METALS

SPECIAL OXIDE PILOT PLANT

DEMONSTRATE YOUR PROCESS WITH ANDRITZ 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, Ca, 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)
- Plant location: St. Pölten, Austria
DECOMPOSITION IN THE REACTOR (EXAMPLE)

<table>
<thead>
<tr>
<th>Material</th>
<th>In</th>
<th>Out</th>
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</thead>
<tbody>
<tr>
<td>Iron</td>
<td>$2 \text{FeCl}_3 + 2 \text{H}_2\text{O} + \frac{1}{2} \text{O}_2$</td>
<td>$\text{Fe}_2\text{O}_3 + 4 \text{HCl}$</td>
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<tr>
<td>Nickel</td>
<td>$\text{NiCl}_2 + \text{H}_2\text{O}$</td>
<td>$\text{NiO} + 2 \text{HCl}$</td>
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<tr>
<td>Cobalt</td>
<td>$3 \text{CoCl}_2 + 3 \text{H}_2\text{O} + \frac{1}{2} \text{O}_2$</td>
<td>$\text{Co}_3\text{O}_4 + 6 \text{HCl}$</td>
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</tbody>
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Processed feed solutions

ESTABLISHED TECHNOLOGY FROM STEEL PICKLING PROCESS FOR MAGNESIUM OXIDE, NICKEL OXIDE, COBALT OXIDE, ALUMINUM OXIDE, MIXED OXIDES, AND OTHERS

HYDROCHLORIC ACID REGENERATION PLANTS
Over 200 plants built
Spray roaster or fluid bed type
Up to 20,000 l/h single plant capacity

PYROMARS: MIXED ACID REGENERATION PLANTS ($\text{HNO}_3 + \text{HF}$)
22 plants built
Special roaster type
Up to 8,500 l/h single plant capacity

METAL OXIDE PLANTS
18 plants built
Special roaster type
Up to 25,000 l/h single plant capacity

MAKE OUR EXPERIENCE YOUR ADVANTAGE

mixed oxides
ferrite
Ni
TiO$_2$
serpentine
mining processes
magnesia
waste processing
FeCl$_3$
Fe
ferric chloride
Mg
iron
synthetic rutile
ore beneficiation
Mn
FeCl$_2$
alumina
Al
cobalt
Ilmenite
nickel