

**56. PROFILE ON METAL FITTING FOR LEATHER
GOODS AND GARMENTS**

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I. SUMMARY

This profile envisages the establishment of a plant for the production of metal fittings for leather goods and garments with a capacity of 300,000 kg waist belt buckles, 400,000 kg hold all strap buckles, 30,000 kg suitcase handles 60,000 kg suit case closures and 30,000 kg watch strap hooks per annum.

The raw materials required are brass scrap and cold rolled strips of steel, which have to be imported.

The present demand for the proposed products is estimated at 103,100 kg per annum. The demand is expected to reach at 323,573 kg by the year 2020.

The total investment requirement is estimated at Birr 5.44 million, out of which Birr 1.06 million is required for plant and machinery. The plant will create employment opportunities for 19 persons.

The project is financially viable with an internal rate of return (IRR) of 22.89 % and a net present value (NPV) of Birr 4.08 million, discounted at 8.5%.

The project will have a forward linkage effect with leather goods and garment manufacturing industries. The establishment of such factory will have a foreign exchange saving effect to the country by substituting the current imports.

II. PRODUCT DESCRIPTION AND APPLICATION

Almost all types of leather goods require some or other types of metal fittings. For example, suitcases require locks, stoppers and handle. Waist belt requires buckles. The demand for these items is increasing with the growth in the leather goods making industries. Customer demand for the leather goods is growing in the country. Increasing in purchasing power and change fashion will increase the demand still further. In addition, demand for Ethiopian leather goods in export market has gone up considerably in recent year. This aspect is relevant for garment industry. Due to these factors, there is sufficient scope for new units to develop in the production of metal fittings which are currently imported.

III. MARKET STUDY AND PLANT CAPACITY

A. MARKET STUDY

1. Past Supply and Present Demand

The demand for metal fittings for leather goods is increasing with the growth in the ready-made garment, leather bags, leather and other waist belts producers. Consumer demand in the country is growing for leather goods. Increase in purchasing power and changes in dressing fashion tend to increase the demand still further. In addition, demand for Ethiopian leather goods in exports market has gone up considerably in recent years. This aspect is relevant for the leather garments and hand bags manufacturing industry.

Due to these factors, there is sufficient scope for new units to develop in the production of metal fittings which are currently imported. To illustrate supply volume in the past and estimate present demand for metal fittings used in manufacture of leather products, import data from 2000 to 2006 is presented in Table 3.1.

Table 3.1
IMPORT OF METAL FITTINGS USED IN MANUFACTURE OF LEATHER
PRODUCTS {KG}

Year	Beads and Spangles of Base Metal	Clasps and Buckles	Hooks, Eyes and Eyelets of Base Metal	Press, Snap and Press Stud Fasteners	Total
2000	-	49,312	39,569	21,620	36,834
2001	262	64,586	43,127	15,669	30,911
2002	105	79,796	54,035	156	33,523
2003	72	112,969	45,407	604	39,763
2004	266	124,423	280,312	2,564	101,891
2005	1,789	141,927	168,722	4,399	79,209
2006	244	100,295	74,168	4,685	44,848
Average	456	96,187	100,763	7,100	52,426

*Source: Ethiopian Customs Authority: Annual External Trade Statistics;
Unpublished.*

Table 3.1 reveals that import of metal fittings used in manufacture of leather products during the period under reference has been generally rising. The average level of import during the first three years, i.e., 2000-2002 was about 33,756 kg. However, during the recent last three years 2004-2006, the average level of import has increased to about 75,316 kg. During the period 2000 – 2006, import of the products has registered an average annual growth rate of 17%.

To estimate the current demand, an average growth rate of 17% is applied by taking the recent three years average as a base demand for 2006. Accordingly the current (year 2008) demand for metal fittings in manufacture of leather products is estimated at 103,100 kg.

2. Projected Demand

Future demand for these items is increasing with the growth in the ready-made garment, leather bags, leather brief cases and waist belts of leather producers. Consumer demand for leather goods in the country is growing; so is production. In 2007, for instance, 9,615,000 square feet of leather garment were produced in the country. Increase in purchasing power and changes in fashion designs prompting more production of said goods; tend to increase the demand still further. However, the future demand is expected to proliferate and stabilize at 10% rate of increase. Future demand estimates of metal fittings for leather products projected at 10% rate of increase is presented in Table 3.2.

