insulated on the inner side has been installed to improve the efficiency of the waste-heat recovery system. For minimizing dust emissions at Ilva the usually open area of the sinter cooler has been covered with a special cooler hood.



The patented design of the cooler charging chute leads to an optimized segregation of the sinter particles across the sinter bed after modernization.

SCOPE OF SUPPLY

- Design and installation of a new patented charging chute
- Installation of an optimized sealing system and new spillage pans
- Redesign of the cooler hoods to minimize dust emissions and to improve the efficiency of the waste heat recovery system
- Supply of a new cooling air blower
- Elongation and splitting the cooler channel

PLANT DATA

Sinter area	473 m^2
Cooling area	approx. 440m^2
Main diameter	40 m
Width of trough	4.0 m
Height of cooler bed	1.5 m
Heat recovery system	27 % of cooling area
Discharge temperature after cooler	max. 120 °C (< 100 °C obtained)
Hot air temperature to WHRS	min 350 °C

THE CUSTOMER

Name. Ilva S.p.A.
Location. Taranto, Italy

With an annual production capacity of over eleven million tonnes, the Ilva steel plant in Taranto is the largest in Europe, accounting for some 30 percent of the steel used in Italy. The two sinter plants, which were modernized and extended by Primetals Technologies in 2001, can produce up to eleven million tons of sinter per year.

Primetals Technologies Austria GmbH
A joint venture of Mitsubishi Heavy Industries and partners

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Brochure No.: T01-0-N245-L4-R-V3-EN
Printed in Austria