Date:

**Name of the Company:**

**Type of Company:**

**Address:**

**Contact Person:**

**Phone No:**

**Email ID:**

**Year of Establishment/Year of Commencement of Production:**

***While providing information, wherever required, you can attach separate sheet(s)***

**1. FINANCIALS:**

1. Annual turnover of the company for last 3 years.
2. Amount spent towards implementing water conservation techniques/process/technology in last 3 years.

**Data is to be given for the year 2023-2024**

**2. TECHNICAL:**

1. **WATER CONSERVATION THROUGH OPTIMIZATION OF DYEING AND WASHING PROCESS**

*Water is a critical resource in the textile industry, particularly in processes such as dyeing, finishing, and washing, which consume significant amounts of water. As the global focus on sustainability increases, reducing water usage in these processes is becoming essential. Optimizing the dyeing and washing processes can help achieve substantial water conservation, while also improving operational efficiency and reducing environmental impacts.*

***Have you followed this type of system? Explain in brief.***

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1. **WATER CONSERVATION THROUGH AUTO-CONTROLLER DEVICE ON DYEING MACHINES**

*To improve efficiency, auto controllers with PLC systems have been retrofitted to dyeing machines. These controllers automatically regulate temperatures, circulate water input, and discharge in the jet dyeing machines, synchronizing the entire process according to the programmed instructions. This ultimately reduces the water, process time and manual errors.*

***Explain details of the machines which having the auto-controller device?***

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1. **WATER CONSERVATION THROUGH COUNTER-CURRENT WASHING TECHNIQUE OR ANY OTHER MODERN TECHNIQUE**

*This technique is employed for both water and energy saving. This method of water reuse in contrary to the traditional method of providing clean water at every stage of the wash cycle. Water and energy savings are related to the number of boxes provided with the counter flow.* ***Justify?***

***……………………………………………………………………………………………………….……………………………………………………………………………………………………….……………………………………………………………………………………………………….……………………………………………………………………………………………………….***

1. **WATER CONSERVATION THROUGH OPTIMIZED MACHINE CLEANING FREQUENCY**

*Mostly, machine cleaning is performed after running dark shades if there is a need to dye the light shade. Excessive and frequent machine cleaning due to urgency and change-over of the program is a waste of water. Elaborate on the system of dyeing machine cleaning. What is the frequency of dyeing machine cleaning? How many lots are run for dark shade continuously?* ***Explain in brief.***

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1. **WATER AND ENERGY CONSERVATION THROUGH VACUUM SUCTION SLIT ON STENTER MACHINE OR BY OTHER METHODS**

*The wet fabric passed through the stenter machine causes the evaporation of moisture (70–80%) in the form of chemical fumes in the industrial spaces, leading to environmental hazards and a higher cost of energy consumption. The innovation involves a vacuum suction slit that is mounted after a mangle that extracts the moisture (40–50%) from the fabric. This reduces the moisture percentage of another 40–50% in the fabric and also increases the drying efficiency of the stenter machine?* ***Explain in brief.***

1. **WATER CONSERVATION THROUGH MERGING SCOURING/ BLEACHING OR ANY TWO-THREE PROCESSES**

***……………………………………………………………………………………….……………….……………………………………………………………………………………………………….……………………………………………………………………………………………………….……………………………………………………………………………………………………....***

1. **WATER CONSERVATION THROUGH USE OF BEST PRACTICES IN TEXTILE PROCESSING**

*Have you taken any of these technologies that are responsible for water and energy savings? (Yes/No)*

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No.** | **Water saving technology** | **Yes/No** | **Remark** |
|  | Spray Gun instead of normal pipe for cleaning purposes |  |  |
|  | Exhaust dyeing with low salt reactive dyeing |  |  |
|  | Zero Liquid Discharge (ZLD) system for wastewater treatment |  |  |
|  | Use of e-flow machine for denim processing to reduce water, energy and chemicals consumption |  |  |
|  | Digital Printing |  |  |
|  | Continuous finishing range  |  |  |
|  | Implementation of “Recycled water bath” in rotary printing machines |  |  |
|  | Continuous rope washing technique after dyeing for knitted fabric |  |  |
|  | Enzyme pretreatment |  |  |
|  | Minimization of number of baths for reactive exhaust dyeing |  |  |
|  | Uses of enzymes |  |  |
|  | Reduces fresh water consumption by using ETP treated effluent in dyeing |  |  |
|  | Combined Scouring and Bleaching |  |  |

1. **WATER CONSERVATION THROUGH REUSES OF WATER**

*Reuse of water is the best way of water conservation. Some of the following methods are applicable to this. Have you followed anyone? If others (Please specify).*

