

BARBED WIRE

Production Code : 3439030008
Quality and Standards : As per IS-278-1978
Production Capacity : Quantity : 360 M.T. per annum
Value : Rs. 94.5 Lakhs.
Month and Year of Preparation : March 2007
Prepared By : Br. Small Industries Service Institute, Dimapur (Nagaland)

Introduction.

Barbed Wire is a useful industrial product, mainly used for fencing purposes. Barbed fencing prevents the unwanted entrance and intrusion of animals and person into the fencing area. This is mainly used to safeguard house, gardens, forest, nurseries, fields and specified prohibited areas pertaining to defence establishments, aerodromes, railways, warehoused and other Govt. and private properties. These are also used to make and safeguard international boundaries and is one of the cheapest materials to be used for these various purposes.

Market Potential.

Looking to its areas of use and its usefulness, the product offers wide market potential throughout the country. The product is well known and popular and there are number of small scale units, manufacturing the same throughout the country. Taking into consideration the overall industrial growth and development in various other fields like forestry, agriculture and horticulture, railways, warehousing services and requirement for international boundaries, the demand for the product appears to be everlasting, thereby offering further scope of marketing and sale, throughout the country. All this indicates that there is good prospect for further growth of this industry in this country for which new small scale units can be set up.

Basic and Presumptions

1. This product profile is based on single shift of 8 hours at 75% efficiency and 300 working days in a year.
2. It is presumed that the capacity utilization in the 1st year will be 70% followed by 85% in the 2nd year and 100% in the subsequent years.
3. The rates quoted in respect of salary and wages for skilled workers and others are above the minimum or equal as prescribed in the state.
4. The interest rate for fixed and working capital has been taken as 18% per annum aggregate.
5. Margin money of approx. 30% of the total investment in the unite has to be arranged by the concerned entrepreneurs.
6. Payback period for the project is considered as 3.5 years.
7. a) The cost of machinery, equipments or raw materials indicated refer to a particular make and the prices are approx. and as prevailing at the time of preparation of the project report. Similarly, the rent and taxes etc. indicated in the scheme relate to a particular place of its implementation.
b) The provision made for other respect viz. raw material, personnel, utilities, overheads etc. are drawn on the basis of standard peration and average output and the cost indicated against each are approximate and based on local market conditions and may vary according to the services, design, production programme and organizational set up.

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<u>IMPLEMENTATION SCHEDULE</u>		<u>Weeks</u>
1.	Preparation of project report .	2
2.	Selection of site	2
3.	Registration as small scale unit	1
4.	Availability of loan and finances	12
5.	Procurement of machinery and equipment	24
6.	Erection of machinery and equipment	2
7.	Recruitment of staff and labour	2
8.	Procurement of raw material	4
9.	Commissioning and trial	2

Since many of the above activities will be overlapping, the overall time required to commission, the project may be 6 to 8 months.

TECHNICAL ASPECTS

1. Process of Manufacture

The barbed wires are made on an automatic machine which is available indigenously. The barbed wire is made out of 12/14 S.W.G.M.S. galvanized wire, while two main line wires are fed into the machines through its axes another wire is fed across into the pair of line wires to form barbs at regular intervals. The line wire twines themselves automatically the point wire after forming the desired barbs strands with the line wires automatically at the desired distance thus forming the complete barbed wire. As the machine is automatic all its feeding and wire cutting mechanism is controlled by gear movements, which derive its power from the main electric motor attached to the machine. Once the machine is set up it goes on working automatically.

2. Quality Specifications

Bureau of Indian standards has formulated IS: 278-1978 which is to be used in the manufacture of barbed wire to maintain desired quality and specifications. While IS : 278 - 1978 specifies the constructional details of the barbed wire, galvanized mild steel wires as per IS: 280 - 1972 are to be used in the construction of the same. The completed barbed wire and the line wires would also be tested for their minimum breaking loads accordance with IS: 1521 - 1972 i.e. method for tensile testing of steel wires to complete the quality specification of the proposed product.

