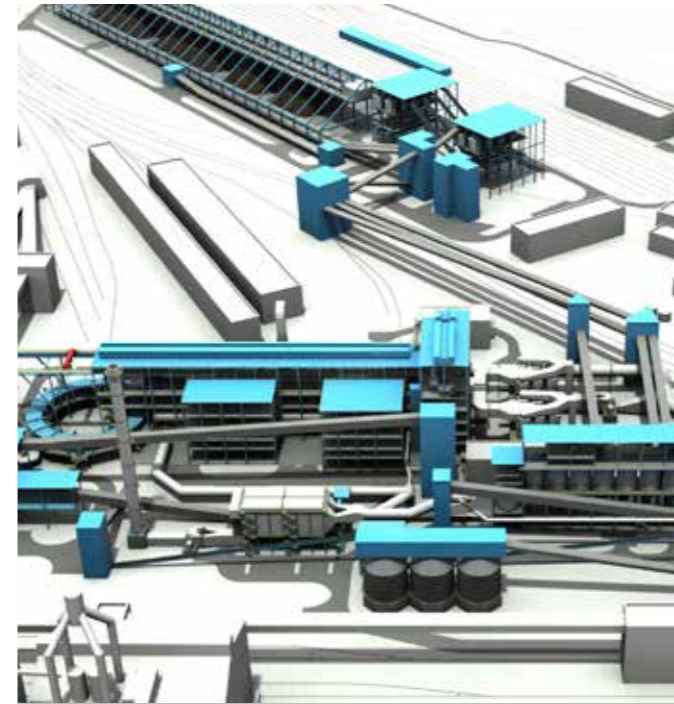


ENGINEERING FOR A NEW SINTER PLANT IN UKRAINE

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ACHIEVED RESULTS

- Low environmental impact (major improvement over current emission levels)
- High sinter quality
- High performance
- Improved efficiency
- Maximum system and plant availability at low maintenance costs
- High flexibility in raw material selection



THE CUSTOMER

Name. PJSC YENAKIEVE Iron & Steel Works

Location. Enakievo, Donetsk, Ukraine

PJSC YENAKIEVE Iron & Steel Works is one of the leading Ukrainian fully integrated steel making companies being a part of Metinvest Group Metallurgical Division. Yenakieve Steel produces a wide range of metal products: concast, billets, angles, channels, beams, shapes for ship building and engineering industry and rebars for construction sector. The overall steel production of Yenakieve Iron & Steel Works results to 2,5Mt/year

THE CHALLENGE

The fully integrated steel making company PJSC Yenakieve Iron and Steel Works (EMZ) decided to improve its production and environmental situation by building a new sinter plant according to the highest standards, equipped with highly efficient offgas cleaning and de-dusting facilities. To achieve these targets, Primetals Technologies was selected as a supplier. The project was split into three stages: basic engineering, selected detail engineering, and procurement and construction. While the first two stages have already been completed to the client's complete satisfaction, the third stage can only be realized after the political situation has stabilized.

THE SOLUTION

In order to achieve high productivity and the required sinter quality, the sinter plant is designed with the latest Primetals Technologies developments to produce sinter for high performance of the blast furnace and ensure a low environmental impact from the sinter offgas. The plant is equipped with the following unique Primetals Technologies:

- IMGS® Intensive mixing and granulation system
- Grate-wings pallet cars
- Selective waste-gas recirculation system
- Ignition furnace with a roof burner system
- Circular dip rail cooler with grate-wings cooler troughs
- MEROS® off-gas cleaning system
- Secondary plant de-dusting (PT pulse-jet filter)

SCOPE OF SUPPLY

- Process and plant engineering
- Basic engineering (including input for approval by Ukrainian authorities)
- Selected detail engineering

PLANT TECHNICAL FEATURES

Sintering area	450 m ²
Cooling area	440 m ²
Off gas volume to stack	ca. 594.000 Nm ³ /h
Recirculation-gas volume	ca. 530.000 Nm ³ /h
Hot air from cooler	ca. 92.000 Nm ³ /h
Screening and crushing	Cascade chute, roller crusher, screens
Off gas cleaning	MEROS® - soda process
Plant de-dusting	PT pulse-jet filter
Fuel for the ignition furnace	Mixed gas (natural gas 99Vol% + BFGas 1Vol%)

PRODUCTION DATA

Sinter production	4.3 mtpy
Discharge temperature after cooler	≤ 130°C
Under-size (< 5 mm)	max. 5%
Over-size (> 50 mm)	max. 5%
TI (ISO) ≥ 70%	

EMISSION DATA

Dust	≤ 20 mg/Nm ³ (dry)
SO ₂	≤ 500 mg/Nm ³ (dry)
NO ₂	≤ 300 mg/Nm ³ (dry)
PCCD/F	≤ 0,1 ng/Nm ³ (dry)
Plant de-dusting efficiency	≤ 20 mg/Nm ³ (dry)

Primetals Technologies Austria GmbH

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Brochure No.: T01-0-N282-L4-R-V2-EN

Printed in Austria

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