

DUO supply new Wash Plant for Brice Aggregates

Based in Witham, Essex, Brice Aggregates is the latest company to take delivery of a new Terex Washing Systems (TWS) wash plant supplied by DUO (Europe) who are the TWS dealer for England and Wales. Owned and operated by Simon Brice the plant will process sand and gravel for a single supply contract within the area.

A greenfield site:

With a reserve of approximately 2.5 million tonnes of sand and gravel, development started one year ago on a 34.6 hectares green field site within the Colemans Farm Estate. When the haul roads were established, these were followed by the concrete pads for the plant and the weighbridge and the development of water lagoons. With all the infrastructure complete the company then researched the market and following a successful tender DUO Equipment were then selected to supply a new wash plant based on the TEREX® Washing Systems Aggresand™.

Danny Shelley – QM, commented, “Based on experience with Powerscreen equipment and the solid reputation that DUO have it was decided to invest in a 200tph TWS modular wash plant based around the Aggresand™ and Aggrescrub™ combination.”

This investment in a TWS wash plant will provide cohesive solutions for all of Brice Aggregates material and mineral washing needs and ensures reliable, high quality and very productive equipment that meets individual materials and mineral washing requirements within today’s stringent specifications of clean material.

The sand & gravel plant:

The main elements of the plant at Colemans Farm are from the impressive TWS portfolio; the TEREX® AggreSand™ 165, 3-deck modular wash plant and a AggreScrub™ 150. The AggreSand™ is pre-wired and pre-plumbed and is an easily installed modular concept that facilitates quick installation; a combination that is very appealing in terms of access, serviceability and modularity.

Danny, further commented, “It’s a very neat compact plant incorporating an in-line system with ‘as raised’ ballast being fed by loading shovel into the feed hopper. With pumps installed we are responsible for the wash water going in and the dirty slurry water coming out of the plant in to the lagoons, so it’s a very simple and effective set-up.”

Installed and commissioned in January 2017 the plant is currently processing material well within its capabilities. The Aggresand 165 uses the H12 (12M³) feed system which is fed by wheel loader via a heavy duty 4m static grid which are both powered by an integral 37Kw electric hydraulic powerpack. Material is then delivered onto the main inclined feed conveyor which is driven by an 11Kw Weg Electric motor and Bonfiglioli® gearbox mounted on the drive drum. The 19m long main conveyor has a 1000mm wide belt and has an integral heavy-duty rubber lined wash box which soaks the material before it is delivered to the rinsing screen.

The AggreSand™ 165:

The innovative AggreSand™ 165 at Colemans Farm features a 3-deck 16'x5' rinsing screen working at 18° angle which utilizes individually controlled spray bars on each deck. The 2-bearing screen is fitted with polyurethane modular media on all decks with the top deck acting as a protection deck removing any material above +40mm which is then fed via an on-board conveyor to stockpile. A middle and bottom deck overflows feed the 5-40mm onto an extended inclined conveyor that feeds the AggreScrub™ 150 for scrubbing and removal of clay conglomerates. The split bottom deck, 2mm and 5mm provides the feed to produce the required two sands. All chute-work on the AggreSand™ 165 employs the now well tested dead-box system which results in rock on rock set-up which is proving to give excellent wear properties.

The Brice AggreSand™ 165 was supplied with the high capacity 200tph sand plant consisting of one a 30Kw 200/150 pump for coarse sand and a 22Kw 200/150 pump for soft sand. A G4-660mm cyclone for coarse sand and one G4-500mm cyclone for soft sand produce two clean in-specification sands. A specially designed rubber-lined underflow box allows blending to take place so that an acceptable coarse and fine sand ratio can be achieved. These sands are then delivered to separate radial conveyors and stockpiled.

The AggreScrub™ 150:

The AggreScrub™ 150 consists of a 6.5m hull fitted with twin rotating shafts fitted with 30mm abrasion resistant blades. The blades convey the material from the feed end of the scrub to the 12x5 two deck aggregate rinsing/sizing screen. As the material travels through the hull the abrasive action of the aggregate, as it collides with other aggregate (stone on stone) scrubs it clean and breaks up any clay conglomerates which are then floated off through the back of the AggreScrub™. Any organics such as roots or plastics are also floated off to be dewatered over the AggreScrub™ 6x2 trash screen. Underflow from the trash screen is received in a catch box under the screen and then gravity fed to the sump tank under the hull.

Scrubbed aggregate exits the main discharge of the AggreScrub™150 onto the 12x5 two deck part-rinsing screen. The initial section of this screen is fitted with spray bars to rinse off any sand or grit residues produced during scrubbing. The rinsed grit is captured in a partial catch box under the screen and is piped to the sump tank below the hull to join the trash screen underflows. This sump tank is fitted with a 100/100 centrifugal pump which pumps this dirty water back to the AggreSand™ 165 sand plant to recover any sand and make maximum use of internal water.

The two deck 12x5 sizing screen is fitted with polyurethane modular media to produce 5-10mm, 10-20mm, and 20-40mm clean aggregate, which is stockpiled using three TC6532 conveyors.

Cutting Edge Control System:

The control system for this specific AggreSand™ wash plant is from a panel which is mounted onto the machine and is pre-wired. This option exemplifies the flexibility of TWS and DUO and the AggreSand™ concept to suit individual customer needs or preferences.

A total success:

John Bracken – DUO Group Operations Director, commented, “The TWS ® AggreSand™ is an ideal plant for the Brice Aggregates operation at Colemans Farm, offering a fully modular, pre-wired and pre-plumbed electric powered wash plant. With a heavy-duty robust build, it is ideal for rugged operating environments and with a quick set-up time it offers an environmentally friendly operation with zero exhaust emissions.”

Since the plant was commissioned it has been very successful and consistently provided Brice Aggregates with complete control and flexibility over their production enabling them to satisfy their contract.

Danny, commented, “There are a number of other S&G operations in the area and demand is high for 20mm stone. Although this is in short supply, we have been able to offer more availability, as we have a more favourable 60% stone, 40% sand split. Since the plant was commissioned it has consistently produced very clean, high specification saleable material, we are very pleased and have the confidence in the support from DUO.

Garry Stewart - TWS Regional Sales Manager, commented, “It’s great to have another successful installation in the UK. TWS & DUO have had major success in this market where the TWS modular concept has been well received. Customers are demanding rapid deployment, higher production rates combined with minimal downtime the Aggresand™ & Aggrescrub™ modular concept delivers on all these fronts. The market for Aggregates is good throughout England, but particularly in the South East, where we have many of these machines performing well, and exceeding customer expectations.”

ENDS

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