



Aditya Cement
(A Unit of Grasim Industries Ltd)
Adityapuram - 312612 Chittorgarh (Rajasthan).



(I) UNIT PROFILE

Name of the Chief Executive	:	R.M. Gupta, Sr. Executive President
Product Range	:	OPC-43,53 & PPC- Birla Plus, IRST - 40
Turnover from 1 April 2004 to 31 March 2005	:	Rs. 342.75 Crores
Capacity Utilisation	:	94.39%
		(Production 2004-05 – 1415880 MT)
		(Installed Capacity - 1500000 MT)
Number of Employees	:	470 (Staff - 242, Workmen – 228)

Achievements

- Installed Thermal Power Plant - 23 MW for self sufficiency in Power Generation
- Close Circuiting of Cement Mill for Capacity Enhancement of Cement Production.
- Water Harvesting in Mines done meeting whole year water consumption requirement in the plant.
- Started making Use of Flyash (Waste of Thermal Power Plant) in Cement Production
- Pioneer in using Petcoke (Refinery Waste) as an alternate fuel 100%.
- Best NGO's award to Aditya Jan Seva Trust in the year 02-03 for taking initiative in population stabilization
- First in the district for IOL eye surgery (606 Nos) - year-2004
- First in the state total IOL surgery (2076 Nos), villages covered - 244
- We received Golden Peacock Award for Environment Management - 2005.
- We also received from Frost & Sullivan, Mumbai Indian Manufacturing Excellence Award - 2004 & Special recognition in Visual Management - 2004
- We are the First Cement company in the World certified for SA – 8000
- We are the first in Cement company to wheeling the power to our sister unit.

Aditya cement started off as one of the latest projects of the cement division of the Grasim Industries Ltd. Initiated in March 1993, the project was commissioned in record time in March 1995 with installed capacity of 1.0 MTPA cement. The present capacity of the plant is 1.5 MTPA.

Aditya cement is truly the plant of 21st Century as there are various technological features that are hallmarks of the latest technical development. To name a few, Aditya cement has installed Cross belt analyser for 100% monitoring of lime stone quality as supplied from own captive mines, in addition to full fledged fast lab

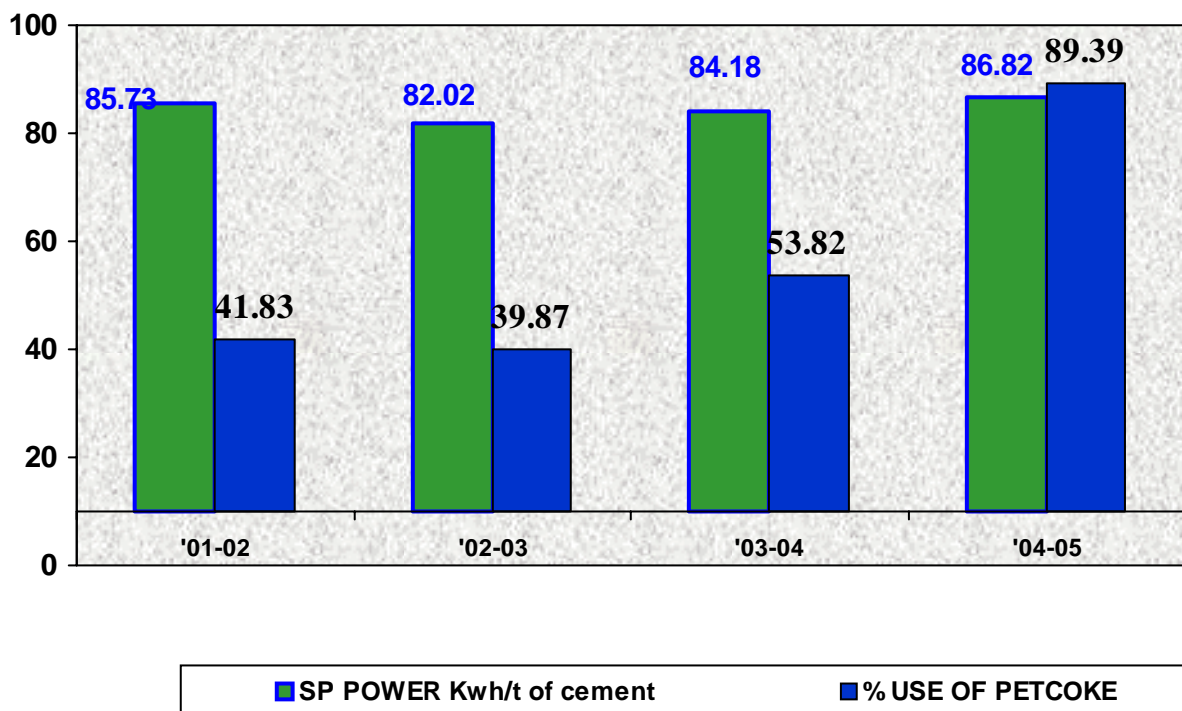
for Quality control. Fully automated, centrally controlled, energy efficient, pollution free plant with latest technologies and process control equipment from world leader Krupp Polysius of Germany.

