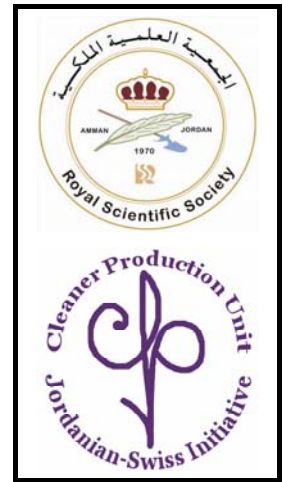


# Cleaner Production in Jordan

## Fact Sheet: Union Locks Co., Sayegh Group, Amman, Jordan



### What is Cleaner Production?

Cleaner Production (CP) is the continuous application of an integrated, preventive strategy to processes, products and services to increase efficiency and reduce risks to humans and the environment.

In this fact-sheet the results achieved from the CP In-plant Assessment in Union Locks Co., Sayegh Group are summarized. The information shall serve to demonstrate how CP can be implemented in industries in Jordan.

### General Information



<b>Company</b>	Union Locks Co., Sayegh Group, Amman, Jordan.
<b>Sector</b>	Engineering Industries.
<b>Products</b>	locks and hinges fitted on doors, cabinets, and rollers and locks for aluminum frames, etc.
<b>Market</b>	90% National market, 10 % export to Syria, Palestine, Sudan and UAE
<b>Employees</b>	95 (15 administration, 80 production).
<b>Management Systems</b>	ISO 9001:2000, since 1998.

### Production



<b>Processes</b>	Casting, Grinding, Polishing, Electroplating, Pressing, and Assembly.
<b>Raw Materials</b>	Zinc and Copper alloys, Steel and Chemicals (Chromic acid, Cyanides, Nickel salts, Zinc salts and Acids).
<b>Energy Sources</b>	Electricity, LPG and Diesel.
<b>Wastes and Emissions</b>	Zinc scrap, steel scarp, and chemicals drag out.

### CP program

The CP program comprised capacity building and in-plant application in a modular form in addition to experts mission. A joint team from RSS CP Unit and the Company worked cooperatively to implement CP assessment for the company.

The work included detailed company visits, identifying and evaluating CP options, implementing a number of options and setting an action plan for the follow up of CP at the company.

### Company Statement

Union Locks Co. participated in CP program to optimize the industrial processes and to find and implement cost effective solutions of industrial problems. Union Locks Co. viewed CP program as a strategy to assess and examine new ideas regarding different processes in several areas.

CP team consists of company representatives and RSS members. Company representatives are:

- Eng. Samer El-Sururi, Plant Manager**
- Eng. Hazem Smadi, Production Manager**
- Khalid Thaher, Electroplating Department Head**

## Results

Some identified options have already been implemented. An example is introducing air agitation for rinsing baths to improve the rinsing process leading to product quality improvement and reduction of the following baths contamination. In addition, the company implemented the option of using the PVC covers for the static anode bars leading to reduction of power consumption and maintenance cost.

The company will install in the near future a wastewater treatment unit to reduce the danger of hazardous and toxic materials as well as to reuse the drag out water.

Option	Environmental benefits	Economic savings		
	Water, materials or energy consumption reduction	Savings [JD/yr]	Investment [JD]	Payback [years]
<b>Option 1 – Cascade rinsing</b> Use counter current cascade rinsing after nickel and chromium baths to bring back drag out chemicals and water to these baths.	Reduce 92% of used rinsing water Reduce 90% of drag out chemicals	1570	300	0.2
<b>Option 2 –Direct Current (DC) contact</b> Replace the existing DC contacts for cathodes by more efficient Best Available Technology (BAT) ones.	Reduce 10% of product defects Reduce 5% of power consumption	540	1200	2.2
<b>Option 3 – Ventilation system</b> Improve the performance of the ventilation system, maintain or replace the exhaust air-fan to reduce noise and install an air suction system above the chromium bath.	This option mainly aims to improve working conditions especially around the chromium bath.			
<b>Option 4 – Wastewater treatment unit</b> Installation of treatment unit for oxidation of cyanide and reduction of hexavalent chromium.	This option mainly aims to treat the industrial wastewater and electroplating spent baths.			

## Contacts & Partners



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Financial support



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