

# RECP Best Practices Catalogue

*Improved drainage, shower wash at the final rinsing bath and drying of parts*

*Developed within the framework of MED TEST II*



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



The SwitchMed Programme is  
funded by the European Union

# Best Practice - Improved drainage, shower wash at the final rinsing bath and drying of parts

**SECTOR:** Metal, electrical and motor vehicle parts

**Branch:** Manufacture of parts and accessories for motor vehicles

**CATEGORY** Process control or modification

**APPLICABILITY** Process

**COMPANY SIZE** 255



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## Description of the Problem (Base Scenario):

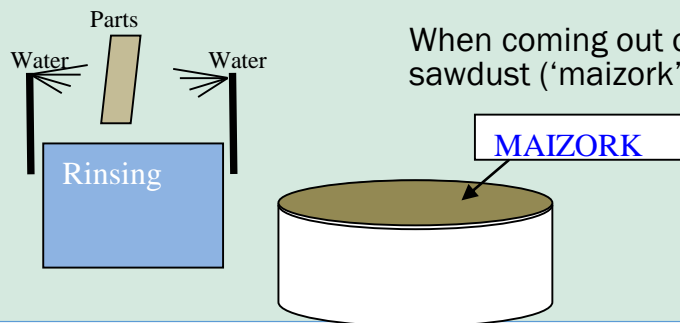
At the surface treatment plant, rinses are renewed weekly, with a water consumption of 240 m<sup>3</sup>/year, 5 days/week, 16 hours/day, 9 months/year (1.3 m<sup>3</sup>/day), with chromium loss of 30 kg/week (6 kg/day), which represents a drain of 375 g/h, 1.5 litres of chromium plating bath per hour (we estimate it at 160 dm<sup>2</sup>/h, 9.4 mL/dm<sup>2</sup>). Notwithstanding this, chromium loss due to the sweeping process is considered high; it must be less than 5 mL/dm<sup>2</sup>.

At the exit of the chromium plating station, there is also the problem of parts oxidation due to the presence of traces of surface oxides.

## Description of the Solution

It is advisable to extend the drainage time on the chrome plating bath, to modify the hanging support of the parts to ensure better drainage and to install a system of shower washing at the final rinsing bath stage, to recover the chromium and to eliminate the traces of chromium acid solutions.

When coming out of the treatment plant, the parts should be dried using corn sawdust ('maizork') to remove surface oxidation.



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## Economic Gains

Significant reduction in chromium consumption, which is meant to go from 1.5 litres/h to 0.5 litres/h, or 200 kg of chromium/year, which has an estimated average cost of € 20/kg, thus enabling € 4,000.00 of savings per year.

## Environmental Gains

- 200 kg chromium/year, which is 5% of chromium consumption
- Reduction in defective parts

## Health and Safety Impact

Improvement of work conditions



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**Capital Investments & Financial Indicators**      € 4,000.00  
Time for Return on Investment: 1 year

## Suppliers Information

**Other Aspects**                      Quality Improvement

**Implementation**                  Under implementation



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