

## PROJECT PROFILE ON R.C.C. SPUN PIPE

PRODUCT CODE	:	94432
QUALITY AND STANDARDS	:	IS 458
Production Capacity (per annum)	:	Quantity: 20,000 Running meters.
	:	Value : Rs. 68,00,000
YEAR OF PREPARATION	:	2010-11
PREPARED BY	:	MSME Development Institute (Ministry of MSME, Govt. of India) 65/1, Guindy, Chennai -600032 Ph.& Fax: 044-22501475 Web site : <a href="http://www.msmedi-chennai.gov.in">www.msmedi-chennai.gov.in</a>

**Introduction:**

Reinforced cement concrete spun pipes up to 1000 mm Dia are exclusively reserved for manufacture in the SSI sector. These pipes are widely used for water drainage, sewerage, culverts and irrigation. RCC pipes are classified as pressure and non pressure pipes viz. NPI, NP2, NP3, P1, P2, P3 for use in specific conditions. These pipes are made from cement, coarse and fine aggregate, sand, mild steel and HT rods and bars.

**Market Potential:**

Public Health Engineering Department, Public Works Departments, Agriculture and Forest Department, National Highways, Environment Engineering Department, Panchayats Municipal Corporations are the bulk consumers of RCC spun pipes. Most of the customers are approved civil contractors who are executing the works of the Government Department and Public Sector Undertakings. Presently government is giving stress on rural irrigation and improving methods of water supply scheme, so the demand for pipes is increasing.

**Basis and Presumptions:**

- a) The basis for calculation of production capacity has been taken on single shift basis on 75% efficiency.
- b) The maximum capacity utilization on single shift basis for 300 days a year. During first year and second year of operations the capacity utilization is 60% and 80% respectively. The unit is expected to achieve full capacity utilization from the third year onwards.
- c) The salaries and wages, cost of raw materials, utilities, rents, etc. are based on the prevailing rates in and around Chennai. These cost factors are likely to vary with time and location.
- d) Interest on term loan and working capital loan has been taken at the rate of 18 % on an average. This rate may vary depending upon the policy of the financial institutions/agencies from time to time.
- e) The cost of machinery and equipments refer to a particular make/model and prices are approximate.
- f) The break-even point percentage indicated is of full capacity utilization.
- g) The project preparation cost etc. whenever required could be considered under pre-operative expenses.

#### IV. Implementation Schedule:

The major activities in the implementation of the project have been listed and the average time for implementation of the project is estimated at 6 months:

S. No	Activity	Period (In Months)
1	Preparation of project report	1
2	Registration and other formalities	1
3	Sanction of loan by financial institutions	3
4	Plant and Machinery:	
	a) Placement of orders	4
	b) Procurement	4
	c) Power connection/ Electrification	4
	d) Installation/Erection of machinery/Test Equipment	5
5	Procurement of raw materials	5
6	Recruitment of Technical Personnel etc	5
7	Trial production	5
8	Commercial production	6

#### Notes

1. Many of the above activities shall be initiated concurrently.
2. Procurement of raw materials commences from the 5th month onwards.
3. When imported plant and machinery are required, the implementation period of project may vary from 4 months to 6 months.

#### V. Technical Aspects:

##### 1) Process of Manufacture:

The reinforced cage is first prepared on the cage-winding machine by hand process. The cage is then placed inside the pipe mould which is then hoisted up and mounted horizontally on the turn unions. It is rotated by driving shaft with variable speed arrangement, the rotation is kept slow in the beginning and then the speed is increased. The concrete mixture for the RCC spun pipe is prepared in proportion of 1:2:5:2:5 of cement stone, metal and sand respectively. The cement concrete is fed into the moulds during rotation which spreads inside evenly. The time required for completion of this operation depends upon the diameter and class of the pipe. The pipes are kept in the mould for 24 hours. On the following day the pipes are removed from the moulds and submersed in water in the curing tank for about 15-20 days depending upon the class of the pipe. The specimens of the pipes are subject to the following tests viz: (1) Hydrostatic pressure test (2) Three edge bearing test (3) Absorption test.

