

OIL PULL-UP LEATHER

PRODUCT CODE	:	NIC 2004: 19112 ASIIC: 43389
QUALITY AND STANDARDS	:	BIS Specification
PRODUCTION CAPACITY	:	Qty : 30,000 pcs. of Cow hides
MONTH & YEAR OF PREPARATION	:	FEBRUARY 2011
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OIL PULL-UP LEATHER

INTRODUCTION :

With the advancement of technology and change in the buyers taste and requirement, varieties of leather are being developed. Oil pull up leather is one such type of leather. This is unique in its characteristics with respect to the oily finish different from other varieties of leathers. This oil pull up leather when used in the production of finished products like fancy leather shoes, leather bags, wallets and other fancy utility items results in value addition.

MARKET POTENTIAL:

Because of the expanding market for the leather products in the home market as well as in the export market in India, a large number of entrepreneurs have started manufacturing leather products like different types of leather bags for both gents and ladies, wallets, hand gloves and other fancy utility items. For manufacturing these items oil pull up leather can be utilized as per the demand of the buyers specially in the export market. Hence there is a lot of scope for marketing this type of leather among the leather goods manufacturing units in India. Finished products with oil pull up leather as the raw materials gives some aesthetic look and extra value addition when sold in the market and helps in foreign exchange earnings when exported.

Information regarding the manufacturing capacity and quantitative demand for the oil pull up leather cannot be exactly given because of lack of information. However, considering the existing manufacturing infrastructure in our country concentrated specially in places like Calcutta, Chennai, Kanpur and in some other places there exists a lot of scope to manufacture the oil pull up leather in the tanneries and there is no dearth of technology and skilled personnel in our country.

BASIS AND PRESUMPTIONS:

- i) For achieving the full capacity utilization of the plant, the efficiency should be 100% with 2400 working hours.
- ii) The time period for achieving the full capacity utilization is three years – 60% in 1st year, 75% in 2nd year and 100% in 3rd year.
- iii) Labour wages : Wage rate is as per the existing rates in the region.

- iv) Interest rate 15% for the fixed and working capital.
- v) Margin money : 25% of the total capital investment.
- vi) Payback period – 3 years after starting the regular production.
- vii) Land & Building : Rented.

IMPLEMENTATION SCHEDULE:

The implementation schedule is anticipated to be about one year which is necessary considering the time required for preparation of project report and its appraisal, registration, obtaining loan, acquiring land, building, plant & machinery, organizing working infrastructure, establishing contacts with parties and market agencies etc.

TECHNICAL ASPECTS:

1. First of all best quality raw cow hides are selected to manufacture oil pull up leather. The processes involved are as follows:

Soaking: The selected raw cow hides are taken in the paddle. The hides are washed in running water for 2 hours to clear out all the dirt. The soaking is carried out as follows:

Water - 250%	} the paddle is run for about 4 hours.
Detergent 0.2%	
Preservative – 0.5%	

Liming: the soaked hides are then limed as follows in the paddle:

Water	250%
SODIUM Sulphide	5%
Caustic soda	7%

The paddle is run for 2 hours continuously. Then the paddle is run intermittently for 10 to 15 minutes per hour. In this way the liming is carried out for about 24 hours. After checking the pelts the limed pelts are taken out of the paddle for fleshing. The pelt weight is taken.

Deliming : The limed pelts after fleshing are taken into the drum and thoroughly washed in running water for about 2 hours. Then Deliming is done as follows:

Water	250%
Ammonium chloride	1.5%

The deliming is carried out for about one and a half hours. Then the deliming is checked with the phenolphthalein.

Pickling: The deliming bath is drained out and the pickling is done as follows:

Water 80%.	}	The drum is run for about 10 minutes.
Common salt – 8%		

Add: 1.5% sulphuric acid previously diluted in water (1:10) is added to the drum in three equal installments at an interval of 30 minutes. The pickling is carried out for 1½ hours and is checked at a pH of 3.0.

