

Sustainability in commercial laundering processes

Module 6
Special aspects

Chapter 3 b

Treatment of river water

Learning targets

After finishing this chapter you will

- Have an overview of using river water in washing processing
- Will be able to explain the process of treatment river water for washing

Example No. 1



Education and Culture

Leonardo da Vinci

- big industrial laundry built in sixties years last century
- originally, water treatment unit and preparation of wash liquors were in separate building
- today, the water treatment only and furthermore water chlorination
- manual operation with automatic function of chlorination

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



Leonardo da Vinci



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

2. Sand filtration of water



Leonardo da Vinci



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

Tank for filter-out water



Education and Culture

Leonardo da Vinci



Automatic water chlorination unit



Leonardo da Vinci



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

Water softening by using catex units



Education and Culture

Leonardo da Vinci



Original catex-units with manual operation

Example No. 2



Education and Culture

Leonardo da Vinci

- big industrial laundry, recently modernized
- mostly used river water 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)



Education and Culture

Leonardo da Vinci

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



Education and Culture

Leonardo da Vinci



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

Catex units for water softening



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