##### 2) Quality Control and Standards:

The Bureau of Indian Standards has formulated IS 458:1971, for maintaining Quality of the product.

##### 3) Production Capacity (per annum) :

**Quantity:** 20,000 Running meter &

**Value:** Rs. 68,00,000.

##### 4) Motive Power: 20 kw.

**5) Pollution Control:**

The project does not create any noise or water pollution. The air pollution in mixing area need to be contained by providing cyclonic dust collector. Workers may use dust mask.

**6) Energy Conservation:**

General precautions for saving electricity are required to be followed by the unit by adopting energy conservation techniques.

**VI. Financial Aspects:****a) Fixed Capital:**

(i) Land and Building	Rs
Land – 1 Acre	5,00,000
Production shed 100 Sq. m. @ Rs.5,000	5,00,000
Stores room 30 Sq. m. @ Rs.5,000	1,50,000
Curing tank 40 x 20mtrs.	1,50,000
Office, Testing laboratory 35Sq. m.	3,00,000
Well, pump set, overhead water tank etc.	2,00,000
<b>Total</b>	<b>18,00,000</b>

**(ii) Machinery and Equipments:**

Sl. No.	Description	Qty. Nos.	Price (Rs.)
1	Pipe moulding machine of 2 meter length complete set with 10HP motor	1	2,50,000
2	Gauge winding machine	2	60,000
3	Concrete mixer	1	50,000
4	Collar winding drum with stand	2	40,000
5	Gantry with pull-push trolley	1	1,20,000
6	Testing equipments	LS	80,000
7	Collar moulds complete With end rings, tie rods, riving ring for pipes 100mm to 600mm Dia and 2 meter length pipes	40	1,00,000
8	Pipe moulds 100mm to 600mm Dia 2 meter with accessories	40	3,00,000
	<b>Total</b>		10,00,000
<i>Installation and Electrification charges @ 10%</i>			1,00,000
<i>Work benches and Office equipment</i>			50,000
<b>Total cost of Machinery and Equipments</b>			<b>11,50,000</b>
<b>(iii) Pre operative expenses :</b>			30,000

<b>Total Fixed Capital</b> : 18,00,000 + 11, 50,000 + 30,000	<b>29,80,000</b>
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**B. Working Capital:**

**i) Staff and Labour (per month): (Rs.)**

1 Manager	1	10,000
2 Supervisor	1	8,000
3 Skilled worker @ 7,000	6	42,000
4 Semi-skilled worker @ 6,000	10	60,000
5 Helper	1	5,000
<b>Total</b>		<b>1,25,000</b>

<i>Perquisites @ 15% on Salaries</i>		18,750
	<b>Total</b>	1,43,750
	<b>Say</b>	<b>1,44,000</b>

**ii) Raw Material (per month) :**

1	Item	Qty.	@ Rs.	Total Rs.
2	Cement	20MT	5,000/MT	1,00,000
3	Steel	4MT	25,000/MT	1,00,000
4	Coarse and fine aggregates	LS		20,000
5	Mould oil grease and misc expenses	LS		20,000
6	Miscellaneous items			
			<b>Total</b>	<b>2,40,000</b>

<b>(iii) Utilities (per month) :</b>	
WATER	2,000
Power 2000 units @ Rs. 7/-per unit	14,000
<b>Total</b>	<b>16,000</b>

<b>(iv)</b>	<b>Other Contingent Expenditure (per month) :</b>	<b>(Rs.)</b>
1	Repair and Maintenance	2,000
2	Postage and Stationery	1,000
3	Telephone Charges	1,000
4	Transport Charges & Sales expenses	5,000
5	Miscellaneous	2,000
	<b>Total</b>	<b>11,000</b>

<b>(v) Working Expenditure (per month) :</b>	<b>Rs.</b>
Staff and Labour	1,44,000
Raw Materials	2,40,000
Utilities	16,000
Other Contingent Expenditure	11,000
<b>Total</b>	<b>4,11,000</b>

<b>(vi) Working Capital (for 3 Months) : 4,11,000 x 3</b>	<b>12,33,000</b>
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**C. Total Capital Investment:**

(i) Total Fixed Capital	20,80,000
(ii) Working Capital (for 3 months)	12,33,000
<b>Total</b>	<b>33,13,000</b>

**Machinery Utilization:**

Sufficient and timely availability of Grey cement will ensure optimum utilization of the installed capacity. The pipes are kept immersed in water for curing purpose in such a way that one is not put on the other. Sufficient moulds are required to maintain regular production otherwise non-availability of required pipe moulds or collar moulds will be a bottleneck in the optimum capacity utilization.