MAJOR TECHNOLOGIES AND EQUIPMENT

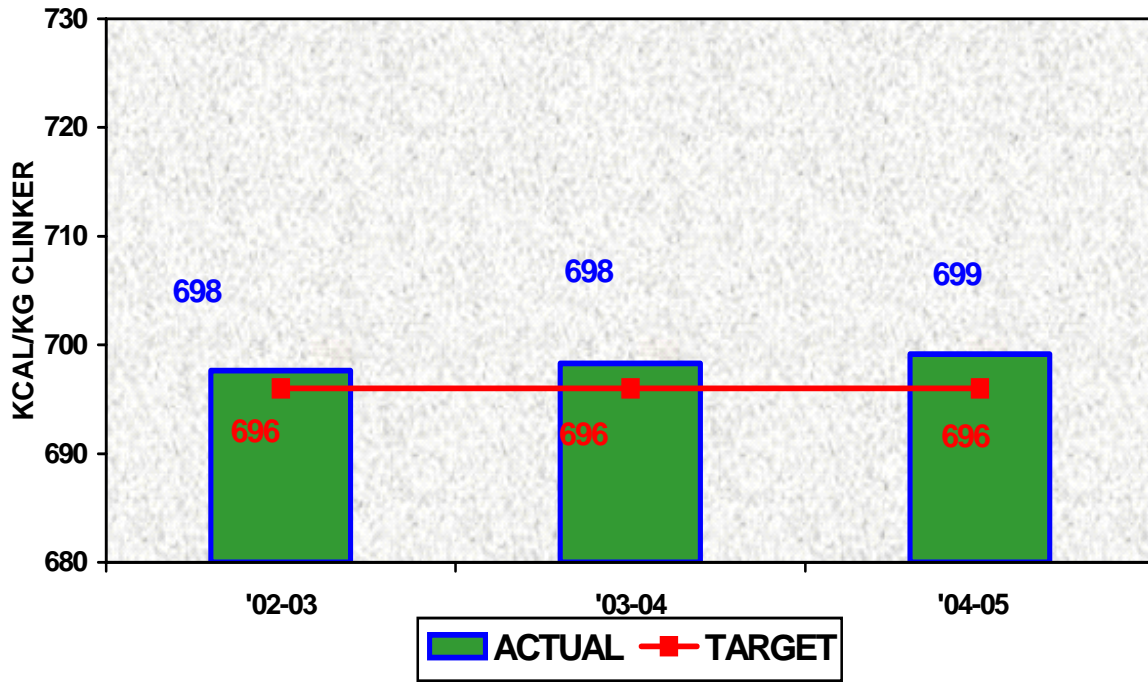
- Fast Lab and Cross Belt on Line Analyser supplied by Gamma Matrix USA in addition to X-ray Analyser (Philips Make) for efficient Quality Control System.
- Stacker and Reclaimer for Limestone, Additives and Coal.
- Energy efficient Vertical Roller Mill for Raw Material and Coal grinding.
- Six stage suspension Preheater for energy conservation.
- Static Grate cooler for heat energy conservation.
- Roller Press for cement pre grinding to reduce power consumption.
- Electronic Packers for accurate weight in cement bags.
- Thermal Power Plant having capacity of 23 Megawatts.
- Automatic truck and wagon loading equipment for efficient loading operations.
- 1x 23 mw Thermal power plant commissioned in the March-03.
- Captive power generation of D G set 3 x 6 mw (18 Megawatts)