Table 3.2

PROJECTED DEMAND FOR METAL FITTINGS FOR LEATHER PRODUCTS

(KG)

Year	Projected Demand
2009	113,410
2010	124,751
2011	137,227
2012	150,949
2013	166,044
2014	182,648
2015	200,913
2016	221,005
2017	243,105
2018	267,416
2019	294,157
2020	323,573

3. Pricing and Distribution

Information gathered on wholesale and retail prices of the described categories of buckles and the fasteners described above, has revealed that there are no uniform prices for any of the products as there are differences in the type and quality of the metal from which the fittings are made. There are fittings in the market made from chrome-plated, zinc-plated or plain steel and also some made from tin alloys.

Accordingly based on average price, the following factory gate prices are recommended.

- Waist belt buckles - Birr 2.50
- Hold –all strap buckles – Birr 2.00
- Suit – case handles – Birr 2.50
- Suit – case closures – Birr 2.00
- Watch strap hooks – Birr 1.50

Products being considered in this project are inputs in the leather products industry. The majority of these factories are mostly small scale and privately owned. Furthermore, the type and quality of fittings they require vary from time to time; since they also have to address the quality requirement desired by their customers. Since bulk sales to any one of these is unlikely, distribution through wholesalers is recommended.

It is assumed that a local manufacturer will satisfy at least 60% of the demand for all types of metal fittings for leather products; and be prepared to meet the challenges of competition from imported products both in terms of quality and selling price.

B. PLANT CAPACITY AND PRODUCTION PROGRAMME

1. Plant Capacity

The market study on metallic fittings for leather products indicate that the demand in 2009 will be 113,410 kg and this figure will grow to 323,573 kg in 2020. Considering small scale production, the plant will have the following capacity.

- a) 300,000 Waist belt buckles
- b) 400,000 hold –all strap buckles
- c) 30,000 suit – case handles
- d) 60,000 “ “ closures
- e) 30,000 watch strap hooks

The plant will operate double shift of 16 hours a day , and for 300 days a year.

2. Production Programme

Table 3.3 below shows production build – up programme.

Table 3.3
PRODUCTION PROGRAMME

Year	1	2	3
Capacity utilization [%]	70	85	100
<u>Production (kg)</u>			
a) Waist belt buckles	210,000	255,000	300,000
b) hold –all strap buckles	280,000	340,000	400,000
c) suit – case handles	21,000	25,500	30,000
d) suit – case closures	42,000	51,000	60,000
e) watch strap hooks	21,000	25,500	30,000

IV. MATERIALS AND INPUT

A. RAW MATERIALS

The major raw materials are brass and sheet metals. The brass and the sheet metal will be pressed in to the product intended to be produced. Auxiliary materials are chemical inputs to electro plating unit. All raw materials except packing material will be imported. Annual requirements of raw materials are shown in Table 4.1 below.

Table 4.1

RAW MATERIALS REQUIREMENT & COST AT FULL CAPACITY

Sr. No.	Description	Qty.	Total Cost ('000 Birr)		
			FC	LC	TC
1	Brass scrap (tonnes)	30	201.0	35	236
2	Mild steel cold -rolled strips of different sizes (tonnes)	80	536.00	55	591
3	Cold roller strips of different sizes.	Lump sum	65	-	65
4	Packing material	“	-	45	45
	Grand Total		802	135	937

B. UTILITIES

Utilities required for the production of metals fittings of leather goods are electricity and water. At the rate of Birr 3.25 per m³ for water and Birr 0.4736 per kWh for electricity, annual cost of utilities for 20,000 kWh and 500 m³ will be Birr 11,097.

V. TECHNOLOGY AND ENGINEERING

A. TECHNOLOGY

Manufacturing process of the various items incorporated in the metal fitting may be divided in to two groups.

- a) brass cast group
- b) sheet metal pressed group

Both groups require polishing and electroplating for finished and consumer appeal. Cast items are to be molded by melting scrap in crucibles. Pressed parts are to be blanked and formed separately in dies fitted in power press and flay press.

