

MADRAS CEMENTS LIMITED

Alathiyur Works, Perambalur (Tamil Nadu)

Unit Profile

The manufacturing unit at Alathiyur near Trichy were set up in two phases. The Line I has the designed capacity of 2200 TPD commissioned in the year 1997. Which was upgraded to 2950 TPD in the year 1999. The Line II has the designed capacity of 3000 TPD, which comprises the South Asia's first SF Cross Bar cooler and largest Vertical Roller Mill for clinker grinding and commissioned in the year 2001.

This is one of the very few energy efficient plants in the world and it is very friendly to ecology and environment.

Plant has the State-of-the-Art Technology and equipment at every stage of production. Surface miners for mining, Energy efficient MMD crusher for limestone, Vertical roller mills for Raw materials and Clinker grinding.

The manufacturing products are:

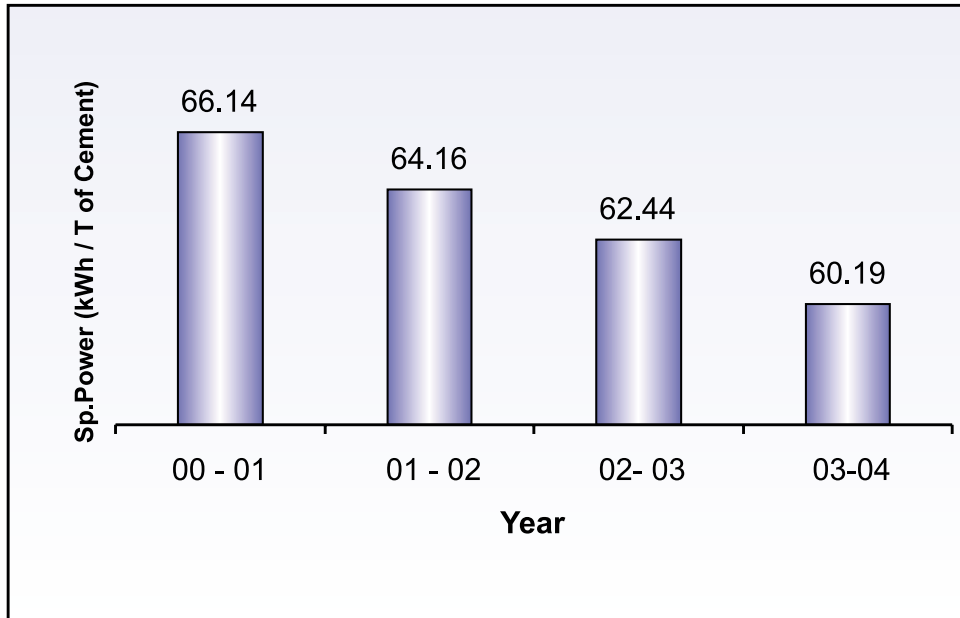
- Ordinary Portland Cement
- Portland Pozzolana Cement

There is 20 MW (6MW * 2 & 4 MW * 2) captive power generation, which will meet 75 % of Plant Power demand. Operating efficiency of the equipment in each section in the plant range from 100 to 115 % of installed capacity.

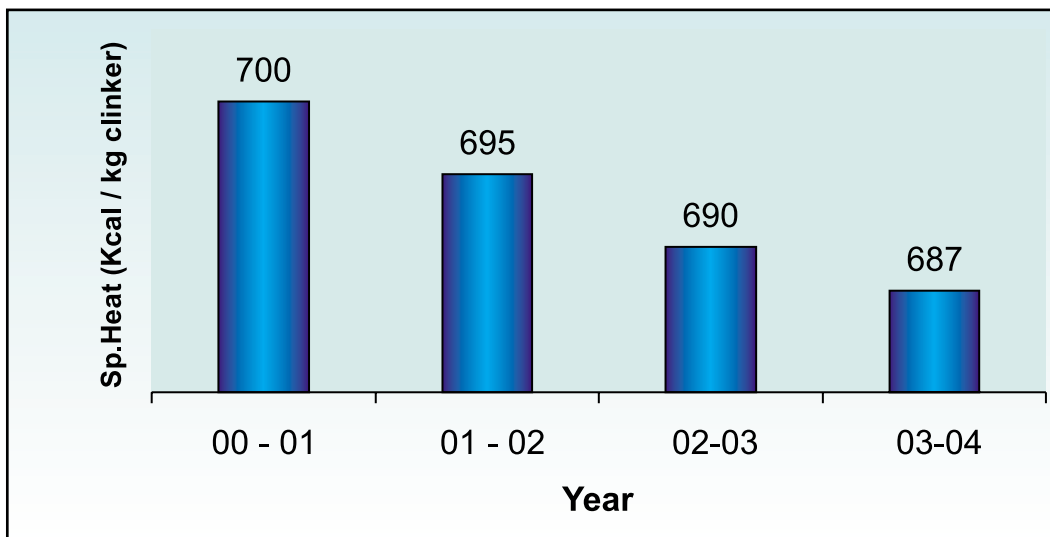


An overview of the Alathiyur Plant

Reduction in Sp. Power Consumption from 2000 – 2004



Reduction in Sp. Heat Consumption from the Year 2000– 2004



Energy Conservation Commitment Policy and Set up

Top most priority has been given for implementing energy conservation ideas and proposals to conserve energy not only for the benefit of the organization, but also to conserve natural resources for the betterment of future generations. This goal is achieved by the energy conservation team headed by energy manager with the support of top management and managers to identify, monitor, control, implement the proposals.