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No.** | **Water reuses type** | **Yes/No** | **Remark** |
|  | Reuse of condensate water of steam line |  |  |
|  | Reuse of cooling water |  |  |
|  | Reuse of cooling water from dyeing machine |  |  |
|  | Reuse of RO condensate |  |  |
|  | Reuse of bleach bath |  |  |
|  | Reuse of final rinse water from dyeing for dye bath make-up |  |  |
|  | Reuse of soaper wastewater |  |  |

1. **WATER CONSERVATION THROUGH REDUCTION IN MATERIAL TO LIQUOR RATIO (MLR)**

*Reduction in MLR directly conserves water and enhances productivity. Elaborate in the given Table.*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Machine Name & No** | **Machine Capacity (Kg)** | **Loading Capacity (Kg)** | **Quality No** | **Actual MLR** | **Reduction in MLR** | **Implementation date** |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |

* How much water was saved after the reduction in MLR?

***………………………………………………………………………………………………………………………………………………………………………………………………………………………………***

**3. OTHER INFOMATION**

**3.1 LIST OF MACHINES IN PROCESSING DEPARTMENT**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Machine name** | **Category of machine\*** | **Machine capacity (kg)** | **No of machines** | **Main function of machine** | **Uses of water (yes/no)** |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |
| 13 |  |  |  |  |  |  |
| 14 |  |  |  |  |  |  |
| 15 |  |  |  |  |  |  |
| 16 |  |  |  |  |  |  |
| 17 |  |  |  |  |  |  |
| 18 |  |  |  |  |  |  |

\*Category of machine i.e. preparatory, yarn dyeing or fabric dyeing or hank dyeing, finishing etc

**3.2 DETAILS OF WATER CONSUMPTION (KL/DAY)**

|  |  |  |
| --- | --- | --- |
| 1 | Fresh Water |  |
| 2 | E.T.P Treated + R.O Treated |  |
| 3 | How much effluent is generated?  |  |
| 4 | Quantification of effluent discharge (yes/no) |  |

**3.3 WATER QUALITY PARAMETER**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr. No** | **Effluent** | **Unit** | **Raw effluent quality parameter details (Feed water)** | **Raw effluent quality parameter details (After ETP)** |
|  | Hardness | mg/l of CaCO3 |  |  |
|  | Alkalinity | mg/l of CaCO3 |  |  |
|  | PH | -- |  |  |
|  | COD | mg/l |  |  |
|  | BOD | mg/l |  |  |
|  | TSS | mg/l |  |  |
|  | TDS | mg/l |  |  |
|  | Colour | Hazeen |  |  |
|  | Turbidity | NTU |  |  |

**3.4 PRODUCTION CAPACITY**

|  |  |
| --- | --- |
| **What is the type of processing with quantity?**  | **Daily production****(mtr/day)** |
| Cotton  |  |
| Polyester |  |
| PC Blend |  |
| PV Blend |  |
| Acrylic |  |
| Wool |  |
| Silk |  |
| Others (please specify) |  |

**3.5 PROCESS FLOW CHART**

*Elaborate all process flow according to product/quality:*

***………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………***

**3.6 SPECIFY (IF ANY OTHERS)**

**………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

**4. GENERAL INFORMATION:**

1. *Does your company have any policy on environmental management? If yes, please enclose a copy.*

*...………………………………………………………………………………………………………………………………………………………………………………………………………………..*

1. *Has your company implemented an environmental management system (EMS)? (Yes/No)*

*...………………………………………………………………………………………………………………………………………………………………………………………………………………..*

1. *What effluent treatment system (ETP or ZLD) has been installed in your factory?*

*...………………………………………………………………………………………………………………………………………………………………………………………………………………..*

1. *How much effluent is being treated per day?*

*...………………………………………………………………………………………………………………………………………………………………………………………………………………..*

1. *Do you regularly monitor the quality of treated effluent? Please mention the frequency.*

*...………………………………………………………………………………………………………………………………………………………………………………………………………………..*

1. *What is the percentage of water that your company recycles in your processing house?*

*...………………………………………………………………………………………………………………………………………………………………………………………………………………..*

1. *Have you taken innovative measures to reduce water consumption in humidification plants? If yes, please provide brief details.*

*...………………………………………………………………………………………………………………………………………………………………………………………………………………..*

1. *Do your company have water harvesting arrangements? Please provide brief details?*

*...………………………………………………………………………………………………………………………………………………………………………………………………………………..*

1. *How much quantity of water……………. (KLD) have you been able to save during 2023-2024 by implementing latest techniques/technologies/processes and any others measures and savings as percentage of last year’s water consumption?*

*...…………………………………………………………………………………………………………………………………………………………………………………………………………………*