In different stage of manufacturing extreme care is required to ensure smooth polishing and proper plating.

The production process does not have any adverse impact on environment.

2. Source of Technology

The machinery and equipment required for the production of metal fitting are conventional mechanical work shop machines such as presses, grinders, shearing m/cs, drilling machine, furnace with curable can be supplied by companies in India, china and Korla. Address of one supplier is given below.

ARIHAN INDUSTRIES

Khasra No. 38 Gali no. 2 Village Dabar

P.o. Palam, New Delhi – 110045

Tel. 5044312/5044436

Fax: 0091-11-5043307

e-mail: arihant-india@usnl.net.

B. ENGINEERING**1. Machinery and Equipment**

The list of required machinery and equipment required for manufacturing of metal fittings for leather products is given in Table 5.1 below.

Table 5.1
MACHINERY & EQUIPMENT REQUIREMENT AND COST

Sr. No.	Description	Qty .	Cost ('000 Birr)		
			FC	LC	TC
1	Treadle Guillotine sharing M/C	1	27	-	27
2	Adjustable stroke Inclinable power press (10Ton capacity) .	1	65	-	65
3	Inclinable power press (20Ton capacity)	1	58	-	58
4	Single body type fly press	4	140	-	140
5	Double ended bench grinder (10 wheel size)	1	23	-	23
6	Double ended bench grinder (8wheel size)	1	21	-	21
7	Double ended Buffing machine	4	72	-	72
8	Blower and Pit Furnace with crucibles	unit	135	-	135
9	Drilling M/C $\frac{3}{4}$ cap)	unit	125	-	125
10	Rectifier – 250 amps x 8 volts	1	23	-	23
11	Rectifier -250 amps x 8 volts	1	6	-	6
12	Oblique Barrel	1	1.2	-	1.2
13	Plating and metal cleaning tanks	6	108	-	108
14	Exhaust fan and other accessories	unit	65	-	65
15	Press Tools	unit	40	-	40
	FOB Price		909.2	-	909.2
	Customs charge, Insurance, Bank charge, Transportation cost			150	150
	CIF Landed Cost		909.2	150	1059.20

2. Land, Building and Civil Works

Land is required to accommodate production hall, storage, for raw material and finished product, electroplating unit office and other auxiliary section. For the proposed plant, a total of 1000 m² area of land is recommended. Of this 500 m² area will be built – up area. The built-up areas is earmarked to be 300 m² for production hall, 100 sq. meters for offices, and 100 m² for stores. At a unit cost of Birr 2,300 per m² the total investment on building and civil works is estimated at Birr 1,150,000.

According to the Federal Legislation on the Lease Holding of Urban Land (Proclamation No. 272/2002) in principle, urban land permit by lease is on auction or negotiation basis, however, the time and condition of applying the proclamation shall be determined by the concerned regional or city government depending on the level of development.

The legislation has also set the maximum on lease period and the payment of lease prices. The lease period ranges from 99 years for education, cultural research health, sport, NGO , religious and residential area to 80 years for industry and 70 years for trade while the lease payment period ranges from 10 years to 60 years based on the towns grade and type of investment.

Moreover, advance payment of lease based on the type of investment ranges from 5% to 10%. The lease price is payable after the grace period annually. For those that pay the entire amount of the lease will receive 0.5% discount from the total lease value and those that pay in installments will be charged interest based on the prevailing interest rate of banks. Moreover, based on the type of investment, two to seven years grace period shall also be provided.

However, the Federal Legislation on the Lease Holding of Urban Land apart from setting the maximum has conferred on regional and city governments the power to issue regulations on the exact terms based on the development level of each region.

In Addis Ababa the City's Land Administration and Development Authority is directly responsible in dealing with matters concerning land. However, regarding the manufacturing sector, industrial zone preparation is one of the strategic intervention measures adopted by the City Administration for the promotion of the sector and all manufacturing projects are assumed to be located in the developed industrial zones.

Regarding land allocation of industrial zones if the land requirement of the project is below 5000 m² the land lease request is evaluated and decided upon by the Industrial Zone Development and Coordination Committee of the City's Investment Authority. However, if the land request is above 5,000 m² the request is evaluated by the City's Investment Authority and passed with recommendation to the Land Development and Administration Authority for decision, while the lease price is the same for both cases.

