

Project Profile

Product:- : **Wheelchair for Hospital use**

Product Code : IS 7454:1991

Title : Wheelchairs, Folding, Adult Size.

Production Capacity (PA) : Qty. - 2000 No.

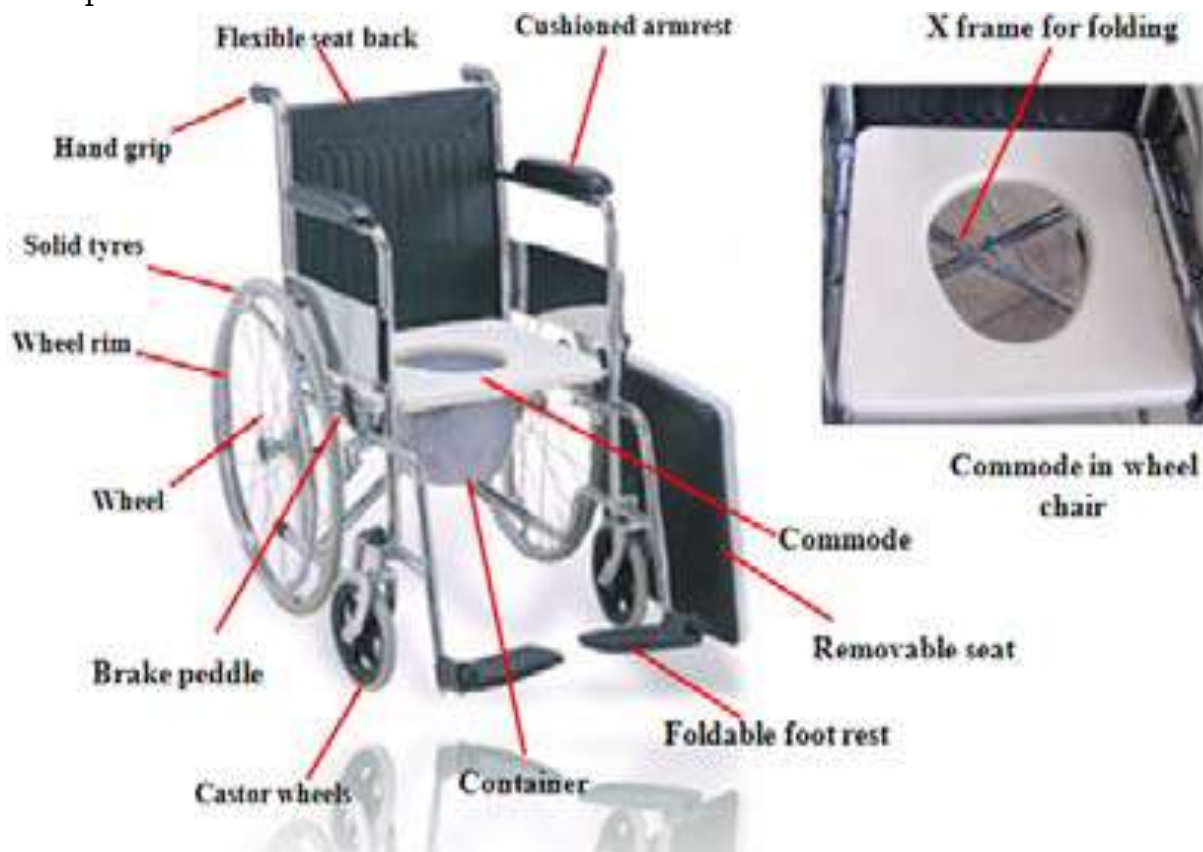
Yearly Turnover : Value Rs. 250 Lakhs.

Prepared By : MSME Development Institute,
Ahmedabad - 380014

INTRODUCTION

A chair with wheels designed as a replacement for walking is known as wheel chair. This is used for movement of physically disabled, elder people, children who have difficulty and are unable to walk. This device comes in many variations like self propelled, propelled by the motor or with the help of an attendee to push.

