VOESTALPINE, TEXAS, U.S.A.
FINES RECYCLING OF FERROUS MATERIALS FOR THE HBI PLANT USING THE MIDREX PROCESS – COLD BRIQUETTING

ECO Solutions – saving resources, creating value.
PLANT DATA

**Fines Recycling Plant**
- Pellet fines, sludge, miscellaneous dust, HBI chips and fines: approx. 160,000 t/a
- Design capacity (briquettes): 24.6 t/h
- Binder system: Inorganic binder
- Briquette size: approx. 5 cm³

SOLUTIONS

The by-product fines, with an average iron content defined by the process are collected directly in and at the HBI plant complex and utilized in the cold briquetting plant located centrally within the plant complex. The pellet fines generated at the screens are collected in an intermediate storage silo and transported to the briquetting plant, without any additional handling. The dewatered sludge generated in the process is also transferred to the briquetting plant located next to the water treatment plant. In the Fines Recycling Plant the mixture of the by-products is briquetted using an inorganic binder and after a short curing time the briquettes are added directly to the charging conveyor to the HBI plant as a raw material substitute.

MAIN BENEFITS

- Recycling of pellet fines, sludge and dust generated in the plant and charging directly back into the main process plant as raw material substitute
- Saving of raw materials by partially substituting pellets with the ferrous briquettes produced in the fines recycling plant
- Avoid dumping costs and transport of by-products
- Semi automatic operation, minimizing manual operation and transport of materials
- Low manpower requirements for operating the plant

SCOPES OF SUPPLY

Primetals Technologies will supply the process know how and engineering for the fines recycling plant.

Summarized, the scope of work of Primetals Technologies consists mainly of the following:

- Basic engineering and process know how
- Preparation of technical inquiry documents
- Supply of electrical and automation equipment and software
- Advisory services for start-up and commissioning

VOESTALPINE TEXAS LLC., USA

2.0 MTPY HBI PLANT - FINES RECYCLING PLANT

Primetals Technologies and voestalpine Texas LLC. signed a contract for the basic design & engineering of a Fines Recycling Plant to be installed at the voestalpine HBI plant in Corpus Christi, Texas, USA.

The pellet fines, dusts and sludge generated in the Midrex process are briquetted in the plant and charged directly to the HBI plant as pellet substitute.

The project started in May 2015 with a project execution time of approximately 15 months until start-up.

Typical process-flow of oxide briquetting

Primetals Technologies reference plant for similar application with drying facility in ILVA, Italy

3D Model view of voestalpine Gowest Fines Recycling Plant
The information (including, e.g., figures and numbers) provided in this document contains merely general descriptions or characteristics of performance based on estimates and assumptions which have not been verified.

It is no representation, does not constitute and/or evidence a contract or an offer to enter into a contract to any extent and is not binding upon the parties. Any obligation to provide and/or demonstrate respective characteristics shall only exist if expressly agreed in the terms of the contract.

These estimates and assumptions have to be analyzed on a case-to-case basis and might change as a result of further product development.

Primetals Technologies excludes any liability whatsoever under or in connection with any provided information, estimates and assumptions. The provided information, estimates and assumptions shall be without prejudice to any possible future offer and/or contract.

Any use of information provided by Primetals Technologies to the recipient shall be subject to applicable confidentiality obligations and for the own convenience of and of the sole risk of the recipient.