Chrome tanning: The chrome tanning is carried out in the same bath as follows:

Add : Basic chrome sulphate : 7%

The drum is run for 2½ hours. Then, the penetration of the chrome liquor into the pelt is checked. Then, basification is done with the sodium bicarbonate and boil test is carried out to check the completion of tanning.

The tanned hides in this stage are called wet blue. The wet blues are then sammed under the sun or in the samming machine. The shaving of the wet blue is done to proper thickness in the shaving machine. The shaved wet blues are then taken into the drum to carry out the following processes.

Neutralization: The neutralization of the wet blues are carried out as follows:

Water	: 200%
Soda-bi-carb	: 1%
Sodium formate	: 0.5%

The drum is run for 60 minutes. The neutralization is checked at pH around 3.5 and the wet blues are washing in running water for 15 minutes.

Retanning: it is done as follows:

Water	: 250%
<u>Basyntan OS</u>	: 4%
Basyntan DI	: 6%

The drum is run for 60 minutes and the exhaustion of the bath is checked and washed in running water for 10 minutes.

Fat liquoring and dyeing: The fat liquoring and dyeing of the leathers is done as follows:

Water	:	200%(50°C - 60°C)
Sulphited vegetable oil	:	5%
Synthetic oil	:	6%
Raw oil	:	0.5%%
Preservative	:	0.5%

The oil emulsion is added to the drum, which is run for about one hour. Then the exhaustion of the fat is checked. Then 0.5% formic acid is added for fixing of the fat and the drum is run for 30 minutes.

Then add: Direct dye - 1.0

The drum is run for 30 minutes and the dye is fixed with 0.5% formic acid and the drum is run for 30 Minutes.

Add : Preservative : 0.5%

Drum is then run for another 20 minutes.

The materials are washed in running water for 10 minutes and then drained out and piled up in the horse overnight.

Next day the crusts are sammed, set and dried. Then the crusts are conditioned with the saw dust, toggled and trimmed off. Then buffing and dusting off the crusts is done and sent for finishing.

Finishing: This is one of the most important parts of the manufacture of oil pull up leather. Since the raw materials i.e. raw hides are of very good quality with minimum defects, only spray finish is done. Otherwise padding has to be done along with embossing with hair cell plate in hydraulic press. The finishing season is prepared as follows:

Mixture season 1

Spl. Oil for oil pullup effect – spray 1 x(cross) coat.

Mixture season 2:

Water – 200 parts.

Dye solution – 5 to 1 parts

Resin Binder – 120 parts.

Caesin binder – 50 parts

Penetrator – 15 parts.

Preservative – 5 parts.

The components in the season are thoroughly mixed up. The season is applied over the crust through spray coating 3 times then dried and plane plated in the hydraulic press.

Then the leathers are lacquered with oil lacquer as follows:

Thinner – 2 parts.

Oil lacquer – 1 part.

The lacquer is sprayed over the leathers to manufacture oil pull up leather. Then the leathers are dried, measured and packed for despatch.

Quality Specifications:

BIS specification to be followed.

Production capacity:

- a) Quantity : 30000 pcs. of oil pull up leather ie.
Equivalent to
7,50,000 sq.ft. (per annum)
- b) value : Rs.3,86,25,000

Motive POWER : 75 kv

Pollution control:

The pollution control measures are to be given utmost attention as the effluents coming out of the process are very toxic and they are likely to affect the flora and fona of water if disposed off into the river. Moreover, effluents are also likely to degrade the fertility of the soil. So, proper effluent treatment plants are to be installed in the tannery to treat the effluents and make the treated water go out into river.

Energy Conservation:

Energy is spent in the tannery in the form of electricity and fuel. Hence there exists a lot of scope for conservation of electricity and fuel as a measure of energy conservation. The workers should be properly trained to operate the machines as and when required. They should be cautious to yield maximum units during the machine operation and should not allow the machines to run by motive power unnecessarily. The electrical lines should

be properly made and checked at regular intervals. In respect of fuel, proper attention is to be taken care of. The broiler should be properly maintained. Misuse of fuel in the form of wood, petrol, and kerosene should be avoided.