At present situation patients are facing problem while defecating. Patients needs to be lifted up and helped to remove the dress and make them defecate, which is discomforting to the patients in emergency condition. The design of back rest in the existing wheel chair creates repetitive stress injury if the patient is sitting for a long time. The present design of brake needs to be improved for better impact and application of brake in slope area. Arm rest creates obstruction while shifting the patient from wheel chair to vehicles, no solution in the existing design to make ease of shifting of patient to transportation vehicle.



PRODUCTS AND ITS USE

Wheel chairs are used to shift the patients from one ward to another in hospitals and from one room to another at home, as a walker for the people who are unable to walk.

Applications of Wheel Chair

- In Hospitals, Nursing homes
- In Houses
- In Pilgrim places
- In Travelling
- In Sports
- In Beaches

Generally Used During Emergency situation like:

- Road Accidents
- Fire Accidents
- Air Accidents
- Maternity emergency
- Physical disorders

Wheelchair used also in day to day life for :

- Physically challenged people
- Old people unable to walk
- Physically challenged children

MARKET:-

The demands for Wheelchair are increasing day by day due to the following reasons:

1. Increase the number of Hospitals in private sector & their expansion
2. Increase in number of private & Government nursing homes & their expansion.

The Government is also encouraging new hospitals & nursing homes in private sectors in order to increase treatment/handling facilities in accordance with the development in public health sector & as such it is likely to be a steady increase in the demand for hospital furniture. However, the growth rate is expected to be more than 10% to 15% per year and as such it may be ideal for the existing Wheelchair manufacturer units to take up this activity for not only as diversification but also better capacity utilization by installing a few balancing equipments.

The productivity of your staff definitely impacts patient care and revenue generation. The better the patient care, the higher the patient satisfaction. Hospital staff is able to give their best when they have good quality furniture and medical equipment at their disposal.

BASIS AND PRESUMPTION

This project is based on single shift basis with 8 hours and 300 working days in a year. The unit is proposed to be started in own building/Hired premises. Costs of machinery, equipment, raw material indicated in this report refer to a particular make and approximately to those prevailing at the time of preparation of this profile and it is presumed that these rates are likely to vary from supplier to supplier and place to place. Cost of installation and electrification of plant and machinery is taken @ 10% of its cost. The interest rate is taken @ 12%.

IMPLEMENTATION SCHEDULE

Time period required for executing the project from preparation of project report to starting the trial run production will be 8 months period approximately. Considering that some of the many activities may be overlapping, the project implementation will take a total period of Six months approximately for starting the actual production.

TECHNICAL ASPECTS

Process of Manufacturing

Raw materials like all type of iron angle, Iron Sheet, Iron pipe, wall thickness of pipe (difference between internal and outer dimension), quality Wheelchair wheel (big and small) and also check Quality of of nut bolt.

The basic operations involved in the manufacturing of adjustable beds are as follows:

- i. Cutting & bending of pipes
- ii. Cutting of MS angles
- iii. Cutting of strips
- iv. Welding & Riveting
- v. Grinding
- vi. Installation of Wheel big and small
- vii. Alignment for smooth working
- viii. Painting /Coloring

QUALITY SPECIFICATION

Wheelchair

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1. **Product** : IS 7454:1991

Title :

Rehabilitation Equipment — Wheelchairs, Folding, Adult Size — Specification.

2. **Sampling Guidelines:**

- a) **Raw material** : As per Cl 6 of IS 7454
- b) **Grouping guidelines** : Not Applicable
- c) **Sample Size** : One Wheelchair

3. **Scope of the Licence** : “Licence is granted to use Standard Mark as per IS 7454:1991 with the following scope: Name of the product Wheelchairs, Folding, Adult Size Type Type 1/ Type 2

1) PRODUCTION CAPACITY PER ANNUM

- i) Quantity 2000 nos.
- ii) Turn over Value Rs. 250.0 Lakhs

2) APPROXIMATE POWER REQUIREMENT

This industry is not a large power consuming industry; however maximum care should be taken in utilization of electrical energy.

3) POLLUTION CONTROL

This industry does not involve in generation of pollution.

