

Macawber Installation Case Study: Cement – Berrima, Australia

IN BRIEF

A large cement company is intent on running its plant at the lowest cost possible. This has resulted in maintenance and operations personnel being performance rewarded for any reduction in cost found as the plant is operated. The Macpump has resulted in a far lower operating cost compared to other cement pumping technology, and the maintenance and operations personnel at the Boral plant have ensured they use dense phase pneumatic conveying over inefficient energy consumers such as screw pumps. The Macpump and other Macawber dense phase pneumatic conveying systems are direct replacements for energy and maintenance heavy screw pumps.

MATERIAL CHARACTERISTICS

Material	Cement
Bulk Density	1000 kg/m ³
Size	360 Blaine
Temperature	Ambient
Moisture Content	0.2%
Condition	Free Flowing, Dry

SYSTEM OBJECTIVES

1. Reduce plant energy consumption
2. Ensure plant operating reliability
3. Integrate w/ plant control systems

SYSTEM PERFORMANCE

Transfer Capacity	125t/h design rate
Conveying Distance	286m
Reception Points	6 Silos
Air Consumption	95 Nm ³ /min

IMPROVEMENTS ACHIEVED

1. Exceeds design rate by 12%
2. Air consumption reduced to ¼ the consumption of screw pump blower
3. No electrical motor – further reduced energy requirement

