PROJECT PROFILE

FLEXIBLE INTERMEDIATE BULK CONTAINER

PREPARED BY

8TH FLOOR, PARISHRAMA BHAVANAM,
BASHEERBAGH, HYDERABAD
www.apitco.org

1.1 INTRODUCTION

Flexible Intermediate Bulk Containers are those having capacity to carry material ranging from 0.5-2 M.T. and are generally used for packing of minerals, sand, crushed stone, gravels, starch, pellets, plastic granules, ceramic, clays, cement etc.

The flexible bulk container offers some of the features that are unique to this package and they are:

- It can be folded flat and bailed for shipment to the user.
- The weight of a bulk bag used to ship one metric ton of product weighs 8-10 lb, offering a low package: product weight ratio.
- The cost of FIBCs is competitive with other forms of packaging as it is usually utilized without pallets.
- They are easy to store and handle in warehouses with standard equipment. When shipping by boat the FIBCs are gang-loaded with up to 14 bulk bags on a spreader bar, and are shipped as break bulk.
- The standard filled diameter of FIBCs is 45-48 in., designed to fit two across in a truck or a shipping container.
- Special configured containers are made to meet specific requirements of the container user.

These are some of the industries which typically use these bulk bags.

- Chemicals – which cover a multitude of industries
- Ferro Alloys
- Crushed Stone, Sand, Gravel, Cement
- Food Industry – Sugar, Salt, Flour, Dextrose, Starch, Food Additives
- Pharmaceutical
- Plastics – Resin, Pellets, Granules etc.
- Absorbent Polymer

- Refractories – Abrasive Grit, Ceramics, Clays, Lime, Powdered Metals
- Rubber
- Carbon Black
- Agriculture – Seed, Grain, Popcorn and Beans
- Minerals and Specialty Minerals

1.2 TECHNOLOGY AND PROCESS

Production of FIBC involves the conversion of PP Granules to long tapes and later woven, cut to size, printed and stitched to be used. The step wise production process is explained below and a flow chart is provided for better understanding.

Extrusion

Here the mix of virgin and recycled PP granules are being melted and converted into form of tapes in a extrusion plant and at the end of the process are wound on bobbins of required size. This is the first stage of process which determines the tensile strength of the tape.

Weaving

Extruded tape bobbins will be loaded in the Circular weaving machine or Flat weaving machine. Here the tapes will be woven to fabric of required specification and will be would in roll form. These fabrics will become the body fabric of the FIBC.

Laminating (Optional)

Polypropylene fabric is being laminated with LDPE film for making the fabric moisture proof. This is optional process as per the requirement of the customer.

Cutting

The woven Polypropylene fabric in rolls will be feeded in the automatic cutting machine and will be cut in to cut bit of required size. This Automatic process is adopted to get better accuracy in cut size.

Printing

The cut bits that are the body fabric will be feeded in to the heavy duty printing machine to make the printing impression on the fabric. We are equipped with heavy duty printing machine, which gives the best impression with maximum of three colours.

Webbing

Heavier Polypropylene Tapes are woven in to webbing which forms the lifting loop of the Jumbo bag.

Sewing Unit

Here all the components used to manufacture Jumbo bags are brought together along with the printed body fabric. All the gathered parts are assembled to a Jumbo bag by highly skilled labours under the supervision of technically qualified supervisors.

Inspection

Here each and every bag we manufacture will be inspected by a technically qualified person from the quality control department to ensure that each and every bag delivered from Virgo is of good quality.

Burst Test

Random bags will be selected from a particular lot and will be tested in the testing ring to ensure the Safe Working Load of the bag is achieved. Generally this test is conducted with the sample bag before commencing the production. But after completion of the production also, random samples are taken for burst test to ensure the Safe Working Load.

Packing / Bailing

Here the bags which have been produced will be compressed with the help of the bale press and neatly packed as per the requirement of the customers.

Storage

Once the bag is baled, it will be immediately shifted to a clean storage room, from where the dispatches are affected.

Plant and Machinery

Two Numbers of Tape Extrusion Plant has been proposed and one number each of laminating and stitching machine is considered so as to match the capacity requirement.

Some of the machinery suppliers of Tape extrusion technology are:

- E-quest Technologies Pvt. Ltd. (Considered) – India
- Kabra Extrusion Technik – India
- Zhejiang Universal Packing Machinery Factory – China

and the popular supplier of Stitching Machinery is Stichman from India.

Raw Material

The raw materials required for making of FIBC are polypropylene (PP) Granules and Low Density Polyethylene (LDPE).

1.3 INVESTMENT

The project calls for an investment of Rs. 475.00 Lakhs to set up a unit to process 200 Kg per hour of FIBC. The plant and machinery required for the project are indigenously available.

Table 1: Project Cost (Rs. Lakhs)

Description	Amount
1. Land & Land Development	12.00
2. Buildings & Civil works	98.81
3. Plant & Machinery	271.00
4. Misc. Fixed Assets	37.74
6. Contingencies	2.55
7. Deposits	5.00
8. Preliminary & Pre-operative Expenses	24.90
9. Margin Money for Working capital	23.00
Total	**475.00**

Suggested means of finance is tabulated below.

Table 2: Means of finance (Rs. Lakhs)

Description	Amount
1. Equity from Promoters	175.00
2. Term Loan	300.00
Total	**475.00**

The debt equity is considered as 1.71:1 with 12% as interest on term loan. The product mix and the sales prices are as follows

The finished products can be sold at Rs. 127.50 per Kg.

1.4 RETURNS

The returns from the project are adequate enough to repay the term loan in 5 years time from the date of commercial operations. Two shifts of operations have been taken into consideration. The key financial indicators of the project are tabulated below.

Table 3: Key Financial Indicators

Particulars	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**
Total Income	856.80	893.52	930.24	966.96	1003.68	1040.40	1077.12	1113.84
Total Variable Costs	604.92	630.87	656.88	682.96	709.11	735.33	761.63	785.67
Total Fixed Costs	79.65	81.96	84.29	86.64	89.02	91.42	89.69	92.15
Total Expenditure	684.57	712.83	741.17	769.60	798.13	826.75	851.32	877.83
PBIDT	172.23	180.69	189.07	197.36	205.55	213.65	225.80	236.01
Profit After Tax (PAT)	63.74	74.08	84.36	94.59	104.60	112.47	120.49	127.23
Cash Accruals	**102.13**	**112.47**	**122.75**	**132.98**	**142.99**	**150.86**	**158.88**	**165.62**
Term Loan Repayment	60.00	60.00	60.00	60.00	60.00	0.00	0.00	0.00
Closing Balance	46.05	99.38	162.98	236.81	320.65	472.35	628.01	790.40
BEP (Op Capacity)	60.91%	56.46%	52.40%	48.66%	45.30%	43.24%	41.24%	40.38%
Gross DSCR	1.50	1.66	1.86	2.09	2.37	-	-	-
Average Gross DSCR	1.86							
Net DSCR	1.77	1.94	2.12	2.29	2.45	-	-	-
Average Net DSCR	2.11							
IRR	28%							