PROJECT PROFILE ON ZUGGRAIN LEATHER

PRODUCTION CAPACITY	:	30,000 pcs. of buffalo hides per Annum
QUALITY AND STANDARD	:	BIS: 578 specification
NO. OF WORKING DAYS/ANNUM	:	300 Days on single shift basis
MONTH AND YEAR OF PREPARATION	:	July, 2005

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SISI, KOLKATA

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1. INTRODUCTION:

Zuggrain leather is a type of upper leather made out of heavy hides by printing in a Hydraulic Press with Zuggrain Print. The printed leather is called zuggrain leather due to its zuggrain print on the grains side of the finished leather. Zuggrain leather is an important raw-material of protective apparel for workers/staff of Mines/Industry/Defence/Para Military Forces etc. Zuggrain leather is mainly used for manufacturing various types of Safety Shoes and Boots. As the zuggrain leather is used for making the upper for safety shoes & boots, so this type of leather should have good tensile strenth and proper resistance to heat and chemical. Generally, the zuggrain leather is made from thicker low quality buffalo cow/hides by chrome tanning process. The zuggrain leather from buffalo hides is mainly manufactured in Northern Region of our country, because of huge availability of Heavy Buffalo/cow hides in these regions. However, the zuggrain leather is also manufactured at Kolkata tanneries by the Chinese and the some local tanneries. The final thickness of the zuggrain leather which is used for manufacturing safety shoes/boot upper generally varies between 1.8 to 2.2 mm. Here the project has been prepared based on low quality thick buffalo hides.

2. MARKET POTENTIAL:

The demand for quality zuggrain leather is increasing with the rising demand of safety shoes and boots both for Defence /Para Military /NCC and other Industrial purposes. There is also a very good demand for export of quality zuggrain leather. The zuggrain leather is used for manufacturing of safety shoes & boots used in Coal Mines, Heavy Industries, Power Houses

and Chemical Plants. The demand of zuggrain leather is increasing steadily with the growth and development of Mines, Industries, Heavy Engg. Industries, Steel Plants, Power Houses and Defence activities. Shoe uppers and boot uppers and complete shoes/boots made out of quality zuggrain leather are also being exported to a limited quantity from our country. The major quantity of zuggrain leather is manufactured in Northern India and in Kolkata, quite a good no. of tanneries are manufacturing good quality zuggrain leather. As there is a good demand for quality zuggrain leather both in domestic and export market so there is a good scope for setting up a zuggrain leather manufacturing unit. In this project the zuggrain leather will be manufactured from thicker and poor quality buffalo hides.

3. BASIS & PRESUMPTION:

The profile is drawn on the basis of following presumption :

1) Working hours/shift = 8 hours.
2) No. of shift/day. = 1 Shift
3) Working days = 300 days
4) Total no. of working hours. = 2400 Hrs.
5) Working efficiency = 75%
6) Time period for achieving capacity utilisation. = 3rd year from the date on which production max. will be started.
7) Labour charges = As per min. wage Act. of State Govt.
8) Margin money. = 25% of capital Investment.
9) Rate of interest Capital. = 15%
10) Pay Back Period = Around 6 years

Value of machinery & equipment is estimated on the basis of prevailing cost of the market. Some work will be done on job work basis.

4. IMPLEMENTATION SCHEDULE :

Nature of Activities	Time Period in Month(Estimated)
1. Scheme preparation & approval	0 – 1
2. SSI provisional registration	1 - 2
3. Sanction of loan	3 – 4
4. Clearance from pollution control Board	3 – 4
5. Placement of order fro delivery of m/c.	4 – 5
6. Installation of machines	6 – 7
7. Power connection	6 – 7
8. Trial run	7 – 8
9. Commencement of production	9 onwards.

