

**Project
Profile**

**Sika Limited,
Batching, Weighing and
Packaging System,
Welwyn Garden City.**

®
portasillo



When Sika Ltd required a new plant for the manufacture of a wide range of cementitious grouts and repair materials, they turned to Portasilo Limited. Sika wanted a technically advanced system that was able to handle the batching, weighing and packaging of a host of differing recipes

The requirements foremost in Sika's mind were quality, high output, flexibility to meet future needs and a plant which would establish new environmental standards within Sika's purpose-built manufacturing facility. Effective teamwork ensured that Sika's objectives were achieved, on time and within budget.

This turnkey project called for a plant with a minimum annual capacity of fourteen thousand tonnes and a capability to provide batch times of less than twenty minutes with high weighing accuracies.

Portasilo was responsible for the design, manufacture, installation and commissioning of the plant including site wiring and the provision of a full SCADA control system housed within its own purpose built control room. The project included integration of the client's high speed mixer and automatic sack filling plant within the overall scheme.

Nine 38m³ bulk storage silos, with fully weatherproof discharge equipment, were provided for various grades of sand, OPC and different grades of granular limestone aggregates. These silos are fitted with aeration systems to aid discharge and are all equipped for bulk tanker filling. They have ultrasonic level detectors with both local and central display

Bulk ingredients for each product batch can amount up to 2m³. The batch weigher and associated *Portasilo Superflo* conveying vessel have a capacity of 1m³. Batches in excess of 1m³ are thus sent in 2 transfers. In order to maximise the conveying rate via 2 speed screw conveyers, weigh hopper and *Portasilo Superflo* conveying vessel, powdered ingredients are split so as to be present in both transfers.

Non-bulk ingredients can also be added to the mixer via two offloading stations, one for paper sacks and one for IBC's, again monitored and precisely controlled by advanced systems and operator displays.

Each recipe may contain bulk ingredients (from silo system), manual ingredients (from the sack tip / IBC system), liquid ingredients and minor additions. The mixer can discharge into either bag filling or IBC filling systems.

The ability of the *Portasilo Superflo* systems to convey automatically batches of material with widely different conveying characteristics make them ideally suited to this application. Liquids are added when required to the mixer via high pressure spray nozzles from an automatic dispenser, while sampling is also fully automatic. The multi-point dust extraction system (filter cleaning mechanism and fan) operates whenever the system is on.

The process control system is PLC based operating on Mitsubishi hardware. The operator interface is via a PC based colour graphics SCADA system. As well as facilitating the full operator control, the system provided all the plant status and conditions in full colour graphic form using a high definition 17" monitor.

All of Sika's batch recipes are held on file within the PC and are automatically called up by the system. The system also produces disk and hardware copies of recipe information for quality control purposes.



Portasilo[®]
Bulk Handling Systems

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