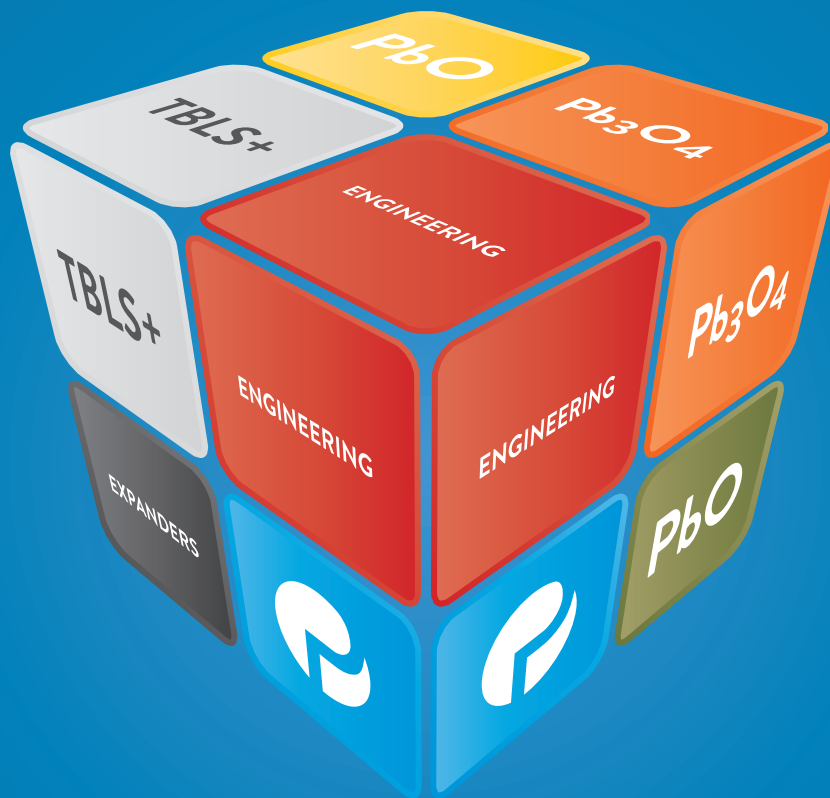




HIGH LEVEL TECHNOLOGY FOR YOUR BATTERIES!



ENGINEERING



PENOX ENGINEERING

The **PENOX Group** has a deep understanding of the production and technology of lead oxides.

In our own production sites, over many years, we have developed advanced oxide processes with a high degree of automation, energy efficiency and product quality control. These processes have been refined and optimized in our own factories.

Our programme is not limited to the production of lead oxides, we have technology covering product sampling devices (for small and large bulk scale, dry powers and slurries & pulps) and continuous electrical furnaces up to 1000°C for calcination, drying and sintering applications.



THE BASIC PRINCIPLES OF OUR TECHNOLOGY ARE:

- › A high degree of automation and process control
- › Superior environmental performance
- › Ease of operation and control for the plant operators
- › On-going process development providing improvement options to customer installations
- › High efficiency in the terms of energy, productivity and maintenance
- › Full service to customers, not only of oxide production plant but also ancillary equipment such as storage, transport, particle size reduction and selection, sampling etc

MAIN PRODUCTION / PROCESS EQUIPMENT:

- › Oxidation reactors for Battery Oxide (B140 , B180, P20)
- › Continuous furnace technology to produce litharge (LE2) and Red Lead (ME1 and ME2)
- › Pilot plant with an electrically heated continuous furnace to carry out calcination / heating and oxidation process trials on free flowing particulate products
- › Sampling devices for continuous processes, for solids and pulps, for small flows such as in battery oxide plants or large scale bulk flows such as in the mineral processing sector



NEW PLANT IN KOREA

NEW

Production commenced in July 2015.

Integrated battery oxide & red lead (all main qualities)
Product supplied in silo trucks, big-bags and paper sacks.

Total production capacity of 10,000 t/yr. All technical design and project management plus supply of key technical items from Penox Engineering.



P20 reactor detail



SA3

EXAMPLE PROJECTS



16,000 t/y litharge plant (UK)



9,000 t/y red lead plant (D)



30,000 t/y battery oxide plant (Mx)



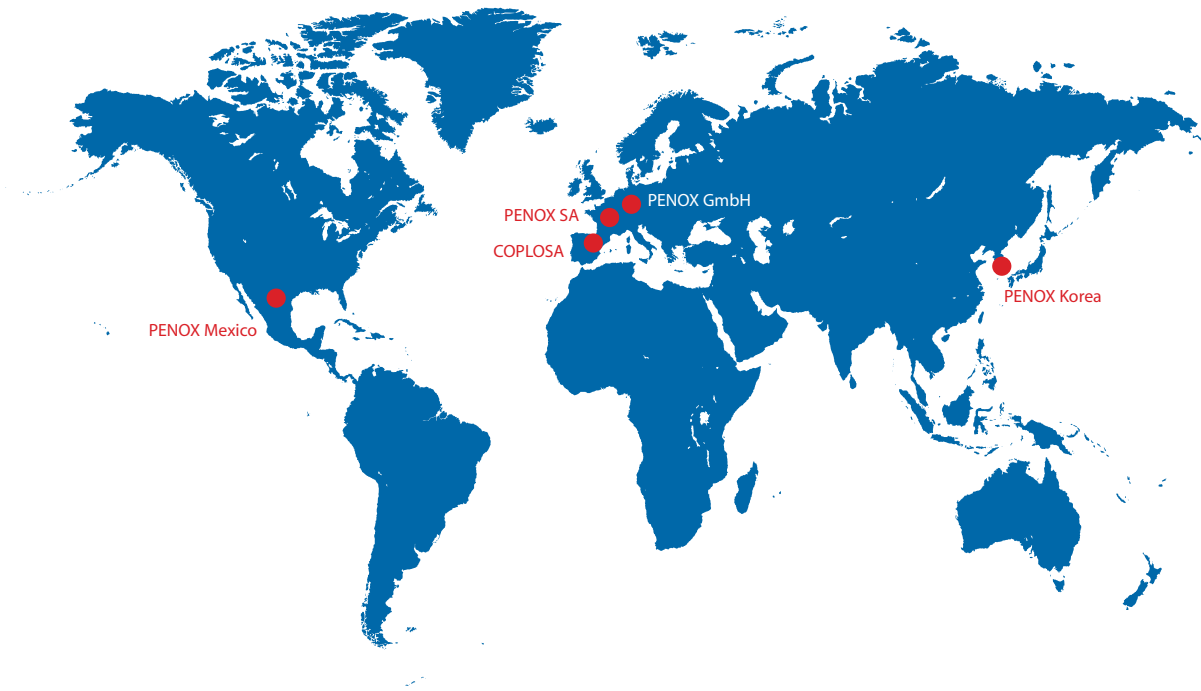
240 & 125 m3/h Samplers (MAR)

PENOX ENGINEERING IS ABLE TO OFFER:

- › Core oxidation equipment as stand-alone parts of a project
- › Full turn-key processes, from the layout design, fabrication, construction & assembling to start-up and training
- › Technical support (process audits, safety audits, technical consulting)

PENOX Engineering is a world leader in lead oxide production equipment. We aim to be the best technological partner for battery customers not only in lead oxide production but also in handling, storing, packing and active material processing.

PENOX EXPERTISE ALL AROUND THE WORLD



For more information on our products and services for the battery producer, please visit our updated website:

www.penoxgroup.com

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