

I. Introduction

Circlips are most commonly used item in engineering Industry having variety of applications in Auto mobile Products, Machine Tools, Pumps and numerous other equipments. With the growth of engineering industry use of these items is also increasing day by day. An unit for the manufacture of Circlips can be started in places where there is concentration of Engg. Units.

II. Product Details

Circlips are generally made out of spring Steel Sheets and are used for locking purposes. They are ring shaped items with a pair of holes enabling their insertion and removal with one end open.

They are available in different shapes and sizes to suit a number of applications. The size and shapes of Standard Circlips is governed by IS-3075.

III. Basis & Presumptions

- (a) The basis for the calculation of the production capacity calculated on single shift basis on 70% efficiency.
- (b) The rate of interest in the scheme has been taken on the basis of 15% at on average, however this figure is likely vary depending on the financial outlay of the project as well as location of unit.
- (c) The break even point in the scheme has been calculated on the full capacity utilisation basis.
- (d) The cost of machinery and equipment items as indicated refers to a particular make and prices are approximately those ruling at the time of the preparation of this report.
- (e) The provisions made in other respect viz., raw materials, Personnel utilities, Overheads etc., are drawn on the basis of standard operations and average out puts and the costs indicated against each are approximate and based on local markets, conditions & observations.

IV. Quality Control

The specifications & Sizes to which the circlips are to be manufactured is governed by IS 3075-1965. The present scheme envisaged is to manufacture circlips upto 50 mm. size as per IS 3075-1965.

V. Process Outline

- (i) Generally 18 SW.G. Spring Steel Sheets are cut on a pedestal operated Guillotine Shearing machine to suit die-stripper & bla.
- (ii) The strip is fed into a progressive die for blanking & hole piercing operations.
- (iii) Deburring on a sander.
- (iv) Heat treatment.
- (v) Degreasing, Pickling, Drum polishing.
- (vi) Oxidising & Packing.

VI. Production Targets : 44,20,000 pieces per annum.

VII. Land & Building

Build up shed 100 sq. meters. rented Rs. 1,000

VIII. Machinery & Equipments

Sl. No.	Description	Indigenous/ imported	Qty. No.	Value Rs.
1.	Guilotine Shear m/c 1200 m.m. Cap.	Indigenous	1	10,000
2.	Power Press 20 T(2HP)	"	3	66,000
3.	Abrasive belt sander	"	1	10,000
4.	Polishing drum	"	1	3,500
5.	Salt bath furnace (oil fired)	"	1	58,000
6.	Tempering furnace	"	1	25,000
7.	Oxidising pot m.s. fabricated	"	2	1,000
8.	Hardness Testing Machine	"	1	6,000
			Total	1,79,500
			Say	1,80,000

IX. Installation & Electrification Charges

@10% of the machine cost	18,000
Die & Tools	32,000
Office equipments & workshop furniture	5,000
	2,35,000
Pre-operative expenses	5,000
	2,40,000

X. Staff and Labour

	No.	Rs.
A. Personnel		
1. Manager	1	1,500
2. Accountant	1	750
3. Watchman/Peon	1	400
B. Technical		
1. Foreman	1	1,200
2. Press Operator	3	1,500
3. Furnace Operator	1	500
4. Unskilled workers	6	2,400
		<hr/> 8,250
Add. 15% perquisites		1,250
		<hr/> 9,500

XI. Raw Materials (Per month)

Spring Steel Sheet 18 SWG— @16 per kg.	4.5 M.T.	72,000
Degreasing Materials, Polishing materials, plackening salts etc.	L.S.	3,000
		<hr/> 75,000

XII. Utilities

1. Power	1,000
2. Water	200
3. Fuels	1,800
	<hr/> 3,000

XIII. Overhead Charges

1. Rent	1,000
2. Postage & Stationery	100
3. Telephone	400
4. Consumable Stores	200
5. Repair & Maintenance.	500
6. Transport charges	200
7. Advertisement & Publicity	200
8. Insurance	100
9. Sales Expenses	1,000
10. Misc. Expenditure	200
11. Packing Boxes	1,600
	<hr/> 5,500

XIV. Recurring Expenses

1. Staff and Labour	9,590
2. Raw Materials	75,000
3. Utilities	3,000
4. Overhead Charges	5,500
	<hr/> 93,000

XV. Working Capital for 3 monthsRs.
2,79,000**XVI. Total Capital Investment**

(i) Fixed Investment	2,40,000
(ii) Working Capital for 3 months	2,79,000
	<hr/> 5,19,000

XVII. Cost of Production

(i) Depreciation on Machinery 10%	14,000
(ii) ,, ,, Furnace 20%	11,600
(iii) ,, ,, Office equipment 15%	750
(iv) ,, ,, Dies @25%	8,000
(v) Interest on Investment	78,000
(vi) Total recurring expenses	11,16,000
Total	12,28,350
Say Total	12,28,000

XVIII. Total Sales (Per year)

Sl. No.	Item	Qty.	Rate	Value (Rs.)
1.	Circlips of assorted sizes upto 50 m.m.	44,200	At on average rate of Rs. 31 per packet.	13,70,200

XIX. Profitability (Per year)

1. Profit	Rs. 1,42,200
2. Net profit ratio on sales	10.4%
3. Rate of return	27.4%
4. Break Even Point	

(a) Fixed Cost

1. Rent	12,000
2. Interest	78,000
3. Depreciation	34,350
4. 40% of salary & wages	45,600
5. 40% of other expenses	40,800
	<hr/> 2,10,750

(b) Profit = 1,42,200

$$\text{B.E.P.} = \frac{2,10,750 \times 100}{2,10,750 + 1,42,200} = 60\%$$

XX. Addresses of Machinery Suppliers

- M/s. Batliboi Engineers Pvt. Lt., 99/2, 99/3 N.R. Road, Bangalore-2. } Power Press Shearing M/c Belt Sander Hardness Testing
- M/s. Quality Machine Tools, Near VISL Bldg., J.C. Road, Bangalore-2. } M/c etc.
- M/s. Western Work Engineers Pvt. Ltd., Near Bhandup Railway Crossing, Bhandup, Bombay-400 018. } Salt Bath Furnace.
- M/s. Fuel Instruments Engineers Pvt. Ltd., Ichalakaranji, Maharashtra State. } Hardness Testing m/c.