**(ii) Energy Consumption
SPECIFIC POWER**

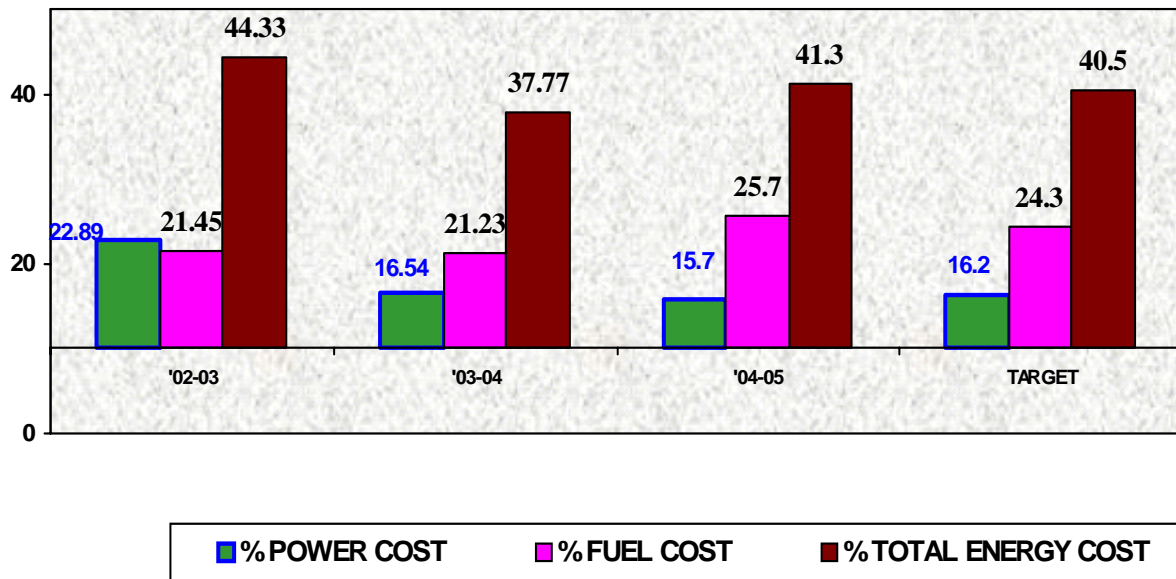
As seen by the graph due to increase in waste fuel our specific power is increasing , Since October 2004 we are using 100 % petcoke