5. TECHNICAL ASPECTS :

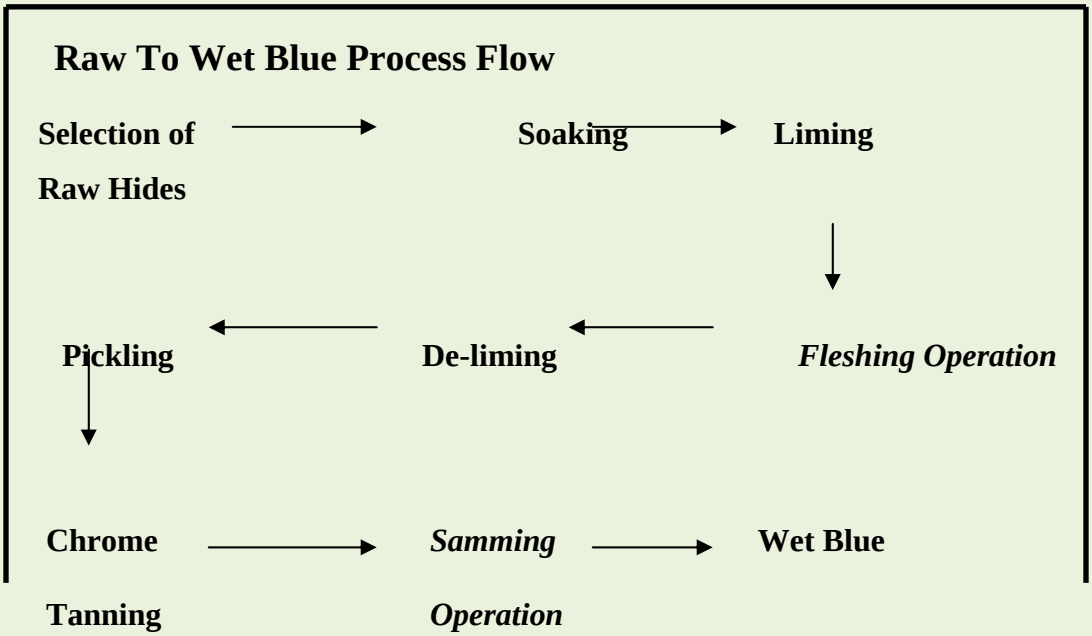
Production details & Process of manufacture :

Wet salted buffalo hides free from heavy fley cuts and major defects average weight of 20 kgs. per pcs. is the raw-materials for the manufacturer. The main process are soaking, unhairing and liming, fleshing, deliming, scudding, pickling and chrome tanning. Tanned buffalo hides are called wet blue buffalo hides and are kept on aging for 3-5 days.