3. Production Capacity (Per Month)

Looking to the overall production capacity of the machines and equipment proposed, it is anticipated to achieve the following target of production.

Quantity : Barbed Wire - 360 MT
Value : Rs. 94.5 Lakhs

4. Approximate Motive Power Requirement.

15 HP

Pollution Conservation Needs.

The power consumption in this unit is not of that high order special energy conservation needs may have to be looked into. However, judicious use of energy may be always advisable for which proper maintenance of machine may be done periodically and idle running of machines avoided.

Financial Aspects.

(i) Land and Building.

Proposed built up area for Rs. 3000/- p.m. workshop, office and stores. 120 Sq. mtr on rental basis.

(ii) Machinery and Equipment.

S/No	Description	Ind/Imp	Qty	Value (Rs)
(a)	(i) Automatic barbed wire making machine suitable to produce 12/14 SWG 4" or 3" apart Barba alongwith 5 HP elect motor, electrical and accessories like wire stands like wire stands and spools etc.	Ind.	2 Nos	2,34,000.00
	(ii) D.F. Bench grinder with 8" wheel dia. motorized	Ind.	1 No	6,500.00
(b)	(i) Universal tensile testing machine capacity 5 MT alongwith 3 HP elect. motor and electfs.	Ind.	1 No.	91,000.00

S/No	Description	Ind/Imp	Qty	Value (Rs)
	(ii) Wrap torsion testing machine	Ind.	1 No.	11,700.00
	(iii) Carbon silpher analysis apparatus	Ind.	1 No.	19,500.00
	(iv) Chemical balance	Ind.	1 Set	7,800.00
	(v) Muffle furnace (Laboratory)	Ind.	1 No.	6,500.00
				3,77,000.00
(c)	Installation and electrification @ 10% approx.			37,700.00
(d)	Total cost of machinery and equipments			4,14,700.00
(e)	Cost of dies, tools and fixtures			10,400.00
	(iii) Pre-operative Cost			29,900.00
	Total fixed cost (i) + (ii) + (iii)			4,68,000.00

Recurring Expenses (Per Month)

(i) Personal (Per Month)

S/No	Description	Nos	Salary	Value (Rs)
1	Production Manager	1	6,000	7,800
2	Accountant	1	3,000	3,900
3	Clerk/Typist	1	2,000	2,600
4	Peon	1	1,500	1,950
5	Chowkidar	1	1,500	1,950
6	Supervisor-Cum Lab Assistant	1	2,500	3,250
7	Skilled Operator	1	2,000	2,600
8	Helper	3	1,200	4,680
			Total	28,730
			Perquisites @ 15% of salaries	4,310
			Total	33,040
				33,000

Total 33,040.00
Say 33,000.00

(ii) Raw-Materials including packing materials (Per month)

G.I. Wire 12/14 SWG indigenous 30.6 MT 8,35,380.00
@ Rs. 27,300/- per MT

Say 8,35,380.00
8,35,400.00

(iii) Utilities (Per month)

Power 15 HP - 1200 KWH @ Rs. 1/00 3,000.00
Water L.S. 300.00

(iv)	Other Contingent Expenses (per Month)	
(a)	Rent	
(b)	Postage, stationery and telephone	3,000.00
(c)	Consumable stores	1,500.00
(d)	Repairs and maintenance	400.00
(e)	Transport and traveling	1,500.00
(f)	Advertisement and publicity	4,000.00
(g)	Insurance	1,000.00
(h)	Miscellaneous and expenditure	400.00
		2,000.00

(v)	Total recurring expenses (p.m)	13,800.00
		8,85,400.00
(vi)	Total working capital (on 3 month basis)	
(vii)	Total capital investment	26,56,200.00
(a)	Fixed capital	
(b)	Working capital for 3 months	4,68,000.00
		26,56,200.00

		31,24,200.00

Machinery Utilization.