FINANCIAL ASPECTS:

(I) Land and building: Rented

Land - 1000 sq.mtr.

Building (covered area) Rs.150 sq.metre pm. Rs. 1,50,000

Fixed Capital :

(II) Machinery and Equipment:

Sl.No	Description	Ind./ Imp.	Qty. (Nos.)	Rate(Rs.)	Amount (Rs.)
1.	Wooden paddle of vat size 8"x7" one 10 HP 1000 RPM AC motor starter and Vee belt.	Ind.	2	1,00,000	2,00,000
2.	Wooden Drum 8"x6" with starter and motor 10 HP and starter	Ind.	2	2,00,000	4,00,000
3.	Shaving machines single with 7.5 HP motor and starter	Ind.	1	2,00,000	2,00,000
4.	Slocomb staking machine with motor 7.5 HP and starter	Ind.	1	1,00,000	1,00,000
5.	Single width buffing machine with motor 7.5 HP and starter	Ind.	1	1,00,000	1,00,000
6.	Togglng machine with 20 boards of size 9"x5" suitable for hides	Ind.	1	3,00,000	3,00,000
7.	Hydraulic Press with 25 HP motor and starter	Ind.	1	12,00,000	12,00,000
8.	Reversible setting M/c. 2400 mm working width with 21.5 HP and starter.	Ind.	1	3,00,000	3,00,000

9.	One spray booth of 9" x 5" with top booth cover 2 nos. of 18" exhaust fan and compressor.	Ind.	1	1,00,000	1,00,000
10.	Tools and equipment		LS		1,00,000
12.	Electrification & installation @ 10% of the cost of machinery				2,90,000
13.	Office furniture, workshop furniture etc.				1,00,000
	Total cost of machinery and equipment				33,90,000

III. Pre-operative Expenses 1,10,000

	Total fixed capital (II) + (III)				35,00,000
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IV. WORKING CAPITAL (PM)

(I) Personnel.

Sl.No.	Designation	Nos.	Salary(Rs.)	Amount
	A. Administrative and Supervisory			
1.	Manager cum Tanner	1	20,000	20,000
2.	Supervisor	1	10,000	10,000
3.	Clerk-cum-Accountant	1	8,000	8,000
4.	Watchman	1	2,000	2,000
5.	Sweeper	1	2,000	2,000
	B. Technical			
6.	Machine operator	6	5,000	30,000
7.	Skilled workers	6	5,000	30,000
8.	Unskilled worker	10	3,000	30,000
	Total :			1,32,000
	Add: Perquisites @ 20% of salaries			26,000
	Total :			1,58,000

(ii) Raw Materials (including packing materials) (pm)

Sl. No.	Description	Qty.	Rate (Rs.)	Total
1.	Raw cow hides	2500 pcs. of 62500 sq.ft.	800 per pc.	20,00,000
2.	Processing and finishing chemicals	62500 sq.ft.	18 per sq.ft.	11,25,000
	Total :			31,25,000

(iii) Utilities (per month)	Rs.
Power	32,000
Fuel & Water (from well and pumpset)	10,000
Pollution control charges	10,000
Total :	52,000
(iv) other contingent expenses (per month)	Rs.
a) Rent	1,50,000
b) Postage and stationery	5,000
c) Transport charges	15,000
d) Telephones	5,000
e) Consumables stores	5,000
f) Repair and maintenance	10,000
g) Advertisement and publicity	3,000
h) Taxes	2,000
i) Insurance	5,000
j) Misc. expenses	15,000
Total :	2,15,000
(v) Total Recurring expenditure (per month)	Rs.
i) Personnel (salaries)	1,58,000
ii) Raw materials	31,25,000
iii) Utilities	52,000
iv) Other contingent expenses	2,15,000
Working capital per month	35,50,000
vi) Total Working capital for 3 months	
35,50,000 x 3	1,06,50,000

