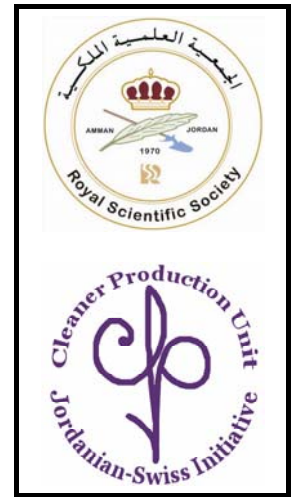


Cleaner Production in Jordan

Fact Sheet: Arabian Steel Pipes Manufacturing Co. Ltd. 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 Arabian Steel Pipes Manufacturing Co. Ltd. are summarized. The information shall serve to demonstrate how CP can be implemented in industries in Jordan.

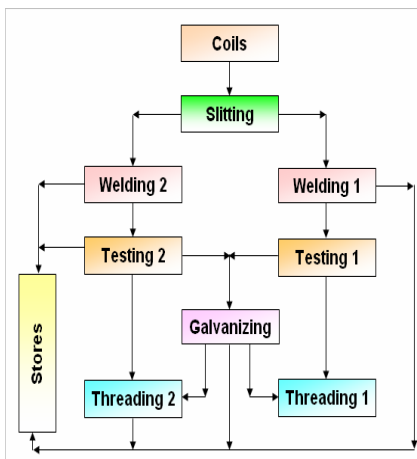
General Information



Hot Dipping Galvanizing Line

Company	Arabian Steel Pipes manufacturing. Co. Ltd., Amman, Jordan.
Sector	Metal.
Products	Black and Galvanized pipes for water and gas, Hollow sections for furniture and steel structures, Coated water pipes, Electric steel poles, Columns pipes, and H.M. and H.D. Polyethylene water pipes.
Market	63 % local market, 37 % export to Iraq, Syria, Libya, Lebanon, Sudan, Saudi Arabia, Yemen, Germany and France.
Employees	150 (23 administration, 127 production).
Management Systems	ISO 9002 since 1995, ISO 9001-2000 since 2004, ISO 14001 since 2003 and Jordan Quality Mark since 2000.

Production



Processes	Slitting the steel coils into strips, Tube mill (Forming / welding, calibration and cutting), Facing and Hydro-testing, Galvanizing, Threading / Bundling and Storing.
Raw Materials	Hot rolled steel, cold rolled steel, Zinc, and chemicals for pipes pretreatment before galvanization.
Energy Sources	Electricity and diesel.
Wastes and Emissions	High TDS wastewater, iron sludge and combustion gases.

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

Cleaner production is a new concept in the country and as Arabian Steel Pipes Co. Ltd. always ranks first in implementing the up-to-date environmental and quality issues, cleaner production is added to its historical contribution being the first to get ISO 9000 and first to establish landfill pools in hazardous disposal site at (Swaqa). The company seeks for staff performance improvement and tries to gain benefit from the new ideas.

General Manager: Eng. Amin Shajrawi

Results



Implemented CP measure at the Hot Dipping Galvanizing Line

The CP team focused at galvanizing unit, where many options have been identified. Some of these options have been implemented such as: minimizing losses from degreasing bath, repairing the isolation of the steam pipes, preventing leakages in steam valves and junctions, using a new additive material to prevent ash formation, using organic passivation material instead of chromium, and conducting training for employees to improve process quality control.

The company is going to improve heat recovery from combustion gases; to enhance energy saving. Company started to study the possibility of using natural gas instead of diesel and looking for a cost effective technology for acid recovery.

Option	Environmental benefits*	Economic savings		
	Water, materials or energy consumption reduction [Unit/yr]	Savings [JD/yr]	Investment [JD]	Payback [years]
Option 1 – Minimize energy and water losses from degreasing bath By using blower instead of compressed air, installing temperature control device, and using plastic balls to cover the bath surface.	260 m ³ of water/ year 19400 L of diesel/ year 9100 KWh/ year	2920	2550	0.87
Option 2 – Minimize energy consumption of boiler By repairing isolation of the steam pipes and preventing steam leakages from valves and junctions of the boiler.	66 m ³ of water/ year 13100 L of diesel/ year	1860	1160	0.62
Option 3 – Prevent ash formation A new additive material is used to reduce ash formation and energy consumption.	80 ton of ash/ year 1150 L of diesel/ year	18760	13790	0.74
Option 4 – Use of organic passivation material instead of chromium	This organic material has been used to support environmental commitment in the company.			

* Expected benefits will be realized after one year of application.

Contacts & Partners



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