Our Santej unit is equipped with a wastewater treatment plant which recycles up to 98% of our effluent.

WATER MANAGEMENT & CONSERVATION INITIATIVES

SANTEJ UNIT

Our Santej unit is equipped with a Wastewater Treatment Plant which recycles up to 98% of our effluent. Thus, the net withdrawal of the water from bore wells is limited to evaporation and consumption losses. But there is always room for improvement. If we cannot enhance the quantum of water conserved, we can conserve the amount of energy used to conserve this water. Thus, during the reporting period, we introduced technologies and process that make water conservation more energy-efficient.

INITIATIVE

ELECTRO OXIDATION PROCESS

To enhance energy efficiency and reduce sludge generation, Electro Chemical Oxidation was introduced as a pilot project in the ETP at Santej. In this process, the pollutants are broken down through oxidation at the anode and are transformed into non-toxic substances. Thereby, the effluent's COD (Chemical Oxygen Demand) is reduced substantially.

- This technology is simple, eco-friendly, energy-efficient and has low maintenance cost. The treated wastewater can be then effectively reused for dyeing application. Plans are afoot to scale up the process in future.

ONE BATH BIO-POLISHING AND DYEING

Bio-polishing is a finishing process that enhances fabric quality by decreasing the pilling tendency and fuzziness of (cellulose) knitted fabrics. In the regular process, the fabric undergoes a number of baths like pre-treatment, dyeing and bio-polishing. Thereafter it goes for finishing and is finally packed. Each bath consumes substantial quantities of water.

- We have devised and incorporated a sustainable process where bio-polishing and dyeing happen in the same bath saving water, steam, energy and time. Single bath bio-polishing and dyeing is carried out for almost 95% of piece dyed fabrics.

WE HAVE ESTIMATED THAT THIS PROCESS SAVES ABOUT 6.5 LITRE OF WATER PER KG OF KNIT FABRIC PROCESSED AND 21 TONNES OF STEAM PER MONTH.

WATER CONSUMPTION AT SANTEJ UNIT HAS BEEN REDUCED BY ENHANCING THE UTILISATION OF MACHINE EFFICIENCY AND THROUGH A COMBINATION OF STEPS SUCH AS:

Creating awareness about draining and flushing during changeover from dark shade to light shade, such that unnecessary flushing doesn't happen

Each machine operator has been trained to optimise utilisation of water; this training and behavioural change has helped us save around

300-400 m^3

of water per day

In sanforiser, the water required to cool the blanket is now being collected in trough and is reused in the process; resulting in savings of

150 m^3

water per day

NARODA UNIT

The Naroda unit is our oldest, and continues to remain one of the most important in terms of productivity. During the reporting period, a number of water conservation initiatives and equipment upgrades were commissioned at the unit.

The water recycling and reuse initiative at the rope dyeing machine results in savings of approximately

21,600

m^3/annum

INITIATIVES

RECYCLING OF WATER IN THE ROPE DYEING MACHINE

Water in the pre-wash zone was being drained after usage leading to inefficiency in water usage and leaving a room for improvement. It was observed that the water being drained is still of usable quality and can be used in-situ before finally being discharge. We modified the machine to recycle and reuse this water to the last wash tank resulting in savings of approximately 21,600 m^3/annum.

REUSE OF EOU SUCKER MULLER WATER

A condensate recovery pump was installed for the slasher dyeing machines to facilitate the reuse of water.

This resulted in the generation of a condensate quantity of

5,400

m^3/annum

at a temperature of 80°C.

RECYCLING WATER OF THE EOU MONFORT RUBBER

The water used for rubber cooling was previously being discharged to the ETP. This water is now being recycled in the same unit after cooling through cooling tower.

This process resulted in savings of approximately

28,800

m^3/annum

CONSERVATION BY MATCHING DEMAND AND SUPPLY

Raw water header pressure did not align to the drop in demand at process leading to wastage of water. A VFD (Variable Frequency Drive) was installed to synchronise the water pressure based on the demand.

