

# PROJECT SHEET

## Manganese Sintering Plant for Sakura

DemcoTECH was awarded a contract for the design and engineering of a new sintering plant at Sakura Ferroalloys' facility in Malaysia. The plant comprises a crushing and screening circuit, together with a proportioning, mixing and pelletising system, allowing by-products, recycled material and fines from the existing submerged arc furnace smelting process to be utilised through sintering. After the sintering process is complete, this material can be reintroduced into the main plant smelting process.

Sakura Ferroalloys, a producer of high carbon ferro-manganese based in Samalaju Industrial Park, Sarawak, Malaysia, is a joint venture between Assmang Limited and leading international corporations. This was the second sinter plant awarded to DemcoTECH by the Traxsys / Technomet group after the successful execution of a similar, but smaller plant for Cato Ridge Alloys, South Africa. The Sakura plant is a similar design to the earlier plant, but is more than twice the capacity at 625 t/day of sinter.

DemcoTECH's scope included the full design, engineering, commissioning supervision and optimisation of the new facility. Technomet, the developer of the plant, researched and trialled the sinter vessel technology applicable to the raw materials that will be made available from the Sakura plant. Process parameters obtained during the trial phase were used as a basis for plant engineering.

The sintering process begins with the preparation of a sinter mixture from the raw materials as delivered by Sakura, to which are added sludge and water to form a suitably homogenized mixture. The mixture is then granulated to assist in obtaining optimum permeability of the sinter mixture during the actual sintering process.

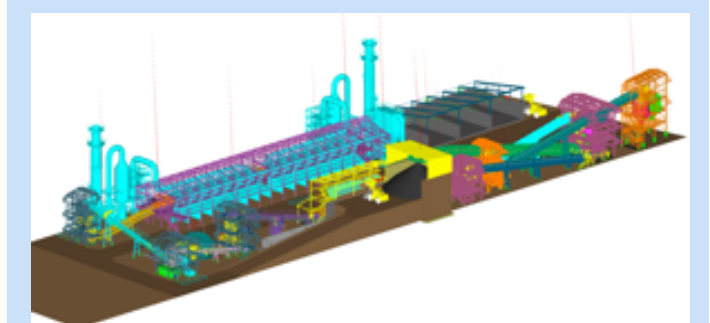
The sinter production process involves a series of reactions to form the sinter cake, including the decomposition of carbonates in the ore to decrease the energy consumption in the submerged arc furnace during alloy production. After cooling, the sinter cake is transported to the crusher and screening station where the sized sinter and return fines are separated. Return fines are recycled into the sintering process.

By-products of the sinter plant operation, such as dust, steam, gas, fumes and water, will be captured and recycled in the sintering process. Net emissions will be continuously monitored for compliance with the stipulated emission limits.

The 200 tph (180 tpa) sinter plant features 15 troughed conveyors, 14 sinter ladles, vibratory grizzly feeder, jaw crusher, screen, mixer, pelletiser and truck load out station. Due to the requirement for a tight footprint to accommodate the limited available space, a retractable tripper and shuttle conveyor was designed for the travelling tripper feeding the individual sinter pots.

DemcoTECH is a specialist bulk materials handling and niche process plant company, offering services from concept design through to project completion to the power generation, cement, mining, metallurgical, manufacturing and port handling industries. Services include conceptual design, feasibility studies, design, engineering, procurement, expediting, construction and commissioning.

Plant supplied by DemcoTECH includes troughed conveyors, air-supported conveyors, pipe conveyors, rail-mounted slewing boom stackers, pivot boom conveyors and mobile conveyors.



<b>Client</b>	Technomet
<b>Commodity</b>	Manganese Sinter
<b>Contract Type</b>	Design, Engineering, Commissioning
<b>Duration</b>	Supervision, Optimisation September 2022 – (Est.) December 2024
<b>Location</b>	Sarawak, Malaysia

### DemcoTECH