4) ENERGY CONSERVATION

Power requirement is very low, even then energy can be saved by proper housekeeping.

Financial Aspects:-

No.	Particulars			Amount in Rs.
1	Land and Building (200 Sq. Mts build up shed Rented) (Per Month)			50,000/-
2	Machine And Equipment			
S. No.	Name of machine	Qty.	Rate (Rs.)	Amount(Rs.)
1	Pipe bending machine hand operated with fixtures locally fabricated.	3 Nos.	50,000/-	1,50,000/-
2	Arc welding set	1 Set	50,000/-	50,000/-
3	Gas Cutting set with torch, regulators etc.	1 set	40,000/-	40,000/-
4	Bench drill machine 13 mm capacity	1No.	25,000/-	25,000/-
5	Portable drilling machine 13 mm capacity	1 No.	20,000/-	20,000/-
6	Flexible shaft grinder 150 mm Wheels	1 No.	10,000/-	10,000/-
7.	Double ended bench grinder 300 mm sizes	1 No.	20,000/-	20,000/-
8.	Hand shearing machine 3 mm capacity	1 No.	10,000/-	10,000/-
9.	Baking oven 2.5 x 2 mts. X 2 mts. Size 20 Kw capacity.	1 No.	70,000/-	70,000/-
10.	Hand press No. 4	2 Nos.	7,500/-	15,000/-
11.	Cleaning, pickling, phosphating tanks 2.5 x 2 x 2 Mts	L.S	L.S	1,00,000/-
12.	Compressor with spray gun unit for painting	1 No.	20,000/-	20,000/-
13.	Riveting M/c portable type electric operated	1 No.	25,000/-	25,000/-
14.	Hand Tools, instruments etc	--	--	50,000/-
15.	Fixture & Dies	--	--	1,00,000/-
16.	Electrification & Installation @10 % cost of machinery	--	--	70,000/-
17.	Office Equipments/Work table etc	--	--	1,00,000/-
18.	Pre- operative expenses	--	--	1,00,000/-
Total Amount				9,75,000/-

Electrification and in stallion charges

@ 10 % of the cost of machinery Rs. 97,500/-

Cost of office equipment (Furniture) Rs. 57,500/-

Total cost of Machines and Equipment Rs. 11,30,000/-

Total Fixed Capital:-

A) Land & Building (Per Year) Rs. 6,00,000/-

B) Cost of Machines and Equipment Rs. 11,30,000/-

Rs. 17,30,000/-

Working capital requirement

i) Personnel (Wages per Month)

No	Designation	No	Salary/Month	Total Salary in Rs.
1	Manager	1	60,000/-	60,000/-
2	Supervisor	1	30,000/-	30,000/-
3	Skill Labour	4	25,000/-	1,00,000/-
4	Labour	6	20,000/-	1,20,000/-
5	Peon	1	15,000/-	15,000/-
Total				3,25,000/-

Towards welfares and statutory requirements

@ 15% of total salary 48,750/-

3,73,750/-

Total salary Rs. 3,73,750/-

ii) Raw materials Per Month

S.N	Description	Unit	Qty.	Rate	Value In Rs.
3	M.S. Tubes 25.40 mm OD x 1.6 mm/1.22mm thick	MT	5	80000	400000.0
4	Cloth set for Wheel chair	Set	80	3000	240000.0
5	Wheelchair wheel (Big)	Nos	150	1000	150000.0
	Wheelchair wheel (BSmall)	Nos	200	600	120000.0
6	M.S. Tubes 19.5 mm OD x 1.22mm thick	MT	1	75000	75000.0
7	M.S. Strips 1.25 mm x 25 mm	MT	1	65000	65000.0
9	Nuts, Bolts, Screws, Washers, Flats,	Nos	5000	10	50000.0

