

PROJECT PROFILE

SEAMLESS PIPES

&

TUBES

PREPARED BY



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1.1 INTRODUCTION

The seamless steel industry is almost one century old. The prime reason for the development was provided by transportation sector. Petroleum sector consumes largest quantities of seamless tubes. The Indian seamless tube industry is about 55 Years old. The first plant was set up as a Joint venture between TISCO and Stewart Lloyds of UK at Jamshedpur and after disinvestment by Stewart Lloyds the plant is being run with an installed capacity of 55,000 TPA.

Seamless pipes are used where strength, resistance to corrosion and product life is crucial. Ultra high strength and corrosion-resistant properties make these perfect for oil and gas industry, steam boilers, chemical and other processing industries, pipelines, installation with high and supercritical steam and pressure conditions, etc.

1.2 TECHNOLOGY AND PROCESS

Seamless pipe manufacturing uses hot rolled round bar billet of carbon steel or steel alloy. The billets are cut into suitable length depending on the required length of the finished tube. The billets are heated in a furnace at a temperature of 1200 °C to 1300 °C. Then the seamless tube is formed by drawing a solid billet over a piercer to create the hollow shell (mother blanks). These hollows are crimped at one end in hot condition and then they are air cooled.

The tubes are then surface treated (pickled, phosphate coated and lubricated) to facilitate the next process of tube drawing. Depending on the finished sizes required, the tubes are subjected to single, double or triple drawing. After every draw the tubes are annealed at a temperature of 750 °C. The tubes are then straightened and cleaned if necessary and before being cut to the exact size required. The finished tubes are tested for quality and they are marked and coated with rust preventive oil before being bundled and dispatched.

1.3 END USES

Due to their varied uses, seamless pipes and tubes find their application in several industry sectors which include:

- Refineries & Petrochemical plants
- Fertilizer industry
- Steel plants
- Power plants
- Industry using Boilers.
- Sugar plants
- Chemical plants
- Industry using Heat Exchangers and Condensers.
- Automobile manufacturing plants
- Railways
- Defense (aircraft, missile, nuclear power plants)

1.4 MARKET

At present, the size of Indian seamless tube production is around 1.1m tones (*Source: Overview of the Engineering Sector in India – April 2007, The Indo-Italian Chamber of Commerce and Industry*). The expected demand in the next five years is estimated at 2.5 million tones (*Source: Steel World*), which is about double the present level of production.

Assuming that the demand for smaller diameter seamless pipes is 40% of the total demand for seamless pipes (*Source: Department of Industrial Policy and Promotion, Ministry of Commerce and Industry*), the estimated demand for the next five years would be around 1 million tons (40% of 3.0 million tons of total demand).

At present most of the manufacturing companies of seamless pipes and tubes are largely concentrating on the large diameter segment. And very few companies are manufacturing carbon steel smaller diameter seamless pipes and tubes. Hence, it is

inferred that there would be adequate demand of the products. Large Investment in petro chemical projects (PCPIR – Vizag) and natural gas pipelines is expected in near future. This will add to the demand.

Some of the major manufacturers of Carbon Steel Seamless Pipes and Tubes in India are

- Maharashtra Seamless Limited (DP Jindal Group), Raigad Dt, Maharashtra – 350,000 TPA
- Mahalaxmi Seamless Limited (DP Jindal Group), Maharashtra – 10000 TPA
- Seamless Steel Tube Plant (SSTP), BHEL, Tiruchirappalli, Tamil Nadu
- Indian Seamless Metal Tubes (ISMT) Limited, Pune, Maharashtra – 4,50,000 TPA
- Heavy Metal and Tubes Limited, Ahmedabad, Gujarat

The demand for the seamless tubes is growing by and large, big players are already in the market and planning of expansion but the high gap between demand and indigenous supply leaves lot of scope for new entrants. The prices of the finished product may be kept competitive to attract customers and experience of promoters in trading of the product if any will be an added advantage to the project.

1.5 INVESTMENT

The investment (Project Cost) requirement for setting up a seamless pipes and tubes plant with 25000 TPA installed capacity would be around Rs. 5000 Lakhs and the breakup of the cost of the project is tabulated below.

The land requirement for the project would be around Acres 15.00. The pre-operative expense includes Interest during construction of Rs. 213.50 Crores. Primary equipments for the unit have to be imported and M/S Mannesmann, Germany is the largest supplier of equipment and technology. The project will take around 18 months time for commissioning from the date of financial closure.

Table 1: Project Cost

(Rs. Lakhs)

Description	Amount
1. Land & Land Development	100.00
2. Buildings & Civil works	1100.00
3. Plant & Machinery	2000.00
4. Electrification	350.00
5. Misc. Fixed Assets	120.00
6. Contingencies	180.00
7. Deposits	60.00
8. Preliminary & Pre-operative Expenses	340.00
9. Margin Money for Working capital	750.00
Total	5000.00

Suggested means of finance is tabulated below.

Table 2: Means of finance

(Rs. Lakhs)

Description	Amount
1. Equity from Promoters	2000.00
2. Term Loan	3000.00
Total	5000.00

The debt equity is considered as 1.50:1 with 14.5% as interest on term loan.

The product mix and the sales prices are as follows

Carbon Steel Tubes	75% of Installed Capacity	Rs. 55000 per MT
Alloy Steel Tubes	25% of Installed Capacity	Rs. 150000 per MT

The unit can reach 80% of its installed capacity within 3 years of operations and needs around 150 direct manpower and 10 administrative manpower to operate.

1.6 RETURNS

The returns from the project are adequate enough to repay the term loan in 6 years time from the date of commercial operations. 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	12936.40	12712.87	14428.49	14494.49	14494.49	14494.49	14494.49	14494.49
Total Variable Costs	11187.16	10335.37	11790.06	11803.90	11816.37	11829.77	11844.19	11859.71
Total Fixed Costs	399.45	396.15	446.41	451.54	455.13	455.80	459.99	464.52
Total Expenditure	11586.62	10731.52	12236.47	12255.44	12271.50	12285.58	12304.18	12324.23
PBIDT	1349.79	1981.35	2192.02	2239.05	2223.00	2208.92	2190.31	2170.26
Profit Before Tax (PBT)	567.50	1070.65	1304.30	1430.28	1504.01	1582.53	1614.63	1594.44
Profit After Tax (PAT)	478.29	694.71	915.46	979.17	1011.14	1048.65	1057.54	967.15
Cash Accruals	729.36	945.79	1166.54	1230.24	1262.22	1299.72	1308.61	1218.23
Term Loan Repayment	240.00	340.00	520.00	580.00	660.00	660.00	0.00	0.00
Closing Balance	492.56	854.22	1367.06	2016.87	2620.89	3259.16	4566.15	5782.64
BEP (Op Capacity)	65.30%	48.86%	43.66%	39.56%	36.10%	32.38%	30.57%	30.98%
Gross DSCR	1.75	1.85	1.78	1.80	1.75	1.90	-	-
Average Gross DSCR	1.80							
Net DSCR	3.05	2.79	2.25	2.13	1.92	1.97	-	-
Average Net DSCR	2.22							
IRR	25.31%							