**VII. Financial Analysis:**

	Cost of Production (per year)	Rs.
1	Total recurring cost	49,32,000
	Depreciation on Building @ 5% On 13,00,000	65,000
2	Depreciation on Machinery and Equipment @ 10%	60,000
3	Depreciation on tools & Moulds @ 25%	1,00,000
4	Depreciation on office furniture @ 20%	10,000
5	Interest on Capital Investment @ 18 %	5,96,340
	<b>Total</b>	<b>57,63,340</b>
	(Or) say	<b>57,63,000</b>

**(2) Turnover (per year) :**

	Rs.
By way of selling RCC spun pipes 2 Mtr length @ Rs. 340/ each , 20,000 Mtrs	68,00,000

**(3) Net Profit (per year) :**

	Rs.	
Total Sales Turnover (-)	68,00,000 (-)	10,37,000
Cost of production	57,63,000	

**(4) Net Profit Ratio:**

$\frac{\text{Net profit} \times 100}{\text{Annual turnover}}$	$\frac{10,37,000 \times 100}{68,00,000}$	15.25 %
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**(5) Rate of Return :**

$\frac{\text{Net profit} \times 100}{\text{Capital Investment}}$	$\frac{10,37,000 \times 100}{33,13,000}$	31.3 %
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**(6) Break-even Point:**

**Fixed Cost :**

1	Total Depreciation	2,35,000
2	Interest on Total Capital Investment	5,96,340
3	40% of Salary and Wages	6,91,200
4	40% of Other Contingent expenses	52800
	Total	15,75,340
	Say	15,75,000

**B.E.P. :**

$\frac{\text{Fixed cost} \times 100}{\text{Fixed cost} + \text{Profit}}$	$\frac{15,75,000 \times 100}{26,12,000}$	<b>60.2 %</b>
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**VIII. Additional Information:**

- a. The Project Profile may be modified /tailored to suit the individual entrepreneurship qualities/capacity, production programme and also to suit the locational characteristics, wherever applicable.
- b. The Electrical Technology is undergoing rapid strides of change and there is need for regular monitoring of the national and international technology scenario. The unit may, therefore, keep abreast with the new technologies in order to keep them in pace with the developments for global competition.
- c. Quality today is not only confined to the product or service alone. It also extends to the process and environment in which they are generated. The ISO 9000 defines standards for Quality Management Systems and ISO 14001 defines standards for Environmental Management System for acceptability at international level. The unit may therefore adopt these standards for global competition.
- d. The margin money recommended is 25% of the working capital requirement at an average. However, the percentage of margin money may vary as per bank's discretion.

**IX. Addresses of Machinery and Equipment Suppliers:**

M/s. M/s. Prakash Fabricators 1034 E, Rajaram Road, Kolhapur (Maharashtra)	M/s. A. P. L. Industries 415, Dave Industrial Estate, Bhakti Nagar Station Road, Rajkot _ 2 (Gujarat)
M/s. Buildtech Engineering Co. Shree Ashadweep Complex, 16-Civil Lines, Roorkee _ 247 667, (Uttar Pradesh)	M/s. Karthik Industries 36, J.C. Road, Bangalore-560 002
M/s. Susanji Udyog Pvt. Ltd. C-47, Industrial Estate, Sanath nagar, Hyderabad _ 500 018	M/s. Apco Concrete Blocks and Allied Products 7th Mile, Kanakpura Road, Doddasandra Post, Bangalore _ 560 062
M/s. Ashok Engineering Works 81, Ajit Industrial Estate Rakhial, Ahmedabad _ 380 023	M/s. Hydro Engineering Works K1/116, CIDC, Mori, (Gujarat)

**X. Addresses Raw Material Suppliers:**

All Raw Materials are Locally available