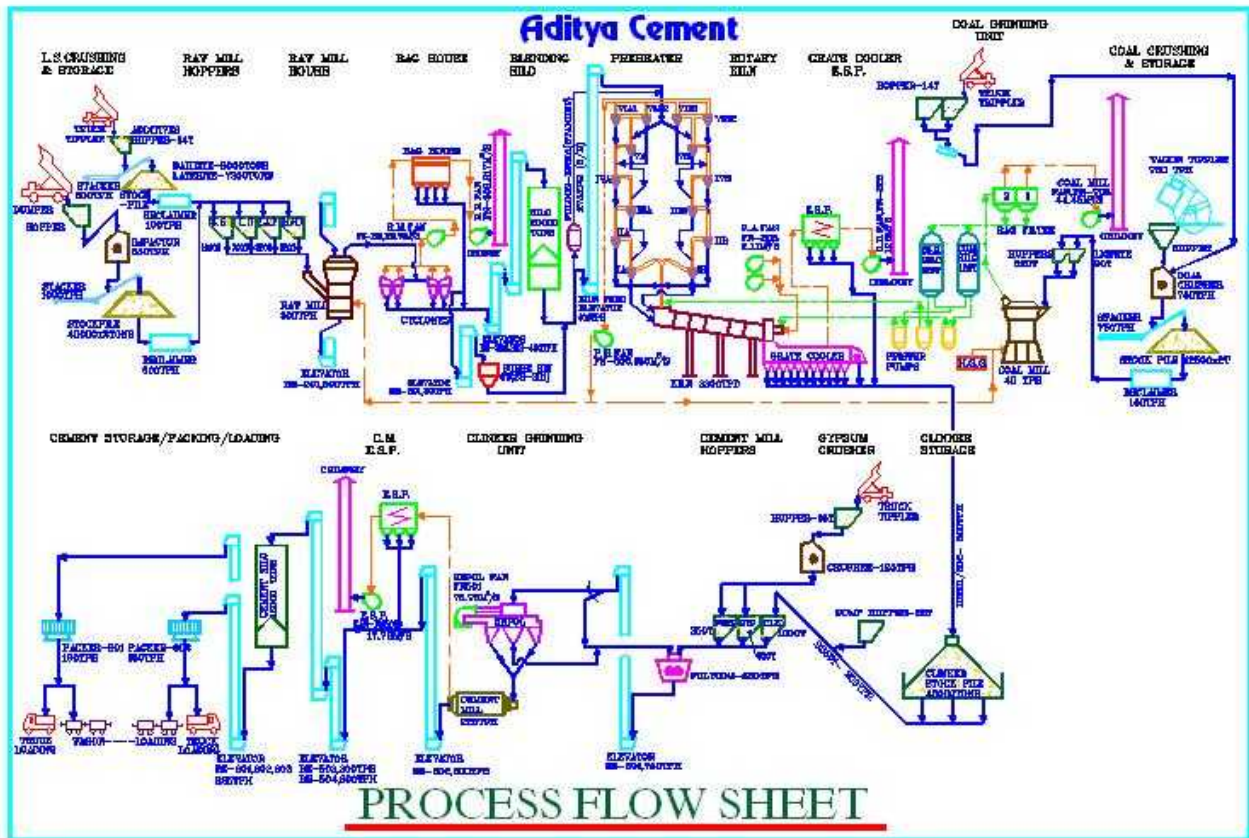
SPECIFIC HEAT



ENERGY COST



	unit	2000-01	2001-02	2002-03	2003-04	2004-05
Specific power consumption	Kwh/ton of cement	85.51	85.72	82.02	84.18	86.83
Specific heat energy consumption	Kcal/kg of clinker	714.61	697.58	697.64	698.30	699.16
Clinker production	Lacs MT	12.95	13.84	17.17	15.67	15.84
Cement production	Lacs MT	13.64	14.32	15.60	14.92	14.15



iii) ENERGY CONSERVATION COMMITMENT, POLICY & SET UP:

Our commitment to energy conservation can be derived in the following manner

- ◆ Energy saving proposals are cleared on top priority
- ◆ Daily monitoring and discussions in daily coordination meeting to take corrective action
- ◆ Formation of energy conservation cell
- ◆ Formation of Tech. Development Committee to explore conventional and non conventional measures to improve plant performance
- ◆ Participation in training Programme and adequate formulation of action plan and implementation
- ◆ WCM team towards Energy Conservation measures
- ◆ Visit to other cement units for better exposure
- ◆ Slip power recovery scheme for all process fans since inception of the plant
- ◆ V/F drive for cooler fans, CM ESP fans, DC drive at cooler dedusting fan
- ◆ Active Participation in Group level conference like Purta Conference, Maintenance conference, Knowledge Integration Programme etc. to share Experience/Knowledge
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- ◆ Implementation of suggestion scheme with suitable rewards on Energy conservation
- ◆ On line energy management system & provided the energy data on the desk of all engineer

iv) ENERGY CONSERVATION ACHIEVEMENT - (This portion should include one paragraph write-up on each major energy conservation project implemented during the year 2002-03):

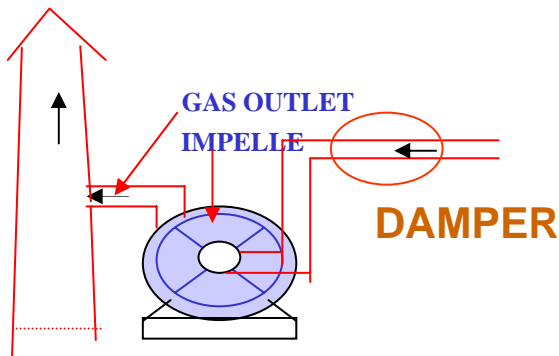
1- Installation of CD FAN by high efficiency fan :-

Cooler dedusting fan was changed by high efficiency fan, which runs at around 700 rpm. By changing the impeller good amount of saving is achieved.



