

CASE STUDY

MAXIMISING PRODUCTIVITY WITH POWERSCREEN: RECYCLED CONCRETE AGGREGATE PROCESSING



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Maximising Productivity with Powerscreen: Recycled Concrete Aggregate Processing

Recycling concrete is no longer just a sustainability initiative, it's a high-efficiency solution for the construction and demolition industry. In Queensland, a recycling and waste management company specialising in construction and demolition waste has elevated its operations by integrating the Powerscreen Maxtrak 1000SR into its existing crushing plant. The cone crusher has transformed concrete recycling at the site, converting waste into high-value aggregates while significantly boosting throughput, efficiency, and product quality.

The project site is dedicated to processing Recycled Concrete Aggregate (RCA), sourced primarily from demolition debris, old infrastructure, and surplus construction materials. The raw feed material consists of various concrete grades, often containing reinforcing steel, with feed sizes requiring effective pre-sorting to ensure optimal crushing performance.

With sustainability at the forefront, the operation is designed to extract maximum value from concrete waste, reducing landfill dependency and generating high-quality aggregates and sub-bases, vital components in road construction, drainage applications, and new concrete production.

The material is efficiently loaded into the Powerscreen crushing circuit by an excavator, which transfers it directly into the feed hopper of the Metrotrak for initial processing and sizing. The Metrotrak is equipped

with an over-band magnet to remove any metal contaminants, such as reinforcing bars used in concrete construction. From there, the material moves to the Maxtrak 1000SR, specifically designed for direct feed applications. Finally, the processed material passes through the Chieftain 1700 for final screening, ensuring accurate sizing and a high-quality end product.

The integration of the Maxtrak 1000SR has delivered a significant boost in throughput, all while maintaining strict quality control to meet industry standards. The impact has been game-changing - enhanced production efficiency, greater control over product sizing, and improved recovery rates have all contributed to a more streamlined operation.

A key strategic move has been the stockpiling of 20mm+ oversized material for secondary processing through a wash plant, ensuring minimal waste and maximum resource utilisation. This approach not only improves sustainability but also optimises material yield.

With the rising demand for high-quality aggregates and the push for circular economy solutions, operations like this serve as a blueprint for the future of construction material recycling, proving that waste can be transformed into opportunity with the right equipment.

KEY FEATURES OF THE MAXTRAK 1000SR

- Automated cone adjustment: Ensures consistent product sizing while minimising downtime.
- Pre-screening system: Removes fines before crushing, improving final aggregate quality and reducing unnecessary wear on the cone.
- At its core is the Automax cone crusher, featuring hydraulic adjustment settings, tramp release, and an unblocking system.
- Post-screen with recirculation conveyor: Increases material refinement, allowing oversized material to be automatically recirculated and reprocessed.
- Efficient direct drive system: Reduces fuel consumption and maximises power transfer for cost-effective operations.
- User-friendly PLC control system: Simplifies machine operation, allowing operators to adjust settings with precision.