

MedClean Propre Limpio Mediterranean


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Pollution prevention case studies

Reduction of waste produced in raw material warehousing and manufactured product service

Company Compte y Rivera, SA, Olesa de Montserrat (Spain), manufactures pastry shop specialities that are supplied to pastry shops, bakeries and catering establishments, among others.

Industrial sector Food sector.

Environmental considerations During the manufacture of sweets, sugar is used as a raw material, leading to a very high annual consumption, as it is used in most of the product recipes. The company's range of products also includes custards that are supplied in small format containers of 20 or 25 kg.

On the one hand, the large consumption of sugar leads to a large amount of packaging waste, as it is purchased in 25-kilo sacks that are disposed of conveniently after use. Therefore, the supply of custard requires a proper management of the corresponding containers.

Therefore, this production generates a large amount of raw material and finished product container waste.

Background The factor that led the company to carry out this investment was the possibility of totally eliminating the waste produced from empty sacks and custard cream recipients.

Another important factor was the economic saving that the company would obtain through buying the sugar and the custard recipients, aside from other extra advantages, such as improved handling and transport. In 2003 the company decided to minimise its generation of this waste, while making changes to optimise the production process.

Actions were based on the following measures:

- To reduce the generation of its own residue from empty sacks of sugar.
- To reduce the generation of residue from products manufactured.

Summary of actions On one hand, actions consist of the installation of a 60 m³ capacity stainless steel reservoir to receive large quantities of sugar and eliminate sack waste. On the other, the purchase of 25 1,200-litre stainless steel containers for delivering the custard to its customers, - these are returnable, hygienically rinsed and reusable. This represents a saving per delivery consisting in one container of 60 recipients with a 20-litre capacity, and also facilitates the use of the quantity of residual product left in the containers.

Photography of the installation



Balances	Old process	New process
Balance of raw materials		
Number of empty sacks (unit/y)	52,116	0
Number of custard cream recipients (unit/y)	11,700	0
Number of returnable steel containers (units)	0	25
Economic balance		
Cost of 20-litre recipients purchase (€/y) [□]	23,703	0
Cost of stainless steel containers rinsing (€/y) [□]	0	1,755
Sugar silo maintenance cost (€/y) [□]	0	250
Savings and expenses		
Savings in sugar purchase (€/y) [‡]	0	8,208
Savings in the purchase of 20-litre recipients (€/y)	0	23,703
Expense for stainless steel containers rinsing (€/y) [□]	0	1,755
Expense in sugar silo maintenance (€/y)	0	250
Total savings (€/y)		29,906
Investment in installations (€)		
60 m ³ reservoir		68,296
Stainless steel containers		34,300
Total investment (€)		102,596
Investment payback		3.4 years

Conclusions

Through the implementation of the project a reduction has been achieved of 52,116 u/y of sacks and a minimisation of 11,700 u/y of 20-litre custard cream recipients, which were processed as waste after using them for its customers. The saving is not reflected in this file for calculating project payback.

This at-source pollution prevention action is the result of the company's environmental policy, as it is included in the continual improvement programme that was started by the company in 2000 and aimed at achieving the environment protection targets and fulfilling the environmental improvement commitments fixed in its annual programmes.

NOTE: This case study seeks only to illustrate a pollution prevention example and should not be taken as a general recommendation.



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