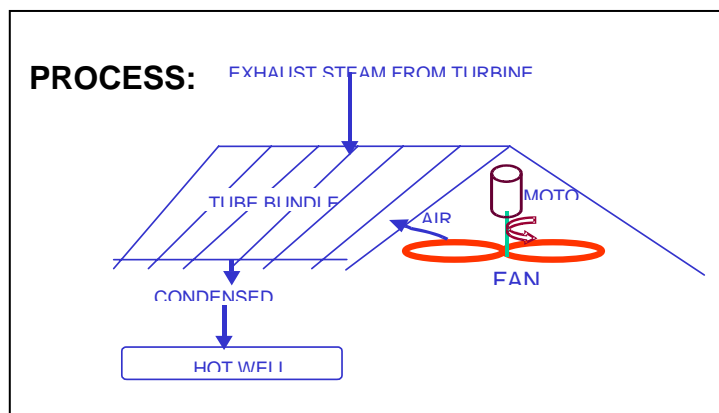
- HIGH POWER CONS. DUE TO LOW EFFICIENCY
- IMPELLER
- REPLACED THE IMPELLER WITH HIGH EFFICIENCY IN C D FAN.
- TOTAL INVESTMENT :- 25.44 LAKHS SAVINGS :- 6.11 LAKHS KWH / RS 14.798 LAKHS

2- V/F drive for RAW Mill hot water sump pumps) , cooler fans & PA Fans at TPP



- POWER LOSS DUE TO HIGH RPM OF COOLER FANS AND PRESSURE DROP ACROSS DAMPERS
- ACTIVITY 1- VARIABLE FREQUENCY DRIVE IN ALL COOLER FANS
- ACTIVITY -2 REMOVED INLET DAMPERS
- TOTAL INVESTMENT :- 21.2 LAKHS
- SAVINGS - PRESSURE DROP REDUCTION
- 6.89 LAKHS UNITS / Rs 12.5 lakhs SAVINGS - PRESSURE DROP REDUCTION
- 6.89 LAKHS UNITS / Rs 12.5 lakhs

3- We have installed high efficient econ fan in place of cofimco fan.new fan have better aerodynamic profile leading to less power consumption and more flow. Old fan power/flow--- 77 kw/330 m3 per sec New fan power/flow---56 kw/418 m3 per sec



Total investment :- 2.30 lakhs

Total savings :- 1.742 lakhs

4- Wheeling power to Birla white

The very first cement plant in India to export power to our sister concern .;Birla white.
Total units exported in the year 04-05 94.66 Lakhs unit.

v) Energy conservation plans and targets :

S No	Action	Feasible savings (Kwh/ton of cement)t	Target Date	Investment in Lakhs	Remark
1	Provide V/F at Hot sump for cement mill	0.1	April 06	8	
2	Installation of V/F for bag filter at crusher	.04	Yr 06-07	8	Presently the fan is running with 70 % open damper hence there
3	To provide V/f for Hot sump pump in Raw Mill	0.1	April 07	8	
4	Modification of Preheater top stage cyclone, enlargement of downcomer duct , TA duct & Take off duct & Kiln inlet	1.0	May-06	1000	Our kiln is originally designed for 3300 TPD with LP cyclone. Low volatile matter of Pet coke require high momentum & oxygen rich atmosphere for combustion, leading to approx. 1 Kwh/T cement high power consumption
5	Installation of pendulum cooler	0.5	Yr 07-08	1500	
6	Increase in PPC production from present level 35 % (04-05) to 50 % (Due to change in factor)	2.0			Increase in production of blended cement may have impact on the grinding capacity but it will reduce overall power consumption
7	Impeller changing of F D Fan at Thermap power plant	1.60 lakhs kwh	April-06	5.6 lakh	Replacing by high efficiency fan
8	Production of 50 % blended cement	2.0 Kwh/ton of cement	'07-08		