

# RECP Best Practice Catalogue

*Setting standard operating procedures for the  
grinders*

*Developed within the framework of MED TEST II*



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



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# Best Practice - Setting standard operating procedures for the grinders

<b>SECTOR:</b>	Chemical and Pharmaceutical
<b>SUBSECTOR:</b>	Manufacture of paints, varnishes and similar coatings, printing ink and mastics
<b>PRODUCTS</b>	Different types of printing inks, coatings, paints and varnishes
<b>CATEGORY</b>	Good Housekeeping
<b>APPLICABILITY</b>	Process
<b>COMPANY NAME</b>	--
<b>COMPANY SIZE</b>	Small

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## Description of the problem

(Base scenario):

In the grinding stage, paste and pigment are grinded for specific time to obtain the required size of particle. The company has different grinders, each designated to an ink color to reduce contamination between batches and reduce losses of raw material. Currently, the company did not measure the viscosity of pigment paste on regular basis therefore, the grinding time for organic pigment takes longer time and uncontrollable therefore it consumes more electric energy than needed.

## Description of the solution

In order to achieve good grinding results in optimum time and obtain stable dispersion, it is necessary to set standard operating procedures for the grinders.

These parameters are:

- 1- Adjust the flow rate of pigment paste inside the grinder.
- 2- Use the appropriate amount of dispersing agent.
- 3- Monitor the viscosity of pigment paste.

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## Economic Benefits

About 25% of the total electricity consumption could be saved (22,582 kWh/y).

Energy cost saving = 869 Euro/year

## Environmental Benefits

Total power consumed by the grinding machines is 90,327 kWh/year.

The expected reduction in grinders electricity consumption is 25% (22,582 kWh/year)

CO<sub>2</sub> emissions reduction reaches 11 t/y

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<b>Capital investments &amp; financial indicators</b>	No investment is needed Payback period is immediate
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## Suppliers

In house production process modification

## Other aspects

The product quality will be improved as a result of dispersion stability and color development.

## Implementation

This measure is under implementation by the company.

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## Replicability sectors

The same concept can be replicated in:

Paints industry.

Ink & varnish industry

## Aspects to investigate for replicability

Grinding time

Specific energy consumption for the grinders

Check if the company measure the viscosity of pigment paste.

## Useful resources

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