

Waste Minimisation at a Powder Coater (MF11)

Case Study 19

Metal Finishing Waste Minimisation Club

Background

M11 is a small powder coating operation situated in Durban, South Africa. It was established in 1981 and employs 50 staff. The company powder coats aluminium and galvanised steel objects. Some of the main customers include the sugar and motor industry. It is ISO 9002 accredited and has the SABS mark.

The Process

The main processes carried out on site are metal cleaning and powder coating. The items are first degreased, pickled, phosphated, and passivated. Once cleaned, the objects are hung on jigs which are charged with an electric current. An epoxy-based powder is then sprayed onto the items. AN electrostatic field is generated, which causes the powder to stick to the object. The coated items are then cured in an oven at high temperature.

Identification of Waste Minimisation Options

Some waste minimisation options were identified for this site and these are summarised in Table 1.

Table 1: Summary of Identified Waste Minimisation Options

Waste Minimisation Option	Status
1. Change overflow rinse to static rinse	
2. Replace solid baskets with porous ones to reduce carry over	
3. Re-arrange bath dumping procedure to reduce pH of effluent	
4. Use rinse water to top up baths	

Implementation of Waste Minimisation

As of August 2000, it was not known if the company had implemented a waste minimisation programme on site, or if any savings had been achieved. There is the potential to save in water, chemicals and treatment chemicals.

Economic Benefits

Item	Approximate Saving Rands / year	Potential Saving Rands / year	Quantity Unit / year	Payback
Water		13 200		
Treatment Chemicals		40 200		
Total		53 400		

Environmental Benefits:

The implementation of waste minimisation could lead to the reduction in metals and chemicals to drain and less use of water.

Contact Details

Further information is available from:

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