

Wash Water Reuse and Indigo Recycling on Denim Dyeing Ranges



Water Management

The textile industry works hard to achieve a balance between economic development and environmental protection. Conservation of water resources and the environment have become key issues of concern in textile manufacturing. For textile mills and dyehouses seeking to avoid waste water pollution and reduce the burden in their ETP LoopTEC is a reliable and trustworthy partner. We design chemical recycling processes to create long-lasting, collaborative solutions to environmental challenges.

In general, textile processing has a very high consumption of water and energy, and a large amount of wastewater discharge. Due to the various processing steps, such as dyeing and mercerizing in aqueous solutions, the water consumption and chemicals used will differ from factory to factory.

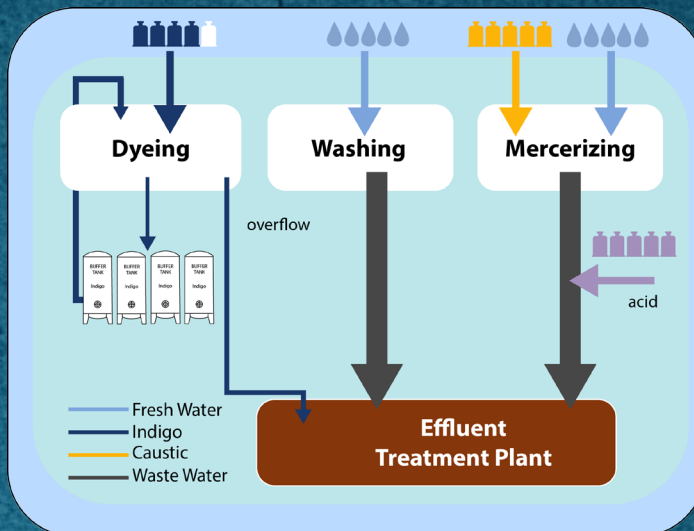
Wash water reuse and Indigo recycling

- Cleaning of wash water
- Recovery of dyestuff from the wash water
- Recovery of Indigo from the overflow or dye bath
- Cleaning of polluted Indigo dyestuff

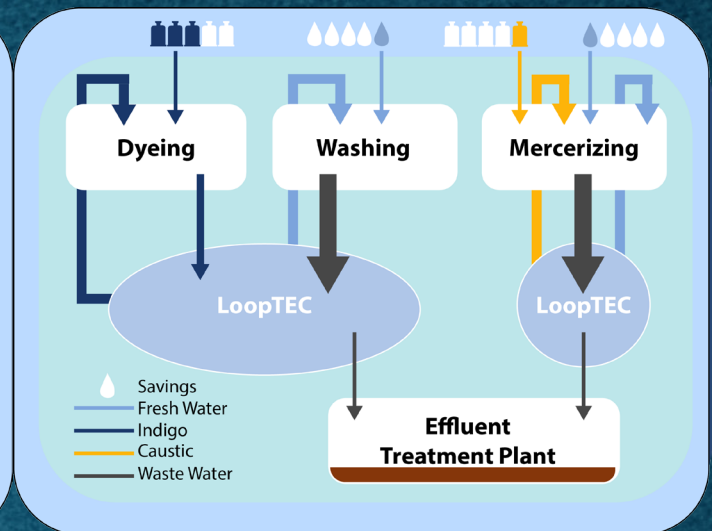
Advantages

- 85 % of the required washing water demand is already saved
- 99.998 % of the indigo contained in the wash water can be absorbed and recovered
- 99 % of the wash water is dropped out and can be used again
- 96 % of the salt content which may be present in the dye bath are eliminated (96 % of the liquids are eliminated)
- The Indigo can be concentrated up to a content of 10 %
- It is possible to purify the concentrated dyeing liquor to remove sulphur black particles and other impurities
- The high-purity concentrated indigo dyeing liquor is available for reuse after cleaning

Processing - without Recycling



Processing - with LoopTEC Recycling



Caustic Soda (NaOH) recycling

- Water and caustic soda (NaOH) can be cleaned and concentrated
- Caustic soda is responsible for at least 99 % of the salt burden in the ETP
- This method reduces costs of manufacturing
- The effluent can be separated and 100% of the caustic soda can be recycled and reused
- As a result almost no effluent reaches the ETP from this section because it is looped into reusable caustic liquid and reusable water

Advantages

- 95 % less water consumption from this process
- 95 % reduction of caustic demand
- 95 % less acids for neutralization
- 95 % less effluent volume
- 75 % energy savings
- 98 % salt effluent avoided

Mobile test system available with following functions

- Cleaning of wash water for re-use
- Filtration of dyebath and/or overflow rinse water for recovery of Indigo
- cleaning of polluted caustic soda solution (pH14)

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