

## BALOTRA FOR DYED POPLIN AND CAMBRIC

Balotra has become a known place in the country to source the requirement of dyed rubia, cambric, lining cloth and poplin for ladies blouses and petticoats in the country. Dyed fabric is produced in thousands of shades and supplied to various parts of the country.

Balotra products can be seen even in interior villages in India. Printed fabrics and dress material meets the requirement of merchant exporters. It is a cluster, which has established its identity for dyed poplin cambric and rubia, over the country. Some brief details of this cluster are given herein below :-

### (i) Introduction :

India has been renowned for its printed and dyed cotton fabrics since 12<sup>th</sup> century and the creative processes flourished as the art and craft received royal patronage. Rajasthan has been on the forefront, with the people of Rajasthan having interest to add colours in their life, be it their camels, walls, huts or their clothes. Balotra has been one such place, the centre of coloured crafts on textiles. However with the growth in civilisation and changing demand of market, it has now transformed into a famous centre for supply of dyed rubia, cambric and poplin for ladies blouses and petticoats throughout India.

About 90% of petticoat cloth for Indian market is sourced from Balotra.

## 2) Geographical location :

Marwar state was divided into five districts, after independence. These were Jodhpur, Pali, Barmer, Jalore and Nagore, with some areas of erstwhile Marwar being transferred to Jaisalmer, Sirohi and Ajmer districts. Balotra is a subdivisional town of district Barmer and is located at a distance of about 110 kms from Jodhpur towards Barmer. It has taken a big leap forward in the wake of industrial development in the State. An industrial area over 170 acres of land has been developed by the Rajasthan State Industrial Development and Investment Corporation (RIICO), 3 kms away from right bank of Luni river. In this industrial area, small scale units, mainly textile dyeing and printing units have been set up.

### DYEING UNITS AT BALOTRA



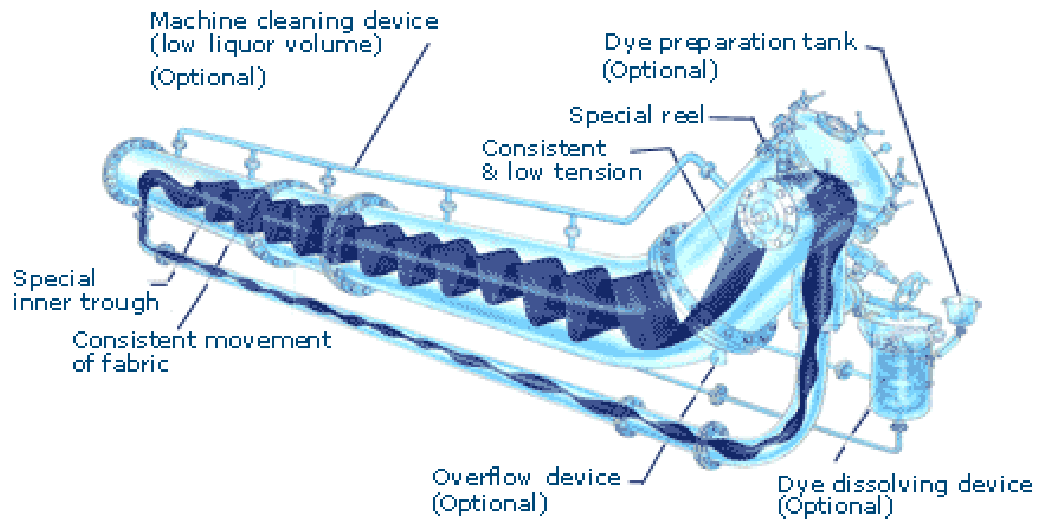
### 3) Industrial Profile :

S.No.	Type of Units	Number	Capacity	Approximate investment
1.	Erstwhile SSI hand processing units, now having hand processing machines and locally fabricated machines operated by electric power	380	250 million metres per annum	Rs.760 million
2.	Power Processing units	42	450 million metres per annum	Rs.1260 million
Total		422	700 million metres per annum	Rs.2020 million

- i) Out of 42 power processing units, 16 are engaged in the process of finishing by using hot air stenters and rest are engaged in the process of dyeing.
- ii) 70% production of about 80 units in the first category above, is screen printed fabrics for exporters in Mumbai, Delhi, Bangalore, Chennai and Jaipur. Rest 30% production of these 80 units is for domestic market.
- iii) About 20% of the total production of processing units in Balotra caters the requirement of exporters and 80% is for domestic consumption.
- iv) For local market, the main products are dyed cotton, rubia, cambric and poplin for ladies blouses and petticoats and dyed and printed dress material.