The rated capacity of the machines is stated to be around 800 Kg of barbed wire per machine which @ 75% efficiency works out to be 600 Kgs. per shift of 8 hours. Accordingly in producing 30 MT. barbed wire per month the machine will be fully utilized. The universal tensile testing machines and other testing machines are basically required to check the production as per relevant standard and may not be used to full extent and hence testing facility of these machines may be extended to other nearby small scale units.

Financial Analysis.

1.	Cost of production (Per year)	
	Total recurring cost per year	1,06,24,800.00
	Depreciation on machinery and equipment @ 10%	37,700.00
	Depreciation on tools, dies and fixtures @ 25%	2,600.00
	Depreciation on office equipment @ 20%	2,600.00
	Interest on tool investment etc. @ 18%	62,356.00

		1,12,30,056.00
		Say
		1,12,30,000.00
2.	Turn over (Per Month)	
	G.I. Barbed wire 360 MT @ Rs. 33,900/-	1,22,04,000.00
	G.I. Wire scrape 7.2. MT @ Rs. 10,000/-	72,000.00

	Total	1,22,76,000.00

3. Net Profit (per annum) before Income tax 10,46,000.00

4. Net profit ratio
= $\frac{10,46,000 \times 100}{1,22,76,000}$
= 8.52%

5. Rate of return
= $\frac{10,46,000 \times 100}{31,24,200}$
= 33.48%

Break – even point

(i) Fixed cost

Depreciation on machinery and equipment, tools,
dies and fixtures and office equipment.

Rent	-	42,900.00
Interest on total investment	-	5,62,356.00
40% of salary and wages	-	1,58,400.00
40% of other contingent expenses excluding insurance	-	66,240.00

Total		8,29,896.00
(ii) Net profit (Per annum)	-	10,46,000.00

$$\begin{aligned} \text{B.E.P. \%} &= \frac{\text{FC} \times 100}{\text{FC} \times 10,46,000} \\ &= \frac{8,29,896 \times 100}{18,75,896} \\ &= 44.25 \% \end{aligned}$$

Where FC = Fixed Cost

P = Net profit per year

Additional information, if any:-

This industry is basically raw materials intensive as the machines are automatic and technology involved is simple. The entrepreneurs therefore have to give more emphasis on inventory control and preferably sale of their product to reliable and genuine purchaser so as not to have any financial short falls due to non realisation of sales money in time.

Names and Address of Machinery and equipment suppliers :-

Barbed Wire Machines.

1. M/s. J.E. Industries,
13-1 Gali No-1,
Anand Parbat Industrial Estate,
New Rohtak Road,
New Delhi -- 5
2. M/s. Scft. Industries
159, Netaji Subhash Road,
Calcutta.
3. M/s. Joshi & Co.
Waghle Industrial Estate,
Thane, Maharastra.
4. M/s. Burma Indl. Corpn.
G.T. Road, Pullighar,
Amritsar - 143 001

Tensile Testing Machine.

5. N/s. Bhanji Nagi & Co.
67, Apolo street, fort,
Mumbai -1
6. M/s. Bluestar Ltd.
Bluestar House, 34 Ring Road,
Lajpat Nagar, New Delhi.
7. M/s. Kamal Metal Industries,
Gaggar Bunglow, Astodia Road,
Ahemdabad,

Names and address of Raw materials Suppliers.

Galvanized Wire.

1. M/s. Himachal Wires & Tubes Ltd.
Indl. Area, Baddi, Dist. Solan.
2. M/s. Pratab Wires (p) Ltd.
Indl Area Damtal,
Dist. Kangra.
3. M/s. Himachal Wires (P) Ltd.
Indl. Area Damtal, Dist. Kangra.
4. Local Hardware Market and small
Industries and export corporation of the
Concerned state.