Block Board And Flush Door Shutters (Wooden) (Solid Core)

PRODUCT CODE	:	270201009
QUALITY AND STANDARDS	:	Block Board - IS1659:1990 Flush Doors - IS 2202:1991
PRODUCTION CAPACITY	:	Qty. : Block Board/Plywood-1.26 lakhs Sq.mt. Value : Rs. 191.1 Lakhs
MONTH AND YEAR OF PREPARATION	:	July, 2002
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Introduction

Block Board: Block Boards are a kind of plywood in which the veneers are glued on both sides on wooden battens frame. Wooden strips are placed across a surface of one or more boards to prevent, warping and strengthening etc. Block Boards are used for making furniture, cabinets, partitions, interior/ exterior decorative wood working etc.

Flush Door: Flush Doors are also a kind of block board which is used to make door panels and differ in sizes according to the size of door.

Market Potential

As a raw material, wood has several unique characteristics and properties. Properly seasoned wood is light in weight compared to most materials of constructions and fabrication. Wood is a poor transmitter of sound, heat and electricity. Wood is easier to work, to paint and to preserve in the presence of sea water than most competitive materials. There are many other remarkable properties and characteristics of wood which provide for a variety of its usage and products. Block boards and flush doors are among these products.

Block boards and flush doors are seasoned boards and have all the properties of wood like, ease to work, to paint etc. These have advantages over raw wooden planks for the reason that these boards are more strong and free

from war page. Now a days in almost all the sectors of society, the use of plywood, board is becoming common for it is cheaper than wood and stronger as well. These boards doors are available in standard sizes. They can also be used in partitions, making furnitures, interior and exterior decorations etc. The surfaces of the boards are always smooth so laminating board with mica or otherwise is easy. Looking at these advantageous properties of boards, these are now becoming popular and used in almost all the houses, offices, bungalows, commercial complexes etc. In view of the urban/rural development and growth of construction activities and increasing replacement of old traditional wooden fittings with the boards, it can be easily presumed that these boards have a tremendous market potential.

Basis and Presumptions

This project scheme has been prepared on the basis of prevailing rates, which may vary from time to time and place to place. The entrepreneurs putting up this unit must check up/verify the following points at the time of conception:

1. Unit should run in single shift of 8 hours, 300 working days in a year.
2. It is envisaged that the unit can utilise 75% of its total installed capacity.
3. Labour wages, cost of plant and machinery, interest on capital investment etc. have been taken as prevailing at the time of preparation of this report.
4. Margin money requirement, terms of loan etc. may vary from institution to institution.
5. Interest on capital investment has been taken @ 16% per annum.

Implementation Schedule

It is estimated to take about 6 months, from conception to implementation and commercial production, which includes preparation of project report, liaison with financial institutions, purchase of plant and machinery, erection and commissioning, recruitment of staff and labour, clearance from all the concerned departments etc.

Technical Aspects

Process of Manufacture

Plywood, block boards and flush doors are made from a similar process, the difference between block board/ flush doors and plywood is only that the solid core of block boards and flush doors is made up of wooden battens frame, whereas the plywood is made from veneer gluing on one another. Plywood consists of three or more sheets of veneer glued together, with the grains of alternate sheet usually laid cross wise. The resulting material has distinct advantages for many uses as it is strong and free from war page etc. There are many gluing materials available in the market but Urea Formaldehyde is normally used and Phenyl Formaldehyde is used in plywood or block boards for exterior uses as this type of gluing material provides water or weather resistance properly to the boards.

1. Water is mixed in proportionate quantity in powder resin with small quantities of GHCP, TSP, LA and Maida to make liquid glue in glue mixer.

2. Liquid glue is spread on core veneer with the help of rollers on glue spreader.
3. Different layers of core and face veneers are set manually on wooden battens frame and stacked in the press and compressed with the help of steam in Hydraulic hot press.
4. After the boards are properly pressed and dried, these are taken out and side cutting is done on DD saw. Saw wastage of side cutting is used as fuel in boiler.
5. Top layer finishing is done on sanding machine by sanding belt.

Flow Process

Glue mixer → Glue spreader → Face and core veneer stacking → Hydraulic hot press → DD saw → sanding → finished boards.

In case of manufacture of flush doors, the production process remains same except the solid core is made from, a frame of battens in required sizes and face veneers are glued with phenyl formaldehyde which gives the door water resistance property.

Quality Control and Standards

Block boards are required to be manufactured as per IS 1659:1990 (Third revision, Amendment No. 3). Flush doors are to be manufactured conforming to IS 2202:1991 (Part I : Fifth revision).

Bureau of Indian Standards has suggested some tests for block boards and flush doors in IS 4020:1998 (Parts 1 to 16) which should also be followed.

Production Capacity (per annum)

Items	Quantity	Rate	Amt. (In Rs.)
Block Board/ Plywood	1,26,000 Sq.Mts.	75/ Sq.Mt.	94,50,000
Flush Door	84,000 Sq.Mts.	115/ Sq.Mt.	96,60,000
		Total	1,91,10,000

Motive Power 25 K.W.

Pollution Control

As such the unit does not need any special features for pollution control, however general precautions must be taken care of.

Energy Conservation

No special measures are needed. However while selecting machinery etc., one should be careful.

