

I. Product and its uses

Chisel is used for chipping and cutting of metals. There are various types of chisels in use like flat chisels, cross out chisels, half round nose chisels etc.

Sickles are used by farmers for cutting crops and skythes for cutting grass in the field.

II. Market Potential

These are very common types of tools used in the industrial and agriculture sector. There is a regular demand for these items and these are generally sold through retail hardware dealers.

III. Production Targets (Per annum)

- 1. Chisels 96 M. Tons
- 2. Sickles and skythes 36M.Tons.

IV. Basis and Presumptions

The target has been estimated on the basis of 300 working days of single shift working.

V. Production Details and Process of Manufacture

Chisels are made from tested quality Carbon steel octagonal bars of assorted sizes by forging the cutting edges, finished smooth all over and tempered and ground. The cutting angle for soft metals is approximately 60° and for hard metals approximately 70° except in case of half round nose chisel for which is about 45°. The chisels have a hardness of 500 to 580 Brunell at the cutting edge.

For calculation purpose average size of 5/8" chisels has been taken into consideration. Sickles are made from Carbon steel flat 3 mm wide. The shape of the sickle is made by forging and the cutting edge is ground smooth and tempered, and wooden handle is then fixed.

Skythes are made from Carbon steel flat 3 mm thick and 25 mm wide. One of the cutting sides is ground sharp and smooth.

VI. Quality Control and Standard

Quality Specifications IS-402/1952 for chiesel.

Chemical Composition

Carbon	0.75 to 0.85%
Mangnese (Max)	0.40%
Phosphorus (Max)	0.05%
Sulphur (Max)	0.05%
Silicon (Max)	0.35%

VII. Land and Building

Land 1000 Sq. Mtres	
Covered area 300 sq. fit @ Rs. 10 per sq. meter per month.	3,000

VIII. Machinery and Equipment

1. Hydraulic power hacksaw machine with 1 HP motor	10,000
2. Forging hearth (Blacksmithy) with Blower 1HP motor, anvil swage block etc.—Two Nos.	20,000
3. Coal fired muffle furnace 600×250 mm for tempering	10,000
4. Oil quenching tank with double chamber having water circulation system 1000 × 500 × 500 mm 2 Nos.	5,000
5. Spring hammer with 10HP motor each two Nos.	30,000
6. Double ended grinder, heavy duty 2 HP motor — Two Nos.	6,000
7. Weighing Machine Platform type 500 kg. cap	8,000
8. Hardness testing machine	15,000
9. Hand tools, measuring tools, work benches etc.	10,000
10. Electrification and installation	10,000
11. Office furniture and equipment	10,000
	<hr/> 1,34,000

IX. Staff and Labour (Per month)

1. Manager	1	2,500
2. Foreman	1	1,500
3. Clerk -cum-typist	1	500
4. Peon-cum-Chowkidar	2 @ 400 each	800
5. Skilled Worker	5 @ 700 each	3,500
6. Semi skilled	3 @ 500 each	1,500
7. Unskilled	6 @ 400 each	2,400
		<hr/> 12,700
Perquisites and labour welfare charges 15 %		1,900
		<hr/> 14,600

X. Raw Materials (Per month)

1. Carbon steel bars of tested quality of assorted size 8 M. Tons. @ 8,000/- Per Mt.	64,000
2. Carbon steel Flat 3 M. Tons @ Rs. 8000 Mt.	24,000
3. Wooden handles for sickles and skythes	10,000
4. Wooden packing case for finished products	3,000
	<hr/> 1,01,000

XI. Utilities (Per month)

Electricity and Water	2,000
Steam coal, quenching oil, lubricating oils	4,000
Rs.	6,000

XII. Other Expenses (Per month)

Postage and stationery	300
Consumable stores	300
Repair and maintenance	300
Conveyance & Travelling	500
Advertisement and publicity	500
Misellaneous	500
Rent	3,000
TOTAL	5,400

XIII. Working Capital (Per month)

1. Raw Materials	1,01,000
2. Salary & wages	14,600
3. Utilities	6,000
4. Other expenses	5,400
	1,27,000

XIV. Total Investment

1. Fixed (non recurring)	1,34,000
2. Working capital for 3 months	3,81,000
	5,15,000

XV. Cost of Production (Per annum)

1. Recurring Expenditure	15,24,000
2. Depreciation on machinery and equipments @ 10% per annum	13,400
3. Interest on Investment @ 15%	77,250
	16,14,650

XVI. Total Sales (Per annum)

a. Chisels @ Rs. 15 kg. 96 MT	14,40,000
b. Sickles and skythes 36 MT @ 12 kg.	4,32,000
	18,72,000

XVII. Profitability (Per annum)

Profit	2,57,350
% profit on sales	13.75%
% Return on capital	49.97%

XVIII. Break Even Analysis**(a) Fixed Cost**

1. Salary & Wages 40%	70,080
2. Rent on the building	36,000
3. Utilities & other expenses 40%	28,800
	25,920
4. Depreciation on machinery & Equipments @ 10%	13,400
5. Interest on capital investment	77,250
	2,51,450

(b) B.E.P.

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

$$= \frac{251450}{251450 + 257350} = 49.4\%$$

XIX. Names and Addresses of Machinery Suppliers

1. M/s. Industrial Iron Works, Trimbak, Parshuram Street, Bombay-4.
2. M/s. Tendulkar Foundries, P.B. No. 207, Uddyam Nagar, Kolapur.
3. M/s. New Standard Engg. Co., N.S.E. Estate, Goregaon (East), Bombay-62.
4. M/s. Theralek Furnaces (P) Ltd., A-131, Road No. 23, Wagle Industrial Estate, Thane (Maharashtra).
5. M/s. F.H.C. Engg. Works (P) Ltd., Sonal Industrial Estate, Saki-Vihar Road, Bombay.
6. M/s. New Bijles Foundry Works, G.T. Road, Batala, Punjab.

XX. Names and Addresses of Raw Material Suppliers

1. M/s. Tata Iron and Steel Co., Jamshedpur (Bihar).
2. M/s. Steel Authority of India Ltd., Fairly Place, Calcutta.
3. M/s. Vishweshwarayah Iron and Steel Ltd., Bhadravati, Mysore.