The land lease price in the industrial zones varies from one place to the other. For example, a land was allocated with a lease price of Birr 284 /m² in Akakai-Kalti and Birr 341/ m² in Lebu and recently the city's Investment Agency has proposed a lease price of Birr 346 per m² for all industrial zones.

Accordingly, in order to estimate the land lease cost of the project profiles it is assumed that all manufacturing projects will be located in the industrial zones. Therefore, for the this profile since it is a manufacturing project a land lease rate of Birr 346 per m² is adopted.

On the other hand, some of the investment incentives arranged by the Addis Ababa City Administration on lease payment for industrial projects are granting longer grace period and extending the lease payment period. The criterions are creation of job opportunity, foreign exchange saving, investment capital and land utilization tendency etc. Accordingly, Table 5.2 shows incentives for lease payment.

Table 5.2**INCENTIVES FOR LEASE PAYMENT OF INDUSTRIAL PROJECTS**

Scored Point	Grace Period	Payment Completion Period	Down Payment
Above 75%	5 Years	30 Years	10%
From 50 - 75%	5 Years	28 Years	10%
From 25 - 49%	4 Years	25 Years	10%

For the purpose of this project profile the average, i.e., five years grace period, 28 years payment completion period and 10% down payment is used. The period of lease for industry is 60 years .

Accordingly, the total lease cost, for a period of 60 years with cost of Birr 346 per m², is estimated at Birr 20.76 million of which 10% or Birr 2,076,000 will be paid in advance. The remaining Birr 18.68 million will be paid in equal installments with in 28 years, i.e., Birr 667,286 annually.

VI. MANPOWER AND TRAINING REQUIREMENT**A. MANPOWER REQUIREMENT**

The envisaged plant requires 19 persons for running both administration and production activities. The detailed manpower requirement is given Table 6.1.

B. TRAINING REQUIREMENT

The production of metal fittings for leather goods doesn't require specialized manpower, and no specialized training is needed. However, to create appropriate awareness and attain reliable skill, the production workers will be engaged in skill development activity

during erection and commissioning of the plant. For such training Birr 10,000 will be allotted to cover the expenses.

Table 6.1
MANPOWER REQUIREMENT AND LABOUR COST

Sr. No.	Description	Req. No.	Monthly Salary (Birr)	Annual Salary (Birr)
1.	Plant manger	1	3,000	36,000
2.	secretary	1	600	7,200
3.	Salesman	1	1,200	14,400
4.	Store man	1	700	8,400
5.	cashier	1	500	6,000
6.	Clerk	1	350	4,200
7.	Guard	3	1,050	12,600
8.	Messenger	1	350	4200
	Sub-Total	10		93,000
1	Production head	1	2,500	30,000
2	Skilled worker	5	3,500	42,000
3	Labours	3	1,050	12,600
	Sub-Total	9		84,600
	Workers' benefit (25 % BS)			44,400
	Total	19		222,000

VII. FINANCIAL ANALYSIS

The financial analysis of the metal fitting for leather goods project is based on the data presented in the previous chapters and the following assumptions:-

Construction period	1 year
Source of finance	30 % equity 70 % loan
Tax holidays	2 years
Bank interest	8.5%
Discount cash flow	8.5%
Accounts receivable	30 days
Raw material local	30 days
Raw Material import	90 days
Finished products	30 days
Cash in hand	5 days
Accounts payable	30 days
Repair and maintenance	5% of machinery cost

A. TOTAL INITIAL INVESTMENT COST

The total investment cost of the project including working capital is estimated at Birr 5.44 million, of which 17 per cent will be required in foreign currency.

The major breakdown of the total initial investment cost is shown in Table 7.1.

