

COST ESTIMATION

The Fixed Cost Investment (FCI) for 5 tonne per day of Stearic acid plant is Rs.110 crores

DIRECT COSTS

They include the following,

A. Equipment + Installation +Instrumentation+ Piping + Electrical+Insulation+Painting
= 50 % (FCI)

1) Purchased equipment = 15% (FCI)

= Rs. 14.25 crores

2) Installation including insulation and painting

= 20% (FCI)

= Rs 22 crores

3) Instrumentation and controls, installed

= 7% (FCI)

= Rs 7.7crores

4) Piping installed =5% (FCI)

= Rs 5.5 crores

5) Electrical installed = 5% (FCI)

= Rs.5.5 crores

B. Buildings, Process and auxilliary

= 10% (Purchased Equipment Cost)

= Rs.1.65 crores

C. Service facilities and yard improvements

= 40% (Purchased Equipment Cost)

= Rs 6.6 crores

D. Land

= 1% (FCI)

= Rs 1.1 crores

Direct costs = Rs.65.45 crores
= 59.5% (FCI)

INDIRECT COSTS

They include expenses which are not directly involved with material or labor of actual installation of complete facility.

A. Engineering and supervision = 20% (Direct cost)
= Rs 13.09 crores

B. Construction expenses and contractor's fee
= 20% (Direct cost)
= Rs 13.09 crores

C. Contingency = 15% (FCI)
= Rs 16.05 crores

Indirect Cost = Rs 44.55 crores

FIXED COST INVESTMENT = DIRECT COST + INDIRECT COST

WORKING CAPITAL = 15% (TOTAL CAPITAL INVESTMENT)

TOTAL CAPITAL INVESTMENT = FIXED COST INVESTMENT+WORKING CAPITAL

Therefore 85% (TOTAL CAPITAL INVESTMENT) = FIXED COST INVESTMENT

TOTAL CAPITAL INVESTMENT = Rs.129.41crores

WORKING CAPITAL = Rs.19.41 crores

FIXED CHARGES

- 1) Depreciation → For Machinery and Equipment
= 10% (FCI)
= Rs.11 crores
For Buildings
= 2% (Building value for buildings)
=Rs .0.033 crores
- 2) Local taxes = 3% (FCI)
=Rs 3.3 crores
- 3) Insurance =1% (FCI)
= Rs. 1.1 crores
- 4) Rent = 8% (Building value for buidings)
=Rs 0.132 crores

Fixed charges = Rs.15.56 crores

FIXED CHARGES = 20% [TOTAL PRODUCT COST(TPC)]

Therefore TOTAL PRODUCTION COST = Rs. 77.825 crores

DIRECT PRODUCTION COSTS

- ◆ Raw materials = 10% (TPC)
=Rs 7.7825 crores
- ◆ Operating labor =10% (TPC)
=Rs 7.7825 crores

- ◆ Direct supervisory and clerical labor
= 15%(Operating labor)

- = Rs 0.33 crores
- ◆ Utilities
 - = 15%(TPC)
 - = Rs 11.67 crores
- ◆ Maintenance and repairs
 - = 5%(FCI)
 - = Rs 5.5 crores
- ◆ Operating supplies
 - = 10% (Maintenance and repairs)
 - = Rs 0.055 crores
- ◆ Laboratory charges = 15%(Operating labor)
 - = Rs 0.495 crores.
- ◆ Patents and royalties = 6%(TPC)
 - = Rs.4.67 crores

DIRECT PRODUCTION COST = Rs.38.94 crores

= 50% (TOTAL PRODUCT COST)

PLANT OVERHEAD COST = 5% (TPC)

= Rs.3.89 crores

MANUFACTURING COST = (DIRECT PRODUCTION COST+FIXED CHARGES+PLANT OVERHEAD COSTS)

= Rs.58.4 crores.

GENERAL EXPENSES

- ◆ Administrative costs = 2%(TPC)
= Rs 1.56 crores
- ◆ Distribution and selling Costs = 3%(TPC)
= Rs 2.33 crores
- ◆ Research and development =5%(TPC)
= Rs 3.89 crores

TOTAL PRODUCTION COST = MANUFACTURING COST+ GENERAL EXPENSES
= Rs. 66.18 crores

SELLING PRICE

STEARIC ACID = Rs.220 /KG

OLEIC ACID = Rs.190/KG

GLYCEROL = Rs.40/KG

FOR A 330 DAYS/YEAR PLANT,

TURNOVER/YEAR = Rs.75.59 crores

GROSS EARNINGS = TOTAL INCOME—TOTAL PRODUCTION COST
= Rs 9.15 crores

Let Taxes =40%

NET PROFIT =Rs 5.49 crores.

RATE OF RETURN = 4.2 %