

## Boral

### What's in a sustainable paper sack?

#### The answer is green

#### Award for Excellence in Green Purchasing — Business

**This award recognises a commercial business that has demonstrated outstanding commitment to green purchasing.**

Boral is Australia's largest building and construction materials supplier, with significant operations in the USA and Asia and directly employing around 15,000 people.

As a large organisation, Boral is used to making big decisions. But when a small question was asked – how can we improve our packaging (paper sacks) for cement and concrete products? – it set off a quest that improved not only Boral's packaging, but the sustainability standard for the cement industry.

The result: a seemingly small change from a 3 ply to a 2ply paper sack reduced annual paper consumption by 860 tonnes, and has set a global benchmark with regard to paper grammage, strength, customer satisfaction and lowest environmental impacts.

#### KEY RESULTS OF THE QUEST FOR A BETTER PAPER SACK

- 39% reduction in paper use per sack, which equates to 860 tonnes paper per annum (with all the associated environmental benefits – carbon emissions and water use reductions, less waste, reduced pressure on biodiversity)
- 20% reduction in sack price
- New 2 ply sacks stronger and higher quality than the old 3 ply sacks
- Elimination of perforations which created dust leakages and consequential OH&S issues
- 15% faster filling time and increased throughput on the filling line
- Decreased plastic film weight per sack on average by 50%
- Reduction in leakage during transport by over 90%

Boral consumes more than 15 million paper sacks annually. These sacks represent the customer interface for Boral's Blue Circle Southern Cement (BCSC) brand and in doing so make a strong statement about the organisation.

Sack performance in the market place was not achieving the highest levels of strength, presentation, or cost. Customer satisfaction in relation to package quality was low due to the number of sacks bursting during handling and filling. These issues flowed through to the operational site, having a negative impact on the work environment due to dust and cement leakage. Machinery was failing, the workplace was unpleasant and staff morale was impacted.

A packaged products manager first raised the question with existing paper sack suppliers: What can we do to improve the sustainability, price and performance of this product?

Local manufacturers at first did not appear keen to experiment with their production lines: they were locked in to existing plant and contracts. New technology, stocks or schedules were not on the cards.

The project became about the technical and supply chain challenges, including challenging the purchasing status quo, which needed to be overcome to develop a more sustainable, higher quality and cost efficient paper sack.

When it became clear that not enough was known locally about the type of papers being used and their relevant structural and environmental performance, a project team lead by the National Procurement Manager and the Packaged Products Manager of BCSC, was established to investigate further.

The team has worked closely with BCSC personnel and the supply market to achieve a step change improvement in the sustainability, performance and cost efficiency of paper sacks whilst delivering improved operational performance.

Boral used a collaborative and continuous improvement approach to the project. Paper stocks and overseas manufacturing processes were investigated by the Boral team. A broader view of the paper market and the various strengths and drawbacks was achieved.

When it came time to draw up new contracts, continuous improvement KPIs were incorporated into the agreement, – suppliers must demonstrate that they are also keeping abreast of the paper market.

The actual process and getting a result was not difficult, but a new challenge emerged when explaining the need to change to internal businesses and their customer base. . In hindsight, the team would have started talking with its customers earlier in the process. As it was, they were able to prove why the sacks were necessary – and how good they could be on multiple levels.

Changing the paper sacks was a business risk. Reducing the amount of paper a sack uses seems like a simple thing to do to, but if the new sacks went technically wrong it would have been disastrous in the marketplace.

Fortunately, the results speak for themselves:

- Improved environmental performance to support Boral's sustainability objectives.
  - ✓ Reduction in grammage of paper per sack whilst increasing strength.
  - ✓ Removal of perforations in sacks which creates dust during filling.
  - ✓ Improve valve sealing.
- Increased customer and employee satisfaction.
  - ✓ Improved throughput on current filling machines by quicker de-aeration through the paper rather than by perforations.
  - ✓ Improved equipment performance and throughput to achieve a world benchmark of 85% Overall Equipment Effectiveness.
- Lower cost per sack for a higher performance sack.

Leadership, collaboration and innovation can combine to drive better environmental, social and financial outcomes. And a more sustainable paper sack.



The filling process before (above) and after (below) introducing the new sacks. Photos supplied by Boral.



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