- v) Industry in Balotra gives direct employment to about 15000 persons and indirect employment to another 20000 persons.
- vi) Process technology is primitive to medium.
- vii) Power operated processing units have installed hot air stenters upto 5 chambers, Jet dyeing machines and Flat bed printing machines.

**FLOW DIAGRAM OF JET DYEING MACHINE**



**Major machinery and equipments are as under in three phases of industrial area**

	1 <sup>st</sup> Phase	2 <sup>nd</sup> Phase	3 <sup>rd</sup> Phase	Total
i) Jiggers	514	561	736	1811
ii) Tables	481	162	13	656
iii) Jet dyeing (U Type)	4	47	17	68

**4) Product Mix :**

Cotton dress material, dyed poplin, cambric and rubia of following specifications of grey fabric :-

**Price range**

- Cotton poplin 

<u>34 x 34</u>	
70 x 48	38 - 39" width
	Rs.12-20/mtr

34 x 34  
80 x 52

- Cotton cambric

40 x 60  
60 x 52      38" to 50" width  
Rs.20-24/mtr

60 x 60  
80 x 72

**CAMBRIC FABRIC**



- Cotton lungies

<u>40 x 40</u>	38" width
80 x 80	Rs.24-50/pc

- Bed sheets

<u>30 x 30</u>	62" to 90" width
68 x 68	Rs.60-300/pc

- Rubia

<u>34 x 34</u>	(High twist)
72 x 72	
<u>34 x 34</u>	(High twist)
88 x 88	Rs.20-35/mtr 39" width
<u>40 x 40</u>	
72 x 72	

- Printed cloth

<u>24 x 24</u>	
56 x 56	
<u>34 x 34</u>	48" to 50" width
64 x 68	Rs.25-50/mtr
<u>34 x 34</u>	
64 x 60	

Other products are dyed lining, shirting and suiting of cotton and synthetics in the price range of Rs.6 to 15 per metre for lining cloth (30 - 40 gms per square meter quality), Rs.15 - 25 for shirting (60 - 80 gms quality) and Rs.30 to 70 per metre for suiting (150 - 200 gms quality). Main production is cotton based. Grey fabric is sourced from Erode, Tirupur, Malegaon, Mumbai, Burhanpur, Ichalkaranji etc. Many Balotra dyers have installed looms at these places, bring material from

there, process at Balotra and sell in domestic market or to exporters.

5) **Process sequence :**

i) Desizing - mercerising - bleaching - Dyeing / printing - starching / finishing - packing - for cotton goods.

ii) Desizing - scouring - Dyeing / Printing - Finishing - packing for synthetics.

The process of bleaching and mercerizing is done at Bithuja village, about 15 kms from Balotra. More commonly, the processes of dyeing, printing and finishing are carried out as single operation by units at different locations.

**Pollution prevention strategies :**

Rajasthan Pollution Control Board encourages to set up units in RIICO industrial area and to join Common Effluent Treatment Plants (CETPs) set up there. The status of various CETPs in Balotra is as under :-

S.N o	Location	Capacity	Capital cost	Effluent Types
1.	Jassol	2.5 MLD	Rs.28.9 Mn	Dyeing, printing and washing (upto secondary level treatment)
2.	Balotra (Unit - I)	6 MLD	Rs.29.5 Mn	- do -

3.	Balotra (Unit - II) (same location)	12 MD	Rs.69.7 Mn	- do -
4.	Bithuja	30 MLD	Rs.115 Mn	Washing effluents (only natural treatment on account of open space and plenty of sunlight)

CETP UNDER CONSTRUCTION



These CETPs have been set up with financial assistance under the erstwhile Textile Centres Infrastructure Development Scheme (TCIDS) of Govt. of India, Ministry of Textiles. The operating cost upto secondary level treatment is in the range of Rs.6 - 7 per cubic metre (labour + chemicals + Electricity). Operating cost is managed through collection of specified charges based on the number of bales processed by an unit. Trusts under the chairmanship of District Collector look after the affairs of the CETPs.