V. Total Capital Investment:	
(i) Fixed capital	35,00,000
(ii) Working capital	1,06,50,000
Total	1,41,50,000

MACHINERY UTILISATION

Anticipated utilization of the machinery is about 75 to 80%. All machine operations are important. Hence, it is difficult to single out any particular machine operation to be bottleneck. However, it can be said that machines like shaving, setting, buffing occupy an important position in the manufacture of oil pull up leather. Hence proper control and monitoring is required so that an even flow of production is assured. Moreover the supervisory personnel should be effective enough to reduce the downtime of the machines, carry out regular maintenance of the machines and timely feeding of materials and instructions etc.

FINANCIAL ANALYSIS:	
(1) Cost of Production (per annum)	
a) Total recurring cost per year	4,26,00,000
b) Depreciation on machinery and equipment @ 10%	2,90,000
d) Depreciation on furniture @ 20%	20,000
e) Interest on capital investment @ 15%	21,22,500
Total	4,50,32,500

(2) Turnover per annum

Sale of 7,00,000 sq.ft. of oil pull-up leather @ Rs.70/- per sq.ft. 4,90,00,000/-

(3) Net profit (per year) 39,67,500/-

(4) Profitability:

$$= \frac{\text{Net profit per year} \times 100}{\text{Turnover}}$$

$$= 8.1\%$$

(5) Return on investment (per month)

$$= \frac{\text{Net profit} \times 100}{\text{Total Investment}}$$

$$= 28\%$$

(6) Break Even Point

I. Fixed cost :

a) Depreciation	3,10,000
b) Rent	18,00,000
c) Interest on total investment	21,22,500
d) Insurance	60,000
e) 40% of wages & salaries	7,58,400
f) 40% of other contingent expenses (excluding rent & insurance)	2,88,000
Total fixed cost	53,38,900
II. Net profit per annum ...	38,14,200
BEP = $\frac{\text{Fixed cost}}{\text{Fixed cost} + \text{profit}} \times 100$	
= $\frac{53,38,900}{53,38,900 + 39,67,500} \times 100$	
= $\frac{53,38,900 \times 100}{93,06,400}$	
= 57.37%	

ADDRESSES OF MACHINERY AND EQUIPMENT SUPPLIERS:

1. M/s. Siva Engg. Co. Ambur, North Arcot Distt. Tamilnadu.
2. M/s. Annapurna Enterprises, F-10/2, HIDC Shirolu, Kolhapur 416 122
3. M/s. Bengal Tanning Machinery Co. Pvt. Ltd., 9-A New Tangra Road, Kolkata -46.
4. M/s. Jugi Enterprises, Ram mansion, Panthcom Road, Chennai - 600 009.
5. M/s. Shalimar Engg. Works, 12B, Prabhuram sarkar lane, Kolkata - 700015

Addresses of Raw Materials and Chemical Suppliers:

1. M/s. Leather Chemical and industries Ltd., A-1 New Alipur, Kolkata.
2. M/s. Balmer Laurie and Co. 10, Spur Tank Road, Chetput, Chennai.
3. anpur Chemicals (P) Ltd., Anwargunj, Kanpur (UP)
4. M/s. B.A.S.F. India Ltd., Tlecion kHouse, E.Moses Road, Mumbai
5. M/s. Golden Chemicals (P) Ltd., Vila Parle, Mumbai – 56.
6. M/s. Allied Resin Chemicals Ltd., 134/1 MG Road, Kolkata 11
7. M/s. Swastick Chemicals Industries P. Ltd., Vila Parle,
Mumbai – 56.
8. M/s. Indofil Chemicals Inds., Ticoieon House, Dr. E. Moses Road,
Mumbai – 400 011.

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