

POLLUTION PREVENTION

IN RHODE ISLAND

Case studies of the Rhode Island On-Site Technical Assistance Program

Electroplater Freon

Plater eliminates use of freon for cleaning of plastic parts.

Industry \ Contact

SIC Codes: 3471 reel-to-reel plater, Rhode Island.

Contact: Company #9

Technology Description

The company is engaged in reel-to-reel, rack and barrel electroplating. The company employs an average of 30 people.

The company uses small plastic parts in the manufacture of electronic connectors and components. The plastic parts received from the supplier have oil on the surface that must be removed prior to use. Originally the company used freon to clean the plastic parts and produce an unblemished surface. A total of 600 gallons per year of freon was used costing the company \$14,000/yr; spent freon would be shipped off site for reclamation at a \$100/drum credit to the company. Increased costs and environmental regulatory concerns led the company to investigate alternate cleaning solutions. Attempts to replace freon with aqueous-based cleaners were unsuccessful.

The supplier of the plastic pieces had originally used oil as part of the mold-release operation, thus necessitating the use of freon to clean the pieces; freon does not attack the plastic surface, as do other chlorinated hydrocarbons, and was therefore the solvent of choice. At the request of the company, however, the supplier was able to modify the mold-release operation so that it no longer required the use of oils.

Feedstock Materials

600 gallons of freon per year

Wastes

Spent freon sent off site for reclamation

Costs

None

Operation \ Maintenance

None

Savings

600 gallons per year of freon eliminated, saving the company \$14,000/year. Freon no longer sent off-site

Payback Period

Immediate

Impact

The company no longer uses 600 gallons per year of freon to clean plastic parts. By simply communicating with the plastic parts manufacturer, the company served as a catalyst for change. The manufacturer found that the parts could be made without the use of oil, resulting in a contaminant-free surface.