Energy Conservation Achievements

Major Projects Implemented

a) Optimisation of Raw Mill - II

It is a Vertical Roller Mill with high efficiency separator supplied by M/s.Loesche, Germany.

Modifications

1. Armour ring angle modification & grid cone extension

* Angle was changed from 75 Deg to 85 Deg

2. Classifier sealing correction & Deflector ring fixing

Power Savings = 0.8 KWh/T of Material
Total Savings = 0.8 X 23 hours X 230 MT X 200 Days X Rs.3.5
 = Rs.2.96 Million / Annum

b) Installation of Alternative Fuel feeding system.

Usage of Biological/Industrial waste products as cheaper fuels.
 Unit had introduced a separate system for feeding the Alternative fuels directly To the pre-heater, thus eliminating inter-grinding of fuels.

Power Savings = 20 Kwh/T X 23 TPH X 18 hours
 = 8280 Units / Day
 = 8280 Units X 200 Days
 Total Savings = 5.796 Rs in Million

c) Installation of By-Pass duct at Cement Mill Booster Fan

The unit introduced a by-pass duct at Cement mill booster fan to regain the heat energy from the hot air that was vented from cooler.

Thermal Savings = 4.0 MT of Coal per day
 = 4.0 MT X 360 Days
 Coal Saved = 1440 Mts
 Total Savings = 5.40 Rs in Million

Energy Conservation Plans and Targets

The company always believes in continuous up gradation of technology to improve the quality and its production and reduction in power and fuel consumption. The target being

Electrical Energy : 55 Kwh / T of Cement
Thermal Energy : 670 Kcal / Kg of Clinker

Energy Conservation Measures taken up

1. Modification of inlet box and inlet duct of Cement Mill – I fan.
2. Modification of grit cone and Louvre ring in Raw Mill – II .
3. Modification of Armour ring and Louvre ring in Cement Mill - II
4. Modification of grit cone and Nozzle ring at Coal Mill – II to enhance higher productivity.
5. Installation of separate dozing and conveying system for consuming alternative fuels like rice husk, cashew husk, cashew shells and coconut shells.

To achieve the Desired targets

The following energy conservation projects under progress to achieve the desired targets and for sustenance:-

1. Preheater cyclone modifications (in Line- I) to reduce the pressure drop across the cyclone, to enhance higher productivity and reduce power by 2 KWh/Tonne of Clinker.
2. Modification of inlet box and inlet duct of I.D.Fan to reduce power by 100 to 120 KWh.
3. Modification of inlet box and inlet duct of Cooler Vent Fan to reduce power by 40 KWh.
4. Classifier modification in Raw Mill – I & II to enhance higher productivity.
5. Classifier modification in Coal Mill – I & II to enhance higher productivity.
6. SPRS for Raw Mill and Coal Mill fans for energy savings.



Senior Vice President (Mfg.) receiving the National Award for Environmental Excellence in Plant Operation from Secretary (Power) for the year 2002-03 and for Best Electrical Energy Performance for the years 2001-02 and 2002-03 from NCBM.

Environment and Safety

Clean environment and pollution abatement is one of the concerns of the management. The plant is an ISO:14001 Company and is in process of getting certified for OSHAS 18001. The following measures were taken to prevent and control pollution.

At Plant & Mines

1. Green belt development in Plant and Mines.
2. Development of full fledged roads in and around the plant and mines, to suppress fugitive emission.
3. Rain water harvesting in both the plant and mines are carried out, so as to conserve the available water resources.
4. Output water of the treatment plant used for the plantation purposes in the Plant and in the mines.
5. Transportation of limestone to plant is done through closed belt conveyors of 3 km distance. This is unique in cement plant thereby avoiding usage of heavy vehicles and its fuel, spillages and fugitive emissions coming out from the vehicles. Also ensures safety by avoiding heavy traffic in the mines.
6. Installed Reverse air Bag house for venting Raw mill and kiln, Bag filter for coal mill and Cement mill and ESP for cooler venting gases.
7. All the material transfer points were connected to Unit bag filters. Concrete Roads inside the plant were made
8. Purchased a road sweeper machine to keep the plant clean Madras Cements has the following arrangements for achieving zero accident in plant.
 - a. Employees should wear safety shoes and helmets in the plant.
 - b. The plant has safety & fire protection equipments.
 - c. Safety audits are conducted by (Internal) safety committee members.