

# **Sustainability in commercial laundering processes**

Module 6  
**Special aspects**

Chapter 3 b

## **Treatment of river water**

# Learning targets

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After finishing this chapter you will

- have an overview of using river water in washing processes
- will be able to explain the process of treatment of river water for washing

## Example No. 1

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- big industrial laundry built in the sixties of the last century
- originally, water treatment unit and preparation of wash liquors were in separate buildings
- Today there is only the water treatment water chlorination
- manual operation with automatic function of chlorination

# 1. Coagulation and filtration of pollutions in river water by using chemicals



The river water is pumped into clarifier (see picture). By adding aluminium sulphate and mixing the  $\text{Fe}^{3+}$  and  $\text{Mg}^{2+}$  salts are flocculated. The bulk of pollutions are rising to the water surface and are removed mechanically.

## 2. Sand filtration of water



Clarified water from clarifier is running through the sand-filter, which catches remaining mechanical pollution

# Tank for filter-out water

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# Automatic water chlorination unit



Control unit of the automatic dosage of sodium hypochloride, which ensures the microbiological quality of water

# Water softening by using catex units



Original catex-units with manual operation

## Example No. 2

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- big industrial laundry, recently modernized
- Mostly river water is used for laundering
- automated performance without manual operation
- automatic change to water distribution system if the river water exceeds allowed limits (i.e. muddy after raining)



## Water treatment unit



Overview of the water treatment unit – disk water filters, catex units and control unit for monitoring of water pollution

## Water filters (discs)



Disc water filters are equivalent to sand filters

# Control unit – monitoring of water pollution



Water pollution is monitored by control unit – photometric monitoring of turbidity. When the limits exceed, the unit switches the laundry to drinking water distribution.

# Catex units for water softening



The catex unit with automatic operation is linked up to river water treatment