6) Problems and possible remedies :

i) Water problem :

Like other processing clusters in India, processing cluster in Balotra has been developed due to its proximity with a river, Luni. This river has now become a seasonal river and processors can hardly depend on this river for their water requirement. Rather, the river has become an easy source for scattered processing units to discharge their effluents in an unauthorised manner, which gets accumulated there and pollutes river water when it starts flowing in rainy season.

## DYEING UNITS EFFLUENT IN LUNI RIVER



Balotra Municipal Corporation is hardly able to meet even 5% water requirement of processing units of Balotra. Major requirement is managed through tankers that are bringing water from the villages 15 - 25 kms away from Balotra. This provides scope to tanker lobby to exploit the situation at the cost of processors and the villagers, whose water table is going down day by day. This borewell water costs upto Rs.1000/- per tanker and is very hard having TDS of around 5200 PPM, affecting the quality of processed fabric.

Govt. of Rajasthan is in the process of undertaking a project of 50 MLD water from Indira canal from Mohangarh, about 200 kms from Balotra, for domestic water supply, at a project cost of Rs.3650 million. Industry's requirement could be hardly 15 MLD and could be considered by the Government under this project. To mitigate the problem of hardness of water brought from nearby villages, water softening plants may be set up.

ii) Power supply and scope for setting up of powerloom units :

Total power requirement of processing industry in Balotra is around 3600 H.P. Power supply is erratic and power cost is high. Rs.14000 million worth fabric comes from various powerloom clusters in the country. Powerloom clusters at other places are benefited by subsidy in power tariff and other concessions offered by respective State governments. This is the reason, powerloom units are not successful at Balotra. Around 8 powerloom units comprising about 100 looms have been closed for uneconomical operation due to high power tariff. Some of the processors of Balotra have set up their powerloom units in various powerloom clusters such as Bhiwandi, Ichalkaranji, Malegaon etc., for economy of operation. However transportation of fabrics from various powerloom clusters and other overheads, affect the economy of operation of processing units.

Unified power tariff, solar power projects, wind power projects at Jaisalmer and encouragement to set up powerloom units / Textile Park at Balotra could improve the situation.

ii) Technological improvement :

Primitive technology and lack of scientific knowledge of dyes, chemicals, process parameters,

quality and professional input, limits the improvement in quality, productivity and economy. Mercerising is done in jiggers which not only wastes Caustic Soda and increases pollution but also gives practically no mercerising effect. The way, the process is carried out here could not be called mercerisation technically. It is in fact causticisation. Similarly caustic impregnation for 24 hours for scouring purpose could damage the fabric and may not result in proper scouring. Exposure visits to quality clusters, improved technology machines and processes, creation of awareness for quality and technological upgradation may improve the situation. Conversion of cold tables to hot, may improve the sharpness of prints and productivity due to quick drying. An investment of approximately Rs. One lakh may be enough for conversion of one cold table to hot. The units could upgrade to appropriate technology machines, such as appropriate mercerizing machines, pressure scouring machines etc for cotton goods, by availing the benefit of Technology Upgradation Fund Scheme (TUFS) of Govt. of India, Ministry of Textiles, wherever applicable.

**iv) Poor infrastructure :**

Poor road and drainage facility affects the production schedule, working atmosphere and smooth transportation of goods and services. Various schemes of Central and State Govt. could be utilized to improve such infrastructure facilities.

**v) Lack of trained manpower :**

The industry should train their operatives by imparting scientific knowledge of dyes, chemicals, processes, quality and productivity and should also employ technically qualified persons and professionals for input of improved techniques of production and management.

vi) Quality control :

The units should install minimum testing equipments in-house as well as should get their products tested for quality from established testing laboratories.

vii) Product diversification :

In order to ensure that industry may not collapse, once the conventional products stop moving, the unit's management should work in the direction of product diversification and product improvement by carrying out market study of their products and their performance.

Prepared by Ram Asrey Lal, Dy Director (Chemical Processing), under the guidance of the Textile Commissioner, Mumbai and material based on :

The survey of processing units by R.O. Noida and discussion with the representatives of processing industry, CETPs and associations at Balotra.