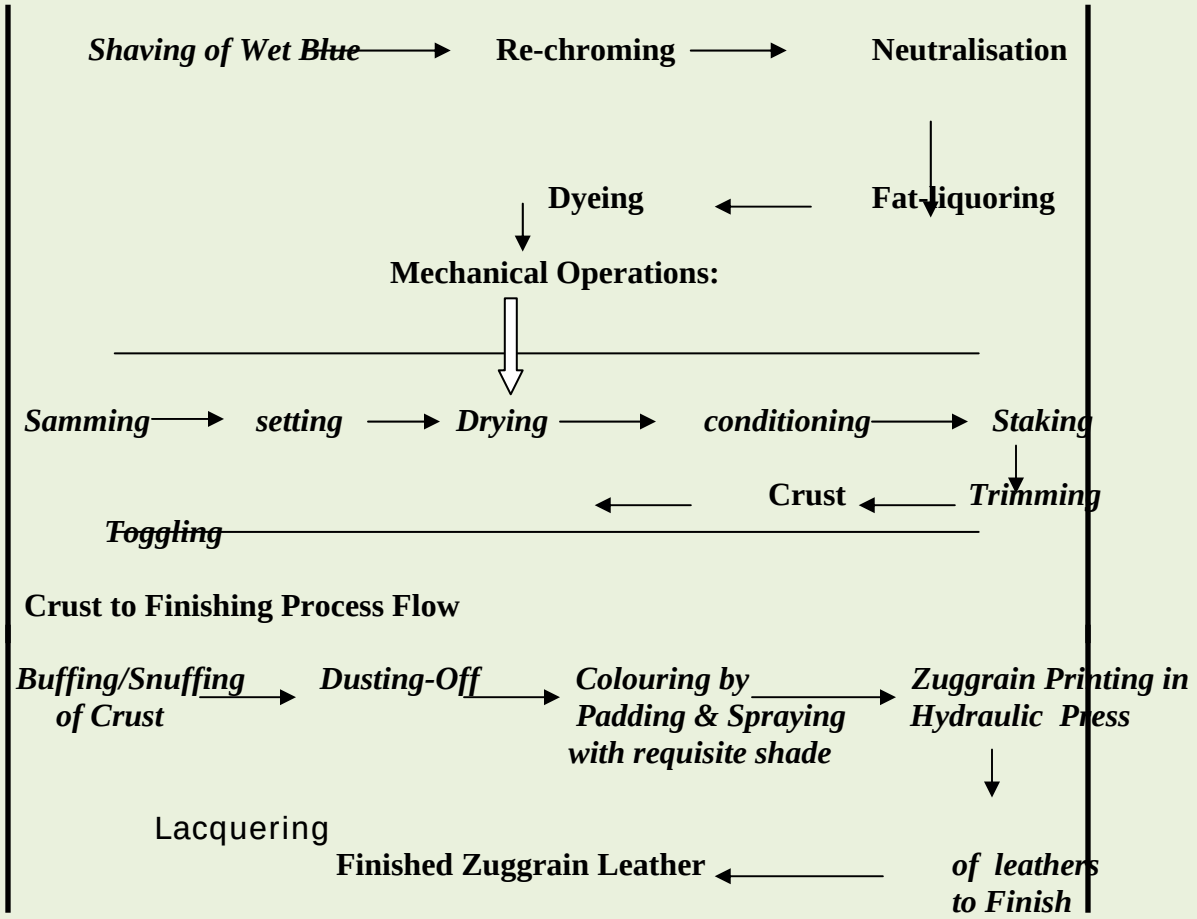
The chrome tanned hides are selected for different types of leather and those selected for zuggrain upper leather are sammed, cut into sides and splitted to a uniform thickness by spliting machine. The splitted sides are then shaved by a shaving machine to maintain a uniform thickness throughout the sides. The shaved sides are then neutralised, fat-liquired and dyed to get a desired colour in a wooden drum by adding various chemicals. Then the sides are piled in a horse for overnight. Next day, the sides are sammed, set and dyed. Then they are conditioned, staked, nailed. After nailing, it is trimmed, buffed on both grain and flesh sides. The buffed side leathers are then padded with pigment season and sprayed with colour (Pigment season). The sprayed leather sides are then printed with zuggrain print in Hydraulic Press. The lacquor solution is sprayed over the printed leather to stop colours bleeding and to get wet rub fast property. Then it is measured either by hand or my M/c. in sq.mt. or in sq.ft. After measuring the final selection in done and sold as per selection grade.

6. Process Flow Chart:

Process Flow Chart for Juggrain Leather



Wet Blue to Crust Process Flow



Crust to Finishing Process Flow

7. PRODUCTION CAPACITY (PER ANNUM):

(a) **Quantity -** Estimated production capacity 2500 pcs. of Zuggrain Leathers from buffalo hides per month of average area 40 sq. ft./pcs. 30,000 pcs. of Zuggrain Leathers per annum. Total =12 lakh Sq.ft.

(b) **Value** - Rs. 6,72,50,000/-

8. MOTIVE POWER: – 185 H.P.

9. POLLUTION CONTROL:

Since the effluents coming out of the tanning processes are very toxic and they are likely to affect the flora and fona of water if disposed into river, the effluents are to be treated as a

measure of pollution control. Hence, a proper effluent treatment plant is to be installed in the tannery to treat the effluents and make the treated water go into the river.

