Customer Success Story

Location: Mexico

Applied Membranes provides sustainable water treatment solutions for textile industry

Apparel manufacturing involves multiple stages like dyeing, washing, and finishing, which use significant amount of water. AMI customized solutions contribute to a more sustainable future.

Challenge

The textile industry heavily relies on water across its processes, from dyeing to finishing. However, this leads to substantial wastewater generation, necessitating efficient treatment before discharge.

A major textile and apparel manufacturer in Mexico was expanding its textile operations. It required a water treatment solution that was eco-friendly and met regulatory standards. The system needed to achieve an overall TDS level suitable for reuse and safe discharge.

The system would need to remove dissolved solids and impurities inherent in denim dyeing and washing processes.

TEZIUTLÁN
Cuidad de Bonanza

Lic. Carlos Enrique Peredo Grau
PRESIDENTE MUNICIPAL CONSTITUCIONAL, TEZIUTLAN, PUEBLA

Dr. Gil Dhawan
Director General de la empresa Applied Membranes Inc.

Serve the present to greet and welcome you, it is a pleasure for us to receive you in our city, in an event of great importance, which promotes the conservation of water and the care of the environment, guaranteeing the reuse of this vital resource, an issue that it's priority in my government, for the benefit of the Teziuteocs.

I'm sincerely grateful for your assistance and I recognize your working career in this topic, hoping in the future to collaborate together.

BEST REGARDS

Marzo del 2022

Solution

Applied Membranes designed and implemented a complete wastewater re-use Reverse Osmosis (RO) water treatment system, producing **50 GPM (12 m3/h)** of high-quality water.

The cutting-edge system is currently in operation with anaerobic, anoxic, and biomembrane processes working in conjunction with ozonation, activated carbon, and Applied Membranes RO water treatment.

The AMI system skid incorporates pretreatment filtration cartridges, media filters and chemical injection as well as clean-in-place and permeate flush loops to ensure a long membrane lifespan.

Key Components:

- Booster feed pump
- Greensand iron filters
- Antiscalant
- Chlorine injection
- Clean-in-place system

Results

The sustainability introduced by this AMI system has received government recognition for its positive impact on the Mexican economy, and for bringing the city into compliance with the River Atoyac protection judgement. AMI received an award for this project from the Presidente Municipal Constitucional, Tezutlan, Puebla.

The product water is used directly in boilers, cooling towers, paint processes, general use, and even human consumption. The RO reject is managed with evaporation for total water reuse, greatly reducing production costs and environmental waste for the factory.

Operational efficiency: AMI system improved operational efficiency, reduced downtime, and maintenance, and provided consistent water quality at the textile factory.

Cost savings: The system led to cost savings by minimizing water consumption and discharge.

Low maintenance: AMI system requires minimal maintenance—primarily filter changes and occasional membrane replacements.

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