

**Commissioner of Industries
Hyderabad
Andhra Pradesh**

Rust Converter

I. Introduction

Rust converter is a two component system used for anti-corrosive coatings. It is a solid liquid component system and can be applied with conventional brush on metal surface. The product has been developed by Central Electrochemical Research Institute (CECRI), Karaikudi and provided consultancy services for technology transfer to a commercial unit established in Hyderabad. According to the Institute sources, the unit was established to manufacture 500 Kg. per day with an investment of around Rs.15.00 lakhs. The product has been widely accepted by the industry for anti- corrosive coatings on vessels, storage tanks, pipelines etc. in a process plant.

II. Market Status and Scope

So far, only one commercial plant is working in India with the technology supplied by CECRI. Karaikudi and the unit is able to establish market for their product. As the product has been recently introduced in the market, there is no background information available on consumption of the product in the past. However, due to rapid industrialisation and with the liberalised economy, in the country, the industrial activity is likely to go up in general, chemical industry in particular. Since most of the chemical units handle hazardous and corrosive chemicals it can be expected that the product will have good demand in future.

III. Installed Capacity

The proposed project shall have an annual installed capacity of 150 tonnes per annum. The plant shall work for single shift of 8 hours and 300 working days in a year. The plant is expected to operate at a capacity utilisation of 45%, 60% and 70% during 1st, 2nd and 3rd years respectively and stabilised thereafter.

IV. Manufacturing Process and Technology

The manufacturing process for rust converter as developed by CECRI contains the mixture of phosphoric acid, manganese carbonate and acetic acid is prepared and packed separately. The iron metal powder is separately packed. The system application involves addition of metal powder to the solution and mixed thoroughly to react for 30 minutes. Resulting solutions shall be ready for application. Once the coating is given on a metallic surface, we can find black coating is developed in 30 minutes time.

V. Land and Buildings

The proposed project shall require 1 acre of land for establishing the various requirements such as factory building, administrative building, stores etc. The total area for civil works comprising of the main plant and the others shall be 2400 sq.ft. The proposed budget estimate for procurement of land, site development, civil works shall be Rs.8.80 lakhs. Out of the amount allocated Rs.4.00 lakhs for land and site development and the rest is for the civil works.

VI. Plant and Machinery

The major plant and equipment required for manufacturing rust converter are De-Ioniser, and high density polypropylene tanks and small containers for packing the product. The plant and machinery

cost for the proposed installed capacity will be Rs.3.00 lakhs. The technical know-how fee for the project is Rs.50,000/- has been included in the project cost.

VII. Raw Materials

The major raw materials required for the manufacture of rust converter are metal powder (iron), phosphoric acid, Manganese carbonate, acetic acid, deionised water etc. All the raw materials are commercially produced in the country and can be easily procured. The raw material requirement for manufacture of 150 TPA of rust converter is as follows:

Acetic Acid	..	13 TPA
Metal Powder (Iron)	..	12 TPA
Phosphoric Acid	..	65 TPA
Manganese Carbonate	..	3 TPA

The total cost of raw material at the installed capacity is estimated at Rs. 48.90 lakhs.

VIII. Utilities

The unit shall have a connected load of 10 HP of power, the total power consumption in terms of money shall be Rs.0.32 lakhs at installed capacity. The total cost of utilities during 1st, 2nd and 3rd year is Rs.0.14 lakh, Rs 0.19 lakh and Rs. 0.22 lakh respectively.

IX. Manpower Requirement

The unit provides employment toll persons comprising of 3 persons in the Managerial Cadre, 3 persons in the Supervisory Cadre and the rest are skilled and unskilled workers. The salary and wages are assumed to increase @5% annually and 10% of the salary towards fringe benefits has been considered in the estimates.

Details of Salaries & Wages:

S.No.	Particulars	No.	Salary p.m. Rs.	Total Amount Rs. lakhs
ADMINISTRATION				
1.	Manager	1	5000	0.60
2.	Assistants	2	2000	0.24
3.	Mktg. Assistants	1	2500	0.30
4.	Office Boy	1	800	0.10
PRODUCTION				
1.	Production Manager	1	5000	0.60
2.	Supervisor	1	3000	0.36
3.	Skilled Worker	1	2000	0.24
4.	Unskilled Workers	2	1000	0.24
5.	Watchman	1	800	0.10
Total				3.01

X. Working Capital Requirement

The working capital requirement of the unit is calculated for the first three years of operation. The unit requires one month stock of raw materials and consumables, one month stock of packing material and utilities. The finished goods and bills receivables also considered for one month operation. The monthly expenditure for salaries and wages is also included in the working capital. The margin money for individual items has been followed according to guidelines laid down by the financial institutions and banks. Accordingly the working capital requirement during 1st, 2nd and 3rd years of operation of the unit is Rs.6.89 lakhs, Rs.9.14 lakhs and Rs.10.63 lakhs respectively.

XI. Preliminary & Pro-operative Expenses

This includes preliminary expenditure to be incurred by the unit during project formulation, loan acquisition costs and pre-operative expenditure like interest during construction, salaries, travel expenditure and trial run expenditure. The preliminary and pre-operative expenses for the proposed project has been estimated as Rs.1.80 lakhs.

XII. Project Cost and Means of Finance

	(Rs. Lakhs)
Land	4.00
Buildings & Civil Works	4.80
Plant & Machinery	3.00
Other Fixed Assets	1.00
Technical Knowhow	0.50
Prel. & Pre-op. Expenses	1.80
Margin Money for W.C.	1.92
Deposits, Rent etc.	0.50
Contingencies	0.78
Total:	18.29
Means of Finance:	
Promoter's Equity	7.65
Term Loan	10.64
Total:	18.29

XIII. Cost of Production and Profitability (3rd year of operation)

Cost of Production:	(Rs. in Lakhs)
1. Raw Materials	34.23
2. Consumables	3.15
3. Utilities	0.22
4. Salary & Wages - Prodn.	1.85
5. Packing Materials	1.26
6. Repairs & Maintenance	0.07
7. Depreciation	0.37
8. Telephone & Posts	0.31
9. Selling Expenses	3.15

10. Admn. Salaries	1.78
11. Admn. Overheads	0.63
12. POP Expn.. Written Off	0.18
13. Interest on Term Loans	1.29
14. Interest on Working Capital Loan	1.43
Total:	49.93
Net Sales @ Rs.60,000 per ton	Rs. 59.85 Lakhs
Profit before Tax	Rs. 9.92 Lakhs
Debt Service Coverage Ratio (DSCR) ..	2.31
Break Even Point: % at Installed Capacity ..	30.62
Cumulative Cash Surplus at the end of 5th year ..	Rs- 27.02 Lakhs