In general, the operations mainly involved in it are :

1) Screening;
2) Sedimentation;
3) Settling and filtration and evaporation (solar).
4) Chrome Recovery Plant

The **estimated cost** for the effluent treatment plant would be around **Rs.15.00 Lakh.**

The **Running cost** of effluent treatment plant per month is estimated to be around **Rs.20,000/-**

10. ENERGY CONSERVATION:

There exits a lot of scope of energy conservation in the tannery, since a lot of energy is spent in the tannery in the form of electricity and fuel. As a measure of energy conservation, the workers should be properly trained to operate the machinery as and when required and maintain them in good condition and check the wastage of energy. They should be made cautious to maximise the output with minimum consumption of energy. The electrical lines should be properly installed and checked at regular intervals. The boiler, if any, should be properly maintained and misuse of fuel in the form of wood, petrol/diesel/ kerosene should be avoided.

11. FINANCIAL ASPECTS :

Fixed Capital :

(A)Land&Building:	**Amount(Rs.)**
Land -1/2 Acres. @ Rs.1,00,000/- per Acre	1,00,000
Built-up Area :	
(i) Office, stores etc. 400sq.mtr. @ Rs.4500/=per sq.mtr.	18,00,000
(ii) Working shed 800sq.mtr. @ Rs.3500/=	28,00,000
Total of land & building (Rs.)	33,50,000

B) Machinery & Equipments:

S.No.	**Description**	**Qty.(nos.)**	**Ind./Imp.**	**Rate(Rs.)**	**Amount(Rs.)**
Production Unit					
1)	Wooden paddle of vat size 8'x 8'one 10 HP Motor, Starter and Accessories.	4	Ind.	100000	4,00,000

2)	Tanning Drums 8"x 6" with 10 H.P Motor, Starter and Accessories.	3	Ind.	2,000000	6,00,000
3)	Fleshing Machines (2700mm) with 40HP Motor, Starter etc.	1	Ind.	5,00,000	5,00,000
4)	Shaving M/c, 12" width with motor & starter. 7.5 H.P	1	Ind	2,00,000	2,00,000
5)	Setting out M/c, 2000mm working width motor & starter. 25 H.P	1	Ind	3,00,000	3,00,000
6)	Splitting Machine (2700mm) with 25 HP Motor, Starter etc.	1	Imp.	15,00,000	15,00,000
7)	Slow comb staking M/c. with motor & starter. 5 H.P	1	Ind.	1,00,000	1,00,000
8)	Buffing M/c. with Motor & Starter. 5 H.P	1	Ind.	1,00,000	1,00,000
9)	Spray booth with gun and air compressor. 5 H.P	1	Ind.	1,00,000	1,00,000
10)	Weighing scale (500kg.,100kgs,& 5 kgs.)	3	Ind.	L.S	50,000
11)	Tools & Equipments			L.S.	2,00,000
12)	Electrification & Installation (Estimated at 10% on above)				. 3,80,000
13)	Diesel generating set 50 KVA Cap. with standard accessories.	1 No.			3,00,000
14)	Office Equipment, Furniture & Fixture & Misc. Assets etc.				1,00,000

Plant & Machinery **Rs. 47,50,000/-**

C) Pre-operative expenses : Rs. 1,00,000/-

Total Fixed Capital (A+B+C) Rs.82,00,000/-

12) Working Capital(Per month)

i) Cost of Personnel(P.M):

Designation		No.	Salary(Rs.)	Total(Rs.)
1)	Technician	1	25,000	25,000
2)	Supervisor	1	10,000	10,000
3)	Clerks	1	5,000	5,000
4)	Skilled Workers	5	5,000	25,000
5)	Semi-skilled Worker	5	3,000	15,000
6)	Peon/watchman	2	2,500	5,000
				85,000
			Add: 20% perquisites:	17,000
			Total(Rs.)	**1,02,000**

ii) Raw-materials (Including Packing Materials)/ P.M :

	Particulars	Indigenous or imported.	Quantity	Rate(Rs.)	Value(Rs.)
1.	Wet salted buffalo hides (Average area 40 sq.ft.)	Ind.	2500 pc. (1,00,000sq.ft.)	1,200/pcs.	30,00,000
2.	Cost of Chemicals	Ind.		15/sq.ft.	15,00,000
				Total	**45,00,000**

iii) Cost of Utilities (P.M):