Table 7.1
INITIAL INVESTMENT COST (‘ 000 Birr)

Sr. No.	Cost Items	Local Cost	Foreign Cost	Total Cost
1	Land lease value	2,076.00	-	2,076.00
2	Building and Civil Work	1,150.00	-	1,150.00
3	Plant Machinery and Equipment	150.00	909.20	1,059.20
4	Office Furniture and Equipment	100.00	-	100.00
5	Vehicle	450.00	-	450.00
6	Pre-production Expenditure*	452.55	-	452.55
7	Working Capital	154.12	-	154.12
	Total Investment cost	4,532.67	909.20	5,441.87

* *N.B Pre-production expenditure includes interest during construction (Birr 342.55 thousand) training (Birr 10 thousand) and Birr 100 thousand costs of registration, licensing and formation of the company including legal fees, commissioning expenses, etc.*

B. PRODUCTION COST

The annual production cost at full operation capacity is estimated at Birr 1.72 million (see Table 7.2). The raw material cost accounts for 54.40 per cent of the production cost. The other major components of the production cost are depreciation financial cost, and direct labour which account for 11.76 %, 14.01% and 7.73 % respectively. The remaining 12.10 % is the share of utility, repair and maintenance, labour over head and other administration cost.

Table 7.2**ANNUAL PRODUCTION COST AT FULL CAPACITY ('000 BIRR)**

Items	Cost	%
Raw Material and Inputs	937.00	54.40
Utilities	11.10	0.64
Maintenance and repair	52.96	3.07
Labour direct	133.20	7.73
Labour overheads	55.50	3.22
Administration Costs	88.80	5.16
Land lease cost	-	-
Total Operating Costs	1,278.56	74.23
Depreciation	202.50	11.76
Cost of Finance	241.37	14.01
Total Production Cost	1,722.43	100

C. FINANCIAL EVALUATION**1. Profitability**

Based on the projected profit and loss statement, the project will generate a profit through out its operation life. Annual net profit after tax will grow from Birr 661.43 thousand to Birr 1.21 million during the life of the project. Moreover, at the end of the project life the accumulated cash flow amounts to Birr 9.08 million.

2. Ratios

In financial analysis financial ratios and efficiency ratios are used as an index or yardstick for evaluating the financial position of a firm. It is also an indicator for the strength and weakness of the firm or a project. Using the year-end balance sheet figures and other relevant data, the most important ratios such as return on sales which is computed by

dividing net income by revenue, return on assets (operating income divided by assets), return on equity (net profit divided by equity) and return on total investment (net profit plus interest divided by total investment) has been carried out over the period of the project life and all the results are found to be satisfactory.

3. Break-even Analysis

The break-even analysis establishes a relationship between operation costs and revenues. It indicates the level at which costs and revenue are in equilibrium. To this end, the break-even point of the project including cost of finance when it starts to operate at full capacity (year 3) is estimated by using income statement projection.

$$\text{BE} = \frac{\text{Fixed Cost}}{\text{Sales} - \text{Variable Cost}} = 29 \%$$

4. Payback Period

The pay back period, also called pay – off period is defined as the period required to recover the original investment outlay through the accumulated net cash flows earned by the project. Accordingly, based on the projected cash flow it is estimated that the project's initial investment will be fully recovered within 4 years.

5. Internal Rate of Return

The internal rate of return (IRR) is the annualized effective compounded return rate that can be earned on the invested capital, i.e., the yield on the investment. Put another way, the internal rate of return for an investment is the discount rate that makes the net present value of the investment's income stream total to zero. It is an indicator of the efficiency or quality of an investment. A project is a good investment proposition if its IRR is greater than the rate of return that could be earned by alternate investments or putting the money

in a bank account. Accordingly, the IRR of this project is computed to be 22.89 % indicating the viability of the project.

6. Net Present Value

Net present value (NPV) is defined as the total present (discounted) value of a time series of cash flows. NPV aggregates cash flows that occur during different periods of time during the life of a project into a common measuring unit i.e. present value. It is a standard method for using the time value of money to appraise long-term projects. NPV is an indicator of how much value an investment or project adds to the capital invested. In principle a project is accepted if the NPV is non-negative.

Accordingly, the net present value of the project at 8.5% discount rate is found to be Birr 4.08 million, which is acceptable.

D. ECONOMIC BENEFITS

The project can create employment for 19 persons. In addition to supply of the domestic needs, the project will generate Birr 2.05 million in terms of tax revenue. The establishment of such factory will have a foreign exchange saving effect to the country by substituting the current imports. The project will have a forward linkage effect with leather goods and garment manufacturing industries.