Case Study - Sakata Inx Espana
Flexographic Ink Plant, Barcelona, Spain.
Case Study - Sakata Inx España

NETZSCH Processing and Plant-Engineering Deliver another Turn key Plant.

After a devastating fire in 2008 Sakata Inx España and Sakata Inx Japan looked to the plant and process engineering expertise at NETZSCH. The new production facility is the largest project of its kind in Europe since 2008, they needed a company that could design the process and then engineer the new plant from start to finish, and also guarantee its final performance.

NETZSCH was in a good position, having completed a number of full turn-key plants on time and on budget.
Engineering a World Class Plant

When you are making a strategic investment, one that you have to live with for at least the next 10 years, you cannot afford to compromise. Sakata needed a partner that:

- Will engineer the process from the best available technology – not just its own.
- Has a wealth of knowledge of wet processing technologies including mixing, pre-dispersion, wet grinding, de-aeration and filtration systems.
- Can handle the complexity of such a large project.
- Can apply best-of-class knowledge gained from other industries.
- Has the laboratory facilities to validate the engineered solution prior to installation, and can guarantee the plant’s performance.
- Has the resource to deliver against tight deadlines.
- Can provide the expertise in plant safety with all the latest monitoring and hazardous prevention systems on the market today.
After preliminary design studies and engineering works, NETZSCH proposed a solution using all new machinery, and the latest production technology. Sakata Inx commissioned NETZSCH in January 2009 to build and commission the new plant.

Working from the plant performance specifications the NETZSCH engineers focused on designing the best possible solutions – utilising both their own patented machinery, like the LMZ Recirculation Bead Mill and the Inline-Disperser \( \Psi \)-\textit{Mix}®, as well as best-in-class equipment from other vendors.

The revolutionary \( \Psi \)-\textit{Mix}® used in the plant, with a combination of vacuum dispersing, shearing, micro cavitation and pressure wetting resulted in high productivity, with excellent results and total reproducible quality.

The combination of both \( \Psi \)-\textit{Mix}® and LMZ recirculation mill is providing products, the quality of which have never been seen before. This combination is showing significant savings in raw materials and enormous improvements in Ink quality (mostly in gloss and transparency), being able to reach chips quality ink in some of their formulations, and some very relevant saving in pigment and raw material costs.
From Grams to Tonnes

Sakata Inx had to be sure of the plant efficiency, reliability and output prior to installation. Using their labs in Germany, NETZSCH conducted downscale trials of the process design, and the selected equipment and process controls - validating the engineered solution and optimizing the plant’s performance and reliability. With this information, NETZSCH were able to guarantee full-scale plant performance. A guarantee they stood behind 100%!
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Pulling it All Together

From site preparation through to commissioning and final plant inspection – This was a real turnkey solution NETZSCH provided. Some of the main elements of the project included, the design and construction of new PMD batch disperser technology for production of NC whites without a milling phase, upgraded LMZ recirculation bead mill and the revolutionary Inline Disperser Ψ-Mix®.

All products produced are either supplied directly to the end user or held in stock ready for use in one of the largest dispensing systems in Europe, provided by INKMAKER of Italy and installed by NETZSCH.

Mezzanine steelwork and big-bag lifting gantries; Hoists and cruciforms, big-bag and small-bag discharge units, process valves instrumentation, process pipe work with lagging, the complex electrical installation, product filters, transfer pumps, dust extraction system, fume extraction system, compressed air system, chilled water and heating system and many hundreds of smaller items.

The revolutionary cleaning systems allowed Sakata Inx to install 3 color graded lines which included Ψ-Mix®, mixing vessel, LMZ bead mill, let down and adjustment vessel and pallet filling equipment.

The cleaning system which is a combination of cleaning heads and surface mounted nozzles to use only 100 -2,500 lts of cleaning fluid (some reusable for future batches) to clean the whole line ready for the next color.

The final results are in...

Great Ink, Consistently and Cost Effectively

Completed on schedule, the Sakata Inx Plant in Barcelona started to produce in January 2010.

Product is being delivered to Sakata Inx customers all over Europe, with consistent high quality and all the goals of the project were met including quality, throughput, cost and schedule, and reliability.
NETZSCH Process and Plant Engineering Services

NETZSCH provide engineering services for many companies across a wide range of industries and applications.

- Technical Ceramics
- Pharmaceutical
- Paints
- Sealants and Adhesives
- Hard Metals (Tungsten Carbide, SiC)
- Catalysts and Fuel Cells
- Cosmetics
- General Chemicals
- Agro Chemicals
- Chocolate / Confectionary
The World's Leading Grinding Technology

The Companies of the Business Unit Grinding & Dispersing

NETZSCH-Feinmahltechnik GmbH, Selb, Germany
NETZSCH-CONDUX Mahltechnik GmbH, Hanau, Germany
NETZSCH Premier Technologies, LLC., Exton PA, USA
NETZSCH Indústria e Comércio de Equipamentos de Moagem Ltda., Pomerode, Brazil
NETZSCH (Shanghai) Machinery and Instruments Co., Ltd., Shanghai, China
NETZSCH Mastermix Ltd., Lichfield, Great Britain
NETZSCH España, S.A., Terrassa/Barcelona, Spain
ZAO NETZSCH Tula, Tula, Russia

The Business Unit Grinding & Dispersing is part of the NETZSCH Group.

The NETZSCH Group is a mid-sized, family-owned German company engaging in the manufacture of machinery and instrumentation with worldwide production, sales, and service branches.

The three Business Units – Analyzing & Testing, Grinding & Dispersing and Pumps & Systems – provide tailored solutions for highest-level needs. Over 2 700 employees at 140 sales and production centers in 27 countries across the globe guarantee that expert service is never far from our customers.