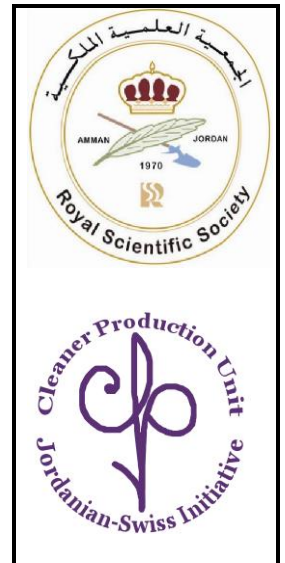


Cleaner Production in Jordan

Fact Sheet: Arab Aluminium Industry Co. 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.

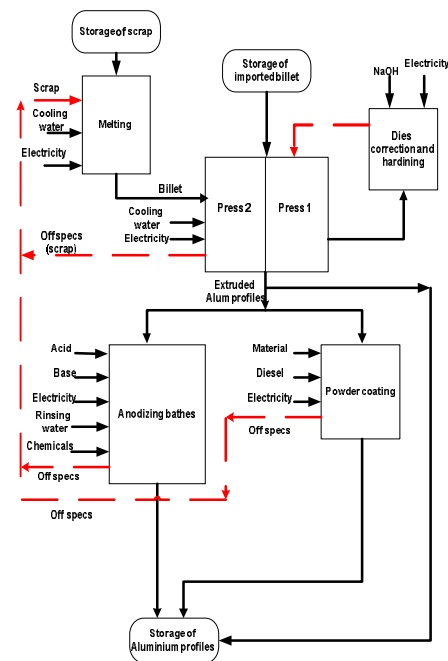
In this fact-sheet the results achieved from the CP In-plant Assessment in Arab Aluminium Industry Co. are summarized. The information shall serve to demonstrate how CP can be implemented in industries in Jordan.

General Information



Company	Arab Aluminium Industry Co.
Sector	Metal industry
Products	Aluminum profiles
Market	70% of the products in the local market, while 30% of its products are exported to Arab countries such as Iraq, Syria and Algeria
Employees	300 (50 administration, 250 production).
Management Systems	ISO 9002 Since 1999

Production



Processes

The production processes in ARAL and United factories are; Extrusion, Anodizing, Powder Coating, Wood Finishing in addition to Wrapping and Storage. Also, the company has Water and Wastewater Treatment Unit, Scrap Smelter and Dies Hardening Unit

Raw Materials

Aluminium logs, sulphuric acid, caustic soda and other additives

Energy Sources

The main sources of energy is electricity and diesel

Wastes And Emissions

Wastewater, gas emissions and solid wastes

CP program

The CP program comprised capacity building and in-plant application in a modular form in addition to expert's missions. 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

Our participation in the CP assessment project will help us to have sustainable and eco-efficient solutions through cooperation with RSS CP unit and Swiss institutions to protect our environment and optimize our production process at the same time.

"Eng. Mohammad Marashdeh, General Manager"

Results



Replacing the hexa-valent chromium by chromium free substance in the powder coating line

Benefits gained from the implementation of the CP options and measures are:

- Reduction of manufacturing costs.
- Improve competitiveness.
- Quality improvement.
- Improvement of work environment.
- Reduction of environmental impacts.

Some results obtained are described in the table below.

Option	Environmental benefits	Economic savings		
	Water, materials or energy consumption reduction [Unit/yr]	Savings [JD/yr]	Investment [JD]	Payback [years]
Option 1 – Insulate the outside surface of the billet container in the extruder	Energy reduction of 316'800 kWh/ year	13300	1'300	0.1
Option 2- Reschedule the operation time of dies hardening oven to avoid the peak load penalty	Energy reduction of 384 kWh/ year	1200	No investment	-
Option 3- Reuse the rinsing water of the electro-coloring in the rinsing bath of anodizing (cascade system)	Water saving of 1300 m³ / year	2500	1'500	0.6
Option 4- Install inclined sheets between the anodizing baths to recover dripping off during moving the racks	Chemicals saving of 730 Kg / year	1400	2'000	1.4
Option 5 – Replace the use of hexa-valent chromium by chromium free substance in powder coating line	Remove the negative impacts of the dangerous emissions of chromium	30'000	13'000	0.4

Contacts & Partners



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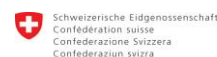
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