	Rubber items & paint etc.				
Total					11,00,000/-

iii) Utilities per Month

Power Charges Avg. 3000 units
@ 7.00/ Unit

Total Rs. 21,000/-

iv) Other Contingency expenses per month

Postage	5,000/-
Repair and Maintance	10,000/-
Transportation	20,000/-
Insurance	10,000/-
Misc.	5,000/-
	50,000/-

v) Total recurring expenditure

Personnel (Salary)	3,73,750/-
Raw materials	11,00,000/-
Utilities	21,000/-
Other Contingency Expanses	<u>50,000/-</u>
	15,44,750/-

vi) Working capital for 3 Month

46,34,250/-

vii) Total capital investment

i) Fixed Capital	17,30,000/-
ii) Working capital for 3 Month	<u>46,34,750/-</u>
	63,64,250/-

Machinery Utilization

Capacity utilization is considered as 75% of installed capacity

3) Financial analysis

a) Cost of Production (Per Year) Rs.

Total recurring cost	1,85,37,000/-
Depreciation on Machinery and equipment @15%	1,69,500/-
Depreciation on Office furniture @ 20%	11,500/-
Interest on total investment@12%	6,63,710/-
Wages and Salary @ 40%	17.94,000/-
Other expenses @ 40%	2,40,000/-
	2,14,15,710/-
	Say, Rs. 2,14,00,000/-

b) Turn over (Per Year)

Item	Qty	Rate	Value In Rs.
Wheelchair	2000	12500	2,50,00,000/-

c) Net Profit per Year

$$\text{Rs. } 2,50,00,000/- - 2,14,00,000/- = 36,00,000/-$$

d) Net profit ration

$$\frac{36,00,000 \times 100}{2,50,00,000/-} = 14.40\%$$

e) Rate of Return

$$\frac{36,00,000/- \times 100}{63,64,250/-} = 56.56\%$$

f) Break Even point

Fixed Cost

	Rs.
a) Total Depreciation	1,69,500/-
b) Total Interest	6,63,710/-
c) Salary @ 40%	17.94,000/-
d) Other Expenses @ 40%	<u>2,40,000/-</u>
e) Utility @ 40%	<u>1,00,800/-</u>
	29,68,010/-

$$\begin{aligned}\text{B.E.P.} &= \frac{(\text{Fixed cost} \times 100)}{(\text{Fixed cost} + \text{Profit})} \\ &= \frac{2968010 \times 100}{2968010 + 3600000} \\ &= \frac{2968010000}{6568010} \\ &= 45.18\%\end{aligned}$$

Machine & equipment Supplier

1. **Umiya Industries**
GIDC Naroda, Ahmedabad, Gujarat 382330
Phone: 079 2282 0709
2. **Adinath Equipments Pvt. Ltd**
FF-11/12/13, Dinubhai Estate, near Annapurna Restaurant,
Trikampura Patiya, GIDC Vatwa, Ahmedabad, Gujarat 382445
Phone: 099989 57744
3. **Yantralink Machine Tools**
14, Jagnath Estate, Cross Rd, opposite Gujarat Bottling,
Rakhial, Ahmedabad, Gujarat 380023
Phone: 094091 70703

Raw Material Supplier

- 1) **Ahmedabad Steel Craft**
401, 4th Floor, 637 Complex, Panchvati 2nd Lane, Near Suryarath
Complex, Gulbai Tekra Rd, opposite Patel Society, Gulbai Tekra,
Ahmedabad, Gujarat 380006
Phone: 079 2640 1996
- 2) **Shreeji Wheels And Castors Industries**
C/4, Sumel 7, Cross Road, Soni ni chali, Rakhial,
Ahmedabad, Gujarat 380023
Phone: 099780 55111
- 3) **SPL FASTENERS PVT LTD**
C-18, Sarthi Complex, Opposite Navgujarat Petrol Pump,
Jashodanagar Cross Road, near Ashirwad Restaurant,
Jashoda Nagar, Ahmedabad, Gujarat 382445
Phone: 079 3042 9008
- 4) **Shri Chamunda Surgical Agency**
U-12, Sath-sangath Complex, Near HP petrol Pump, Below SBI,
Shivranjani Cross Road, Satellite,, Ahmedabad, Gujarat 380015
Phone: [090999 63111](tel:09099963111)