



A complete offer from raw materials to metals

www.konstindustri.se / Photo Maria Astén



Pretreatment and agglomeration

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Pretreatment and agglomeration of metallurgical raw materials and residual products

Our agglomeration lab provides the industry with research and development services in agglomeration and pretreatment. This includes everything from product development of fine-grained raw materials to recycling of metal-bearing residual products such as sludges and dust. Higher material efficiency is ever more important.

Global demand for metals and energy is placing greater requirements on more efficient processing of raw materials, as well as an efficient agglomeration process. For the industry, challenges are implicit in the fact that the raw material, the ores, vary in quality over time. Residual products such as slags and sludges must also be recovered and recycled more efficiently.

Strong drivers of development are a greater awareness of sustainability and increased requirements for environmental certification and extended producer responsibility. Others are price and demand for metals, as well as lower metal grades in raw materials. This demands development of knowledge and methods.

MORE AND MORE AGGLOMERATION R&D PROJECTS

Demand for pilot-scale metallurgical development of raw materials for ironmaking, ferro-alloys and use of residual products is on the rise.

Swerim finds the solutions for efficient raw-materials treatment and increased recycling.

The need for pretreatment, which includes agglomeration, is apparent. Based on a half-century of experience and expertise in the metallurgical industry, we adapt and optimize agglomerates for the best results.

Together with the metallurgical industry, we conduct innovative projects for efficient agglomeration processes for raw materials, sludges and slags.

CIRCULAR PROCESSES

We work to transform residual products into recirculated raw materials that reduce environmental impact and environmental costs while increasing the supply of raw materials.

Recovery and recycling of metal-bearing sludges and dusts must be improved to enable environmentally sustainable and competitive production. Where residual products are concerned, many challenges must be addressed, such as handling and content of moisture and environmentally hazardous substances. Therefore, agglomeration is a business segment in which Swerim is investing to develop world-leading expertise for meeting these demands.

We also have to recycle fine-grained and moist material.

To make full use of the raw material, every gram has to be extracted.

EQUIPMENT

- Eirich intensive mixer
- Pelletizing disc
- Screens and sieves
- Drying furnace
- Sintering furnace (1700°C)
- Pellet testing equipment

CUSTOMER GROUPS

- Ferro-alloy industry
- Steelmaking industry
- Mineral industry

EXAMPLES OF PROJECTS

- Pelletizing and sintering of material for ferro-alloying
- Blending, agglomeration and thermal processing of residual products from the steel industry
- Dewatering and drying of fine-grained materials and sludges
- Development of measurement technology materials and sludges
- Development of measurement technology

From raw materials to metals

Value in use

- Evaluation of possible products
- Techno-economic analyses
- Total systems evaluation

Pretreatment and thermal treatment

- Blending
- Drying
- Roasting
- Calcination
- Pre-reduction

Agglomeration

- Granulation
- Briquetting
- Pelletizing
- Micro-pelletizing

Sintring

- Bed sintering
- Sintering of pellets

Testing of product characteristics

- Strength
- Degradation
- Reducibility
- Electrical conductivity
- Porosity

Smelting and reduction

50 years of experience of development in lab, pilot and demo scale

Metallic materials

- Process and manufacturing engineering
- Metalworking

Conclusion

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