1.	Power	50,000
2.	Fuel –	15,000
3.	Water	5,000
	Total	**70,000**

iv) Other expenses (P.M):

• Expenses for ETP	20,000
• Transport expenses	15,000
• Stationery, postage, telephone & telegram	5,000
• Legal & other fees	2,000
• Packing	5,000
• Insurance	5,000
• Repairing & Maintenance	10,000
• Consumable stores	15,000
• Sales expenses	5,000
• Advertisement & Publicity	1,000
• Misc. expenses	5,000
Total	**88,000**

13. Total Working Capital (Per month): **Amount(Rs.)**

(i)	Personnel	1,02,000
(ii)	Raw-Materials	45,00,000
(iii)	Utilities	70,000
(iv)	Other Expenses	88,000
	Working Capital Per month (Total)	47,60,000

Working Capital for 3 months = 3 x Rs.47,60,000/- = **Rs. 1,42,80,000/-**

14. Total Capital Investment : **Amount(Rs.)**

i) Fixed Capital	82,00,000
ii) Working Capital for 3 months	1,42.80,000
Total	**2,24,80,000**

15. **Financial Analysis:**

1. Cost of Production (per year)

1. Total Recurring Cost	5,71,20,000
2. Depreciation on Building @5%	1,67,500
3. Depreciation on machinery & equipment @ 10% on Rs. 38,00,000/-	3,80,000
4. Depreciation on Other Assets @ 20% on Rs.6,50,000/-	1,30,000
5. Interest on Total Investment @ 15% on Rs. 2,24,80,000/-	33,72,500

			Total	**6,11,70,000**

2. Turn Over(Per Year)

S.No.	**I t e m s**	**Qty.**	**Rate/Rs./sq.ft.**	**Value in Rs.**
i)	By selling Finished Zuggrain Leather.	11,00,000	60/sq.ft	6,60,00,000
ii)	By sale of wet blue splits and waste			12,50,000
			Total	**6,72,50,000**

3. Net Profit per Annum: **Rs.60,80,000**

4. Profit to Sales Ratio (%)

$$\frac{\text{Net profit per year x 100}}{\text{Turn Over per year}}$$ **9.04%**

5.. Rate of Return(%):

$$\frac{\text{Net Profit per year x 100}}{\text{Total Capital Investment}}$$ **27.04%**

6. Break Even Point(%) :

i) Fixed Cost (Per Annum): **Amount(Rs.)**

a)	Depreciation	6,77,500
c)	Interest on Total Investment	33,72,500
d)	Insurance	60,000
e)	40% of Salary & Wages	4,89,600
f)	40% of Other Expenses	7,29,600
	Total	**53,29,200**

ii) Net Profit Per Year **Rs.60,80,000**

B.E.P.(%) = $\frac{\text{Fixed Cost x 100}}{\text{Fixed Cost + Net Profit}}$ = 46.71%

16. a) Addresses of Machinery & Equipment Suppliers :

1). The Shalimar ENGG. Works(P) Ltd.,
12B, Prabhuram Sarkar Lane,
Kolkata - 700 015.

2). M/s. Bengal Machinery (P) Ltd.,
South Tangra Road,
Kolkata – 700 046.

3). M/s. Gem Engg.,
S/H/29, Pagladanga Road,
Kolkata – 700 015.

4). Rotpia International
88/100 Mouda Ibrahim Street,
Chromepet, Chennai – 600 044

b) Addresses Of Raw-Machinery Suppliers :

1) M/s. Saraswati Chemicals,
7, Ram Kumar Rakshit Lane,
Kolkata – 700 007.

2) M/s. Vibgyor Chemicals,
54/3, Debendra Chandra Dey Road,
Kolkata - 700 015.

3) M/s. Bajaj Chemicals,
83, Shakespeare Sarani,
Kolkata – 700 017.

4) Colour –Chem Limited
Leather BU, Ravindra Mansion,
194 Churchgate Reclamation,
Mumbai- 700 020

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