

Grinding & Dispersing

Case Study - Sun Chemical

Gravure Ink Plant, Rochdale, UK.



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NETZSCH wet processing and plant-engineering services deliver

When Sun Chemical built a new manufacturing plant using cutting edge technology and state-of-the-art process controls, they looked to the plant and process engineering expertise at NETZSCH. The new 30,000 tonnes production facility is the largest project

of its kind in Europe since 2000, and critical to Sun Chemical's leadership position in the market. 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

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. Sun Chemical 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.



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Making it Happen

After preliminary design studies and engineering works, NETZSCH proposed a solution using all new machinery, for the similar cost of a solution using new and recovered production equipment. Sun Chemical commissioned NETZSCH in April, 2005 to build and commission the new plant.

“Right from the start of this complex project NETZSCH engineers and our technical staff worked closely together,

with clear ownership for all aspects of the project. The NETZSCH team was always very flexible and responsive.”

Working from the plant performance specifications the NETZSCH engineers focused on designing the best possible solutions – utilising both their own patented machinery, like the LME Horizontal Bead Mill and Ψ -Mix[®], as well as best-in class equipment from other vendors.

“The plant and process engineering skills NETZSCH provide were critical in the performance specification and design of the plant. They helped us to realise what was possible and get the best return on our capital”.



The revolutionary Ψ -Mix[®] used in the plant, with a combination of vacuum dispersing, shearing and pressure wetting resulted in high productivity, with excellent results and total reproducible quality.

From Grams to Tonnes

Sun Chemical had to be sure of the plant efficiency, reliability and output prior to installation. Using their labs in Germany, NETZSCH conducted down-scale 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 fullscale plant performance. A guarantee NETZSCH 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 a new bulk storage facility to handle liquid raw material, intermediate product and finished goods, including 21 mild steel storage tanks with capacities ranging from 65,000 litres to 12,000 litres. PMD batch disperser technology, upgraded

LME horizontal bead mills and the revolutionary Ψ -Mix[®]. Mezzanine steelwork and bigbag lifting gantries; Hoists and cruciforms, big-bag and small-bag discharge units, process valves instrumentation, process pipe work, the complex electrical installation, product filters, transfer pumps, dust extraction system, fume extraction system, compressed air system, chilled water system and many hundreds of smaller items.



The LME Horizontal Bead Mills, with patented Dynamic Classifier System (DCC), provide increased throughput rates with virtually no blockage.

The final results are in...

Great Ink, Consistently and Cost Effectively

Completed on schedule in just 48 weeks, the Sun Chemical plant was operational in Mid April/Early May 2006.

"The new plant in Rochdale sets standards in quality, throughput and efficiency that will keep us ahead of the competition for years to come. NETZSCH process and plant engineers have made a huge contribution. We couldn't have achieved it without them"

Product is being delivered to Sun's customers 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.

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