

Special oxide pilot plant

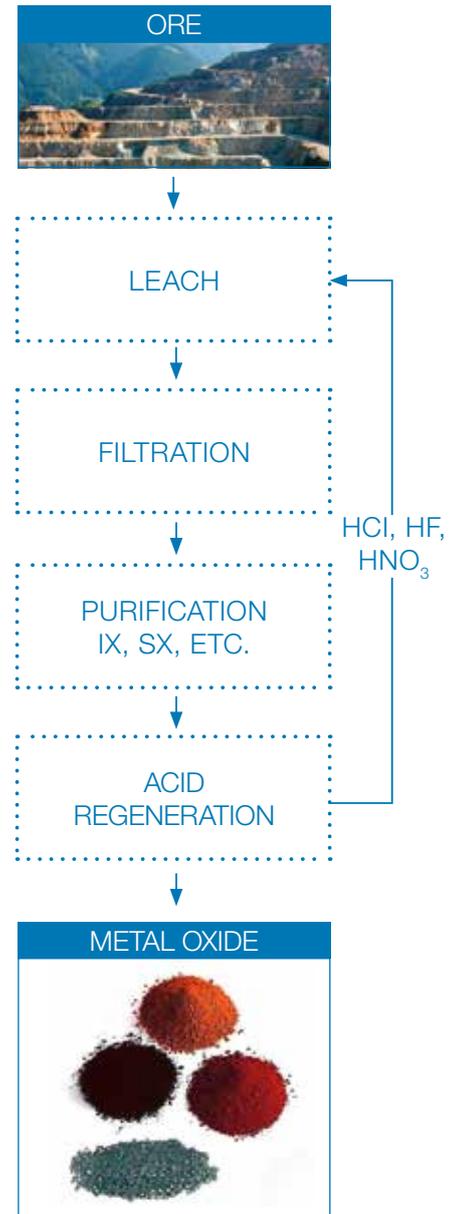
Demonstrate your process with the
ANDRITZ METALS spray roast technology



Experts in process development

Are you looking for a closed loop leaching process? Do you have unused metal ore fractions or solutions?

Together we develop your process and prove technical feasibility on a pilot scale. We produce valuable metal oxide samples for product demonstration and further investigation. Benefit from our expertise!



Features

- Spray roast acid regeneration pilot plant
- Test production of metal oxides (Fe, Mg, Co, Ni, Mn, Al, special and mixed oxides)
- Regeneration of HCl, HNO₃ and HF
- Modular design to adapt for your specific test requirements
- Capacity: 40-70 l/h of metal solution (typical 100g Me/l)
- Location: Vienna, Austria

ferrite **Ni** mixed oxides **Fe** magnesia
 synthetic rutile mining processes waste processing **titanium oxide**
TiO₂ FeCl₃ ore beneficiation **Mg** ilmenite **Co** FeCl₂
 alumina FeCl₂ **Mn** brine synthetic rutile magnesia ferrous chloride
Al serpentine nickel iron cobalt ferric chloride magnesium



▲ Processed feed solutions

DECOMPOSITION IN THE REACTOR (EXAMPLE)	
Iron: $2 \text{FeCl}_2 + 2 \text{H}_2\text{O} + \frac{1}{2} \text{O}_2$	\longrightarrow $\text{Fe}_2\text{O}_3 + 4 \text{HCl}$
Nickel: $\text{NiCl}_2 + \text{H}_2\text{O}$	\longrightarrow $\text{NiO} + 2 \text{HCl}$
Cobalt: $3 \text{CoCl}_2 + 3 \text{H}_2\text{O} + \frac{1}{2} \text{O}_2$	\longrightarrow $\text{Co}_3\text{O}_4 + 6 \text{HCl}$

Established technology from steel pickling process ...

HYDROCHLORIC ACID REGENERATION PLANTS	
Plants built	> 200
Type	Spray roaster, Fluid bed
Standard single plant capacity	up to 20,000 l/h

PYROMARS: MIXED ACID REGENERATION PLANTS (HNO ₃ + HF)	
Plants built	22
Type	Special spray roaster
Standard single plant capacity	up to 8,500 l/h

METAL OXIDE PLANTS	
Plants built	18
Type	Special spray roaster
Standard single plant capacity	up to 25,000 l/h

... for magnesium oxide, nickel oxide, cobalt oxide, aluminum oxide, mixed oxides, etc.

*Make our
experience your
advantage*



▲ ANDRITZ METALS spray roaster pilot plant



▲ Spray roast metal oxide

ANDRITZ METALS is one of the leading global suppliers of complete lines for the production and further processing of cold-rolled carbon steel, stainless steel, aluminium and other non-ferrous metal strip. These lines consist of equipment for cold rolling, heat treatment, surface treatment, strip coating and finishing, punching and

deep drawing, laser and resistance welding, and for the regeneration of pickling acid. ANDRITZ METALS also supplies turnkey industrial furnace systems for thermal processes, such as heat treatment of slabs and forged pieces, as well as refining furnaces for the copper industry.

AUSTRIA

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