

CHAIN LINE BASE MEASURING APPARATUS & RANGING RODS

I. Product & its use

Chain lines used for surveying of hilly roads. It is a surveyor's instrument. These chains are made of galvanised M.S. Wire, which is made in links & connected with rings. Each link is of 0.2 meter & the length of chain is 30m or 20m.

Ranging rods are made for taking the range through telescopes or alidades. This is also the surveyors instrument as made of conduit pipes with 3M length.

II. Market Potential

There is a good demand for these items which are purchased by Government organisation such as survey of India, Defence. They are procured as an original equipment alongwith other survey equipment & also for replacement.

III. Production Target (Per annum)

20 m. chain	1200 Nos.
30m. chain	1200 Nos.
ranging rods.	1600 Nos.

IV. Basis & Presumption

- (i) The basis for calculation of production capacity is on single shift basis on 75% efficiency.
- (ii) Pre-operative expenses indicated in the report includes cost of the project preparation, non-refundable deposits & other expenses involved before production commences.
- (iii) The rate of interest in the scheme has been on the basis of 15% at an average. However, this figure may be adjusted depending upon the conditions prevailing at the time of the implementation of the project as well as location of the unit.

V. Quality Control & Standards

IS standard No. IS-1492-1959 may be followed for the item.

VI. Production Details & Process of Manufacture

Cutting of wire to required length with the help of shearing hand m/c. followed by manually bending and assembly. The pipes for ranging rod cut to size and welded to triangular shape sheet metal pieces.

VII. Land & Building

75 sq. meter @ Rs. 10/- per meter 750

VIII. Machinery & Equipment

1. Welding machine	10,000
2. Bending dies & Fixtures	7,500
3. Furniture & workshop benches	5,000
4. Hand operated shearing m/c.	2,500
	25,000

IX. Salaries & Wages (Per month)

1. Manager/Foreman.	2,000
2. Skilled workers 2Nos.	1,200
3. Helpers 1No.	450
4. Clerk-cum-Storekeeper 1No.	500
5. Peon-cum-watechuman 1No.	450
	4,600
Perquisites @ 15%.	700
	5,300

X. Raw Materials/month

G-I. Wire 3.25mm round @ Rs. 8/- P. Kg. .	
1.5 ton	13,500
Brass wire 1.62mm 50/- per kg. 10 kgs. .	500
Conduit pipes @ Rs. 25/each 500 nos. . .	12,500
Sheet scrap for tag. & V. 30 kgs.	100
	Total
	26,600

XI. Utility (Per month)

Power and water	200
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XII. Other Expenses (Per month)

Rent.	750
Consumable stores.	250
Maintenance & replacement of small tools .	500
Contingencies & Transport Charge	500
	Total
	2,000

XIII. Working Capital (Per month)

Salaries & wages	5,300
Raw material	26,600
Other expenses	2,000
Utility	200
	Total
	34,100

XIV. Working Capital for 3 months. $34,100 \times 3$
= 1,02,300

XV. Total Capital Investment

Fixed	25,000
Working	1,02,300
Total	<u>1,27,300</u>

XVI. Cost of Production (Per annum)

Salaries & Wages	63,600
Raw material	3,19,200
Dep. on machinery @ 10%	2,500
Other expenses	26,400
Interest on capital	19,600
Investment @ 15%	
Total	<u>4,31,300</u>

XVII. Sales (Per annum)

By sale of 1200 nos. 30mm chain @ Rs. 150	1,80,000
By sale of 1200 nos. 20mm chain @ Rs.125	1,50,000
By sale of ranging rod 6000 nos. @ Rs.30/pc.	1,80,000
	<u>5,10,000</u>

XVIII. Profitability (Before taxes)

$5,10,000 - 4,31,300 = 78,700$
Profit ratio 15.4%
R. O. R. 61%

XIX. Break Even Analysis

Annual Fixed Cost

1. Rent	9,000
2. Salaries	25,440
3. O/H	6,960
4. Depreciation	2,500
5. Interest	19,600
Total	<u>63,500</u>

(b) Break-even point

$$\text{B.E.P.} = \frac{\text{FC} \times 100}{\text{FC} + \text{Profit}}$$

$$\frac{63,500 \times 100}{63,500 + 97,900} = 39\%$$

XX. Machinery Equipment

1. Tajendra Electrical Works, 122-A, Group Indl. Wazirpur, Delhi.
2. M/s. Weld Master, Kashmere Gate, Delhi.

XXI. Raw Material

Local market.