

# **DENIM WASHING**

## **1. INTRODUCTION:**

Denim fabric is manufactured using sized warp yarn that makes fabric harsh and rigid. It is difficult to wear such a fabric as the feel is not comfortable. Also, all indigo fabric looks the same but consumers want fashion and variety giving rise to demand for different types of chemical and other processes on stitched garment.

## **2. PRODUCT & ITS APPLICATION:**

Denim washing is done on the stitched garment and not on the fabric. The objective is to achieve soft feel and worn look of the apparel. Sometimes special effects like torn, excessive wrinkles, faded, or tie & dye etc. are also given to the garment.

## **3. DESIRED QUALIFICATIONS FOR PROMOTER:**

Graduate in any discipline. However, a degree in Chemistry or Chemical Engineering would help as the process involves handling of chemicals and knowledge of chemical reactions.

## **4. INDUSTRY OUTLOOK & TRENDS:**

Denim washing has made more technological advances than denim manufacturing. Since washing is driven by the need for comfort, fashion, creativity and novelty, the industry has experienced boom during last two decades. More modern and sophisticated equipments and processes are being introduced in the market to match the creativity of fashion and garment designers. While fashion keeps changing, the need to wash the denim and give it special effects would continue for many years to come.

## **5. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:**

Rarely is a garment made out of denim worn without further processing. The original fabric contains strong & deep dyes, sizing material and has rigid & abrasive feel. Such a fabric is harsh on body and does not give any attractive look. However, once softened, denim becomes very comfortable fabric to wear. As the use of denim in trousers, shirts, tops, shorts, caps, jackets, children wear etc. keeps increasing, so is the need for washing all these articles before selling to the customers.

## **6. RAW MATERIAL REQUIREMENTS:**

Depending on the desired look and feel of the garment, washing process needs different chemicals like Caustic Soda, Hydrogen Peroxide, Enzymes, Potassium Permanganate, Sodium Hypochlorite, Calcium Hypochlorite etc. In addition, sand, pebbles, pumice stones etc. are required to give desired stone wash or sand blasting effects. Also needed are fuel for small boiler (oil or gas or coal etc.) and Effluent Treatment Plant. All these chemicals and fuels are easily available with Dyes & Chemicals producers.

## **7. MANUFACTURING PROCESS:**

There are several wash types for Denim garments. Marketers keep coming up with new wash effects every now and then in sync with demand for fashion. Some well-known wash types are Enzyme wash, Bleach wash, Stone wash, Caustic wash, Tinting, Snow wash, Sand blasting etc. The process begins with scouring or desizing wherein the garment is thoroughly rinsed to remove excessive sizing material. Softening agents are used to give fabric a soft feel. Once dried, the garment is then subjected to additional processes as specified by the customer. The dosage of the chemicals, the temperature cycle, the time duration and handling of garments during the process assume importance as results can vary drastically if process parameters are not observed. After every wet process, the garments are drained, dried and cooled before subjecting these two additional processes, if any. At the end, the garments are loaded in bulk polythene or HDPE bags and delivered to the customers.

## 8. MANPOWER REQUIREMENT:

The enterprise requires 12 employees as detailed below:

Sr. No.	Designation of Employees	Monthly Salary ₹	Number of employees required	Annual cost ₹. in lacs
1	Machine Operators	12,000	5	6.84
2	Helpers	8,000	3	2.88
3	Production supervisor	25,000	1	3.00
4	Accounts Executive	15,000	1	1.80
5	Stores Assistant	12,000	1	1.44
6	Office Boy	8,000	1	0.96
	<b>Total</b>		12	16.92

## 9. IMPLEMENTATION SCHEDULE:

The project can be implemented in 3 months' time as detailed below:

Sr. No.	Activity	Time Required (in months)
1	Acquisition of premises	1
2	Construction (if applicable)	-
3	Procurement & installation of Plant & Machinery	3
4	Arrangement of Finance	2
5	Recruitment of required manpower	2
	Total time required (some activities shall run concurrently)	3

## 10. COST OF PROJECT:

The project shall cost ₹ 40.52 lacs as detailed below:

Sr. No.	Particulars	₹ in Lacs
1	Land	-
2	Building	-
3	Plant & Machinery	24.65
4	Furniture, Electrical Installations	5.00
5	Other Assets including Preliminary / Pre-operative expenses	2.50
6	Margin for Working Capital	8.37

	<b>Total</b>	<b>40.52</b>
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### 11. MEANS OF FINANCE:

Bank term loans are assumed @ 60% of fixed assets. The proposed funding pattern is as under:

Sr. No.	Particulars	₹ in Lacs
1	Promoter's contribution	21.23
2	Bank Finance	19.29
	<b>Total</b>	<b>40.52</b>

### 12. WORKING CAPITAL CALCULATION:

The project requires working capital of ₹ 14.45lacs as detailed below:

Sr. No.	Particulars	Gross Amt	Margin %	Margin Amt	Bank Finance
1	Inventories	11.94	40%	4.78	7.17
2	Receivables	6.56	40%	2.63	3.94
3	Overheads	4.31	100%	4.31	-
4	Creditors	-8.36	40%	-3.34	-5.02
	<b>Total</b>	<b>14.45</b>		<b>8.37</b>	<b>6.9</b>

