



Huhtamaki Henderson was originally established as Lilipack in 1962 producing paper cups. Since the 1980's Huhtamaki Henderson has also become one of New Zealand's largest producers of rigid plastic packaging. Main product ranges include, ice cream containers, yoghurt containers, and thermocups. These are produced using a diverse range of methods from extrusion, injection moulding, thermoforming, paper forming, and in-mould labelling to lithographic and flexographic printing. The main materials used are polystyrene, polypropylene and paper. Major customers include Tip Top, MacDonaldis, Meadowlea and Mainland Foods. Huhtamaki Henderson is part of the wider Huhtamäki Oyj group of businesses which maintains a strategic focus on consumer packaging. It is part of more than 70 manufacturing and sales units and over 15,000 employees in 36 countries. The Henderson site employs 270 staff and operates 24 hours a day, 6 days a week.

Objective: Eliminate Expanded Polystyrene (EPS) from the waste stream

Cost:

Costs: Processing Labour	\$18000/yr	
Compactor Hire Paper Reclaim	\$1.00 token	
Container/Freight 10 trips	\$20,000/yr	38,000
Actual Savings:		
35 tonnes/yr diverted from landfill, @ \$130 =		4,550
loaded fee @ maximum cost		36,400
Nett Savings/(Loss):		(\$33450) (\$1600)
Savings from doing nothing:		
Difference between Annual normal and "loaded" fees		500,000

Project Description: EPS process rejects although not high in plastic weight were a major volume component of our waste to landfill. With an indication from the waste management company that potential cost increases of 800% for loads with EPS levels in excess of 5% per load it was necessary to find an alternative outlet.

How you implemented the project: Initial in-house reprocessing was trialed to reduce the EPS for reuse back into our PS product stream This failed due to high foaming levels and high process costs.

On the discovery that recycling was occurring the challenge was to reduce the transport costs to the recycler. Regrinding still did not provide high enough volume reduction and compaction was finally settled on. The first approach was to find a product or process within our plant to use this waste. It was decided to attempt to revert the EPS to PS and use it as such. This proved to be unsuccessful for two reasons. The expense to reprocess the cups to a usable state to reconvert the polymer was prohibitive and the reprocessed product would not handle the residual gas in the EPS and resulted in foaming of the polystyrene sheet. Through the association with the Best Practice Programme we became aware of a recycling process that was processing other EPS waste in the South Island. After initial trials we found it would work for EPS Foam cups equally well. The main problem to overcome was transportation of the raw cups to the recycle point. This was resolved by installing a baling compactor to reduce the volume to manageable units for containerisation. The waste is then processed by this company to remove the residual gas and compression into the billets. The cost of this is comparable with potential landfill costs but eliminates the need.

Project Team:

- Deryk Mason - Quality Assurance Manager
- Chris Schuler – Technical Manager
- Sunil Khurna – Supervisor
- Kevin Howell – Operator
- Mike Catton – Operator

Results: So far we have processed 12 tonnes of EPS since we started .

Key Challenge:

Finding cost effective outlets in a dynamic market especially if petroleum prices reduce.

The Solution:

NZ Recyclers Kaiapoi were processing their local EPS for resale and have now set up a plant in Auckland. This is more convenient and may allow increased volumes to be sourced and processed. It also opens the possibility of post consumer waste being processed. "Huhtamaki Henderson had a problem with the disposal of waste from their EPS cup lines. All waste was being sent to landfill and the potential for 500% increase in fees prompted the project.

The Future:

Huhtamaki will continue to channel EPS through this process while investigating other alternatives to reduce waste generation and post consumer waste

Best Practice Hints:

Reduce waste at source

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Links:

www.huhtamaki.com