FINANCIAL ASPECTS

A. Fixed Capital

(i) Land and Building	(In Rs.)
Land 700 sq. mtr. leased @ Rs. 400/sq. mt.	2,80,000
Construction of work sheds 400 sq. mts. @ Rs. 2,000 per sq. mtr.	8,00,000
Total	10,80,000

(ii) Machinery and Equipments

Sl. No.	Description	Ind./ Imp.	Qty.	Amount (In Rs.)
(a) Production Unit				
1.	Glue Mixer complete with motor and electricals (3 HP)	Ind.	1	25,000
2.	Glue Spreading Machine with 56" rubber rollers, tank and complete accessories and 3 HP Motor	Ind.	1	1,00,000
3.	Thermi fluid Boiler Capacity 4,00,000 calories (agriculture	Ind.	1	3,00,000

Sl. No.	Description	Ind./ Imp.	Qty.	Amount (In Rs.)
	or municipal waste conversion)			
4.	Hydraulic Press (640 Tonne capacity) complete with heating plates, bolt case, pressing table, electrical panels, cylindrical Ram unit, jack cylinder hydraulic power jack etc.	Ind.	1	12,00,000
5.	Double Diamond saw cutter machine complete with table, saw blades motors (5+5) total 10 HP and accessories	Ind.	1	75,000
6.	Sanding machine complete with 5 HP motor and accessories	Ind.	2	1,00,000
		Total		18,00,000
	Erection and commissioning @ 10% of machinery			1,80,000
	Cost of spare blades, dies, fixture and other tools including measuring tools			1,00,000
	Cost of working tables, office furniture and equipment			50,000
		Total		21,30,000
(iii)	Pre-operative Expenses			70,000
		Total		22,00,000

Total Fixed Capital	(In Rs.)
(1) Land and Building	10,80,000
(2) Plant and Machinery	21,30,000
(3) Pre-operative Expenses	70,000
Total	32,80,000

B. Working Capital (per month)

(i) Personnel

Designation	Nos.	Salary	Amt. (In Rs.)
Manager	1	5,000	5,000
Supervisor	1	3,000	3,000
Clerk/Store Keeper	1	2,500	2,500
Typist cum Clerk	1	2,500	2,500
Skilled Worker	10	2,000	20,000
Helpers	15	1,500	22,500
Watchman	2	1,500	3,000
		Total	58,500
Add 15% Perquisites			8,775
		Total	67,275
		Say	67,000

(ii) Raw Material

Particulars	Ind./Imp.	Qty.	Rate	Amt. (Rs.)
Veneer (for core and face)	Ind.	70,000 Sq.mts.	2.5	1,75,000
Batten frames (for solid core)	Ind.	17,500	35	6,12,500
Glue U.F. Resin	Ind.	4	34,000	1,36,000
Glue Phenyl Resin	Ind.	4	58,000	2,32,000
		Total		11,55,500
		Say		11,55,000

(iii) Utilities	(In Rs.)
Power 5,000 KWH Units @ Rs. 4 per unit	20,000
Water Charges (LS)	5,000
Total	25,000

(iv) Other Contingent Expenses	(In Rs.)
1. Transportation and Conveyance	25,000
2. Maintenance and Repairs	5,000
3. Telephone Charges	2,500
4. Postage and Stationery	2,000
5. Petty Purchases	1,500
6. Fuel for Boiler	10,000
7. Insurance	500
8. Miscellaneous Expenses	3,500
Total	50,000

(v) Total Recurring Expenditure (per month) (i+ii+iii+iv) Rs. 12,97,000

(vi) Working Capital (for 3 Months)
Rs. 12,97,000 × 3 = Rs. 38,91,000

C. Total Capital Investment

(i) Fixed Capital	Rs. 32,80,000
(ii) Working Capital (for 3 months)	Rs. 38,91,000
Total	Rs. 71,71,000

FINANCIAL ANALYSIS

(1) Cost of Production (per annum)	(Rs.)
Total Recurring Cost	1,55,64,000
Depreciation on Machinery @ 10%	1,80,000
Depreciation on Tools etc. @ 25%	25,000
Depreciation on Office Equipments @ 20%	10,000
Depreciation on Building @ 5%	40,000
Interest on Capital Investment @ 16%	11,47,360
Total	1,69,66,360
Say	1,69,70,000

(2) Turn-over (per annum)

Sl. No.	Items	Qty.	Rate	Amount (Rs.)
1.	Block Board/ Plywood (Assorted Thickness)	1,26,000	75	94,50,000
2.	Flush Doors (Assorted Thickness)	84,000	115	96,60,000
	Total			1,91,10,000

(3) Profit *(Before Taxes)*

Rs. 1,91,10,000 – Rs. 1,69,70,000
= Rs. 21,43,640

(4) Net Profit Ratio

$$= \frac{\text{Net Profit} \times 100}{\text{Turnover}}$$

$$= \frac{21,43,640 \times 100}{1,91,10,000}$$

$$= 11.22\%$$

(5) Rate of Return

$$= \frac{\text{Net Profit} \times 100}{\text{Capital Investment}}$$

$$= \frac{21,43,640 \times 100}{71,71,000}$$

$$= 29.9\%$$

(6) Break-even Point

Fixed Cost	Amt. (In Rs.)
Total Depreciation	2,55,000
Total Interest	11,47,360
Insurance	6,000
40% of Salary and Wages	3,21,600
40% of Other Contingent Expenses (Excluding Insurance)	3,57,600
Total	20,87,560
or Say	20,88,000

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

$$= \frac{20,88,000 \times 100}{20,88,000+21,43,640}$$

$$= \frac{20,88,000 \times 100}{42,31,640}$$

$$= 49.34\%$$

Addresses of Machinery and Raw Material Suppliers

1. M/s. Energy Machines
   Vithal Udyog Nagar,
   Vallabh Vidya Nagar
   (Gujarat).
2. M/s. Ambica Hydraulics Pvt. Ltd.
   Chhotral District,
   Mehsana,
   (Gujarat).
3. M/s. Pal Singh and Sons
   Kirti Nagar,
   Delhi.

Raw Material Suppliers

All the raw materials are easily available in the local market.