

**Commissioner of Industries  
Hyderabad  
Andhra Pradesh**

## **Aluminium Silicate**

### **1. Nature of the Product and its Applications:**

Aluminium Silicate is used as a filler and extender in the rubber, paper, paint and tooth paste industries. It replaces the use of siliceous chemicals viz. precipitated silica, hydrated calcium silicate, magnesium trisilicate etc. The trade name of imported product is ALUSIL.

This technology for production of aluminium silicate has been developed by the Bhabha Atomic Research Centre (BARC), Bombay. This technology is marketed by National Research Development Centre, New Delhi and the specifications of the product shall be provided by them at the time of technology transfer.

### **2. Market Potential:**

Aluminium Silicate is useful in manufacturing many daily used products like rubber, paper etc. and hence the demand for aluminium silicate is expected to grow regularly. At present, a part of the demand of this product is met by imports and thereby it forms the import substitution and there is also good export trade potential.

### **3. Installed Capacity:**

The manufacture of Aluminium Silicate product, a plant capacity of 225 tonnes/annum is considered on the following basis:

Production Capacity	0.75 tonnes/day
No. of working days	300 days
No. of shifts	1
Annual Production Capacity	225 tonnes
Capacity Utilisation	70% in 1st year 80% in 2nd year 90% in 3rd year

### **4. Raw Materials :**

The major raw materials required for the proposed unit are Sodium Silicate and Aluminium Sulphate. These raw materials are available with chemical dealers/agents in major cities and industrial towns.

### **5. Technology/Manufacturing Process:**

The manufacturing process involves preparation of Sodium Silicate Solution and reaction with aluminium sulphate at predetermined temperature. Resultant slurry is pumped into the filter press. The product after filtration is dried and packed.

## 6. Plant and Machinery:

### 6.1 Major Equipments:

The equipments required for the proposed unit are:

a)	Wooden Reactor Vessels	2 Nos.
b)	Wooden Tanks	5 Nos.
c)	Pulveriser	-
d)	Pumps	3 Nos.
e)	Drier with trays	-
f)	Filter with press	-
g)	Boiler	-
h)	Compressor & Water Tanks	-
i)	Pumps	-

Other fixed Assets:

Other fixed assets required are electrical and piping installations and office furniture.

### 6.2 Suppliers of Equipments:

1. Local Engineering Fabricators/Dealers
2. Enfab,  
C-2, II Floor,  
Shanti Nivas  
Mettuguda, Secunderabad -17.
3. Paramount Chem-Plas Equipment (P) Ltd.,  
Tilak Road, Hyderabad - 500 001
4. Chem Project Engineers  
Plot No.B-35, BHEL-AIE  
R C Puram, Hyderabad - 500 032.

## 7. Location:

Availability of the raw materials and nearness to market are the main consideration for the location of the unit. The other factors are infrastructure facilities and availability of cheap labour.

## 8. Infrastructure:

Manpower : 13 Nos.  
Power : 40 HP  
Process Water : 2 KL/day  
Fuel (Coal) : 0.5 T/day

## 9. Cost of the Project and Means of Finance:

### Cost of the Project:

Particulars		Rs. Lakhs
a)	Land & Land development (400 sq. Yds)	1.50
b)	Building & Civil construction (150 sq. ft)	4.48
c)	Plant and Machinery	11.00
d)	Miscellaneous Fixed assets	2.75
	Preliminary & Pre-operative Expenses	3.95
	Total fixed capital	23.68
	Working Capital Margin	1.60
	Total Project Cost	25.28

Total working capital required in 1 year : Rs. 4.91 Lakhs  
Means of Finance: (Rs. Lakhs)

- Promoter's Contribution : 10.10  
- Term Loan : 15.18

## 10. Annual Operating Expenses:

Assumed Operation @ 90% of Installed Capacity in 3rd year:

Particulars		Rs. Lakhs
a)	Raw Material	14.59
b)	Packaging Material & Consumables	0.38
c)	Utilities	3.39
d)	Salaries & Wages - Prodn.	2.28
e)	Factory Overheads	0.71
f)	Admn. & Management Expenses	2.61
g)	Financial Expenses : Interest on Term Loan	1.79
	Interest on Working Capital	0.74
h)_	Depreciation	0.76
i)	Selling Expenses	3.38
		27.63

Net Sales realisation : Rs. 37.71 Lakhs  
Pre-tax Profit : Rs. 10.08 Lakhs  
a) Break Even Point @ 90% Cap. Utilisation : 35.51%  
b) Rate of return on Investment before taxes : 39.87%