This has resulted in water saving of

17,280

m^3/annum

BENGALURU UNIT

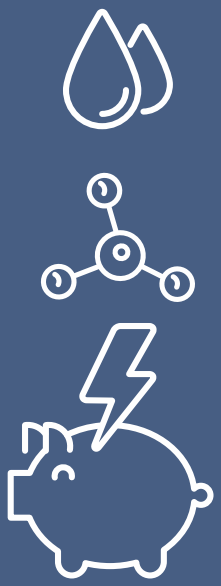
When it was commissioned in 2005, the Mysore Road Garmenting Unit at Bengaluru was the first such unit in the area to use 100% treated water sourced from the local municipality through a specially built pipeline. Even today, no groundwater is used at this unit. Yet, the scope for rationalising consumption always remains. During the reporting period, following technologies and processes were introduced to conserve water

INITIATIVES

E-SOFT NANOBUBBLE TECHNOLOGY

In a conventional softening process, textile products go through a washer containing water and chemicals before being spin dried and tumble dried. Each cycle consumes a huge quantity of water. Keeping in mind our need to rationalise water consumption, we have introduced 'e-Soft technology' at our Bengaluru unit.

This ensures 98% water savings, 80% chemical savings and 79% energy savings. e-Soft is based on nanobubble technology which not just negates the need for a separate bath, it also makes spin drying unnecessary and minimises the tumbler drying cycle.



e-Soft technology

ensures

98%
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80%
chemical savings

and

79%
energy savings

THE E-SOFT SYSTEM IS LOW MAINTENANCE, EASY TO CLEAN AND ENSURES ZERO DISCHARGE.

In comparison to the conventional softening process, e-soft presents the below benefits:

Conventional Process	e-Soft Technology
Three processes required: Washer, spin dry and tumble dry	Only one process required
10g of chemicals required per garment	**2g** of chemicals required per garment
5 litre water required per garment	**0.1 litre** water required per garment
0.38 kw/h power consumed per garment	**0.08 kw/h** power consumed per garment
Full discharge of **1,000 litre** as wastewater	**ZERO DISCHARGE**

Note: Calculation is done for a load of 100kg, were 1 garment is 0.5kg

REDUCING WATER CONSUMPTION THROUGH EIM

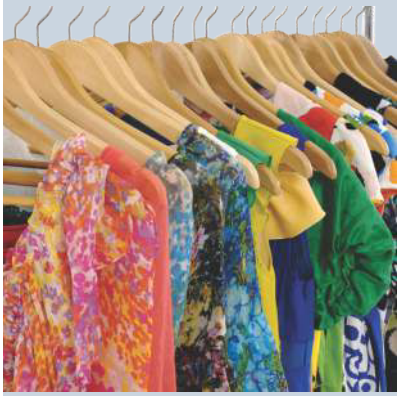
The Garment Unit at Bengaluru has been using Environmental Impact Measuring (EIM) software to monitor and control its washing activities since last three years. This software analyses the environmental impact of a garment finishing process across parameters such as:

- water consumption
- energy consumption
- chemical product use
- worker health

It also measures the impact of the total process and benchmarks the results against a defined environmental threshold.

This enables us to compare the environmental impacts of various finishing processes. Our customers can also request access to the environmental information of the washing formulas for their orders.

ANKUR TEXTILES, AHMEDABAD



As sustainability becomes an integral part of how we do business, it has been cascaded beyond our bigger business units, to smaller and newer units as well.

SEWAGE TREATMENT PLANT

During the reporting period, to decrease our dependency on groundwater, we commissioned a Sewage Treatment Plant (STP) with capacity to treat 1,500 kl sewage water every day at Ankur Textiles.

At this STP, we take sewage waste from nearby communities, outside our facility and treat it to salvage clean water for use in our process.

Currently, we are treating

800 kl

sewage water in the STP and are thereby saving around

650 kl

OF GROUNDWATER

In the near future, we are aiming to eliminate our dependence on groundwater completely.