### 13. LIST OF MACHINERY REQUIRED AND THEIR MANUFACTURERS

The key machines are industrial washing machines, boiler and dryers. Additionally, effluent treatment plant is also required. Details of important machinery are given below:

Sr. No.	Particulars	UOM	Qty	Rate (₹)	Value (₹ in Lacs)
	<b>Plan &amp; Machinery equipments</b>				
<b>a)</b>	<b>Main Machinery</b>				
i.	Sample Washing Machine	Nos	2	30,000	0.60
ii.	Side Loading Washing Machine	Nos	5	1,00,000	5.00
iii.	Top Loading Washing Machine	Nos	5	1,00,000	5.00
iv.	Hydro Extractor	Nos	2	75,000	1.50
v	Steam Dryer	Nos	3	75,000	2.25
vi.	Baby Boiler	Nos	1	2,00,000	2.00
Sr. No.	Particulars	UOM	Qty	Rate (₹)	Value (₹ in Lacs)
<b>b)</b>	<b>Ancillary machinery</b>				

i.	Submersible Pumps	Nos	2	15,000	0.30
ii.	Compressor	Nos	1	50,000	0.50
iii.	Effluent Treatment Plant	LS	1	2,50,000	2.50
iv.	Trolleys	LS	1	2,00,000	2.00
	<i>sub-total Plant &amp; Machinery</i>				<b>21.65</b>
	<b>Furniture / Electrical installations</b>				
a)	Inspection tables	Nos	2	25,000	0.50
b)	Office & Store furniture	LS	1	1,50,000	1.50
c)	Desktop computer & printer	Nos	2	50,000	1.00
d)	Storage system	LS	1	2,00,000	2.00
	<i>sub total</i>				<b>5.00</b>
	<b>Other Assets</b>				
a)	Rent Deposits		2	1,25,000	2.50
	<i>sub-total Other Assets</i>				<b>2.50</b>
	<b>Total</b>				<b>29.15</b>

Industrial Washing machines are available from following suppliers. They have offices across several cities in India. There may also be other local machinery manufacturers offering alternate machines of various makes and models.

- IIGM Private Limited  
Springdale No. 51,  
Residency Road, 3rd cross,  
Bangalore 560025  
[www.iigm.in](http://www.iigm.in)
- Stefab India Ltd  
39/14, Netaji Subhash Vihar  
Tikri Kalan, Rohtak Road  
New Delhi 110041  
[www.stefab.com](http://www.stefab.com)
- Welco Garment Machinery Pvt Ltd  
T-19/6, DLF Phase III,  
Gurgaon, Haryana  
[www.welcogm.com](http://www.welcogm.com)
- Ramsons India  
118/2 Doddakannelli Village, Varthur Hobli  
Sarjaupur Road, Opp.: Karnataka Granite Showroom  
Bangalore 560 037  
[www.ramsonsindia.com](http://www.ramsonsindia.com)

#### 14. PROFITABILITY CALCULATIONS:

Sr. No.	Particulars	UOM	Year-1	Year-2	Year-3	Year-4	Year-5
1	Capacity	%	60%	70%	80%	90%	100%
2	Sales	₹ in Lacs	136.08	158.76	181.44	204.12	226.80
3	Raw Materials & Other direct inputs	₹ in Lacs	100.76	117.55	134.34	151.14	167.93
4	Gross Margin	₹ in Lacs	35.32	41.21	47.10	52.98	58.87
5	Overheads except interest	₹ in Lacs	25.85	25.85	25.85	25.85	25.85
6	Interest	₹ in Lacs	2.91	2.91	2.91	2.91	2.91
7	Depreciation	₹ in Lacs	2.36	2.36	2.36	2.36	2.36
8	<b>Net Profit before tax</b>	₹ in Lacs	<b>4.19</b>	<b>10.08</b>	<b>15.97</b>	<b>21.85</b>	<b>27.74</b>

The above calculations are based on assumed washing charges varying from ₹ 50 to ₹ 125 for various wash effects. The key raw material is assumed at a cost range of ₹ 25 to 75 per garment. Electricity tariff is assumed at ₹ 8 per Kwh.

#### 15. BREAKEVEN ANALYSIS:

The project shall reach cash break-even at 48.86% of projected capacity as detailed below:

Sr. No.	Particulars	UOM	Value
1	Sales Realization	₹. In Lacs	226.80
2	Variable costs	₹. In Lacs	167.93
3	Fixed costs incl. interest	₹. In Lacs	28.77
4	BEP = FC/SR-VC x 100 =	% of sales	48.86%

#### 16. STATUTORY/ GOVERNMENT APPROVALS

The project does not require any specific government approval. Registration with MSME is optional. An Entrepreneur may be required to obtain Shops & Establishment Registration and Professional Tax registration by local Municipal authorities. Registration under Factories Act, Provident Fund Act and ESI provisions would be required depending upon the number of employees, the location, the level of mechanization and the age of the enterprise. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

#### 17. BACKWARD OR FORWARD INTEGRATION:

The washing and chemical processing machines can also be used as commercial laundry. The Entrepreneur can explore opportunities in such markets in order to grow his sales.

## **18. TRAINING CENTERS/COURSES**

Udyamimitra portal ( link : [www.udyamimitra.in](http://www.udyamimitra.in) ) can also be accessed for handholding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

### **Disclaimer:**

Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.