

**ULTRATECH CEMENT  
KOTPUTLI CEMENT WORKS**  
**Kotputli, Distt. Jaipur (Rajasthan)**

***Unit Profile***

Kotputli Cement Works is a unit of UltraTech Cement Limited, a subsidiary of Grasim Industries Ltd, one of the flagship organizations of Aditya Birla Group, was setup in the year 2009. Kotputli Cement Works is located on Delhi- Jaipur National Highway. The plant erection activities started at the end of 2006 and plant up to clinkerization, was commissioned in March, 2009. The Unit is having rated Clinker capacity of 2.64 MTPA (8,000 TPD). Plant is fully automated, centrally controlled, one of the most energy efficient, eco-friendly plant with latest technology supplied by world renowned Cement Technology Supplier, M/s KHD and Loesche - Germany.

The Unit is also equipped with Thermal Power Plant suitable for multiple fuels (Coal, Pet Coke, and Lignite) of 2 x 23 MW capacities. Kotputli Thermal Power Plant has a distinguished feature of being CDM registered for total carbon credits of 21509 Tons/ year of CO<sub>2</sub> through installation of CFBC Boiler in place of AFBC Boiler. This is the first Thermal Power Plant under small scale sector in the globe to achieve this milestone.

***Product***

Plant manufacture clinker and Cement: UltraTech OPC - 43, UltraTech OPC-53 and UltraTech - PPC grades as per standards, published by Bureau of Indian Standards. Kotputli Cement works is having a attached grinding unit at Panipat in Haryana. Part of the clinker being manufactured at Kotputli Cement Works is being transferred to Panipat for final grinding and catering to market in region.

Salient features of the plant are as given below:

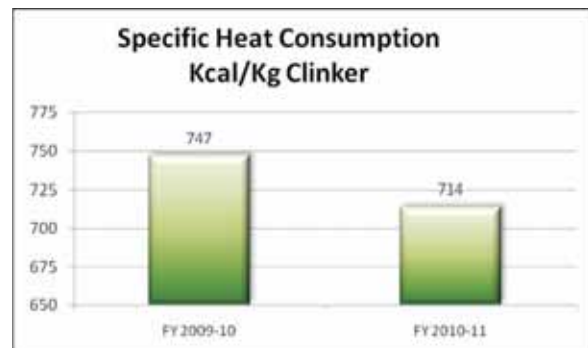
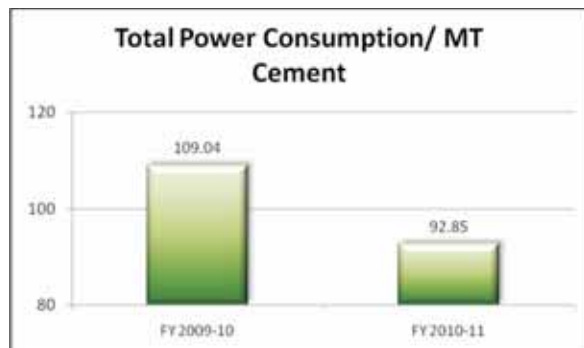
- One of the biggest Pre-heater towers (166 h x 37.8 w x 28.2 b).
- Largest Pyro floor clinker cooler, cooling area - 196 m<sup>2</sup> & roll crusher.
- Largest Vertical Raw Mill (LM 69.6) in the world, capacity 735 TPH.
- Vertical Roller Mills for Cement Grinding (LM 53.3 + 3) with rated capacity of 215 TPH in PPC.
- Largest Vertical Coal Mill (LM 43.4 D) in the world for Coal / Pet coke grinding with capacity of 50 TPH in Pet coke.
- Bag house for cement mill & all pollution control equipments with Stack emissions <30 mg/Nm<sup>3</sup>.

- 2x 23 MW Thermal Power Plant suitable for multiple fuels (Coal, Pet coke, Lignite).
- ON-LINE Cross Belt Analyzer in addition to X-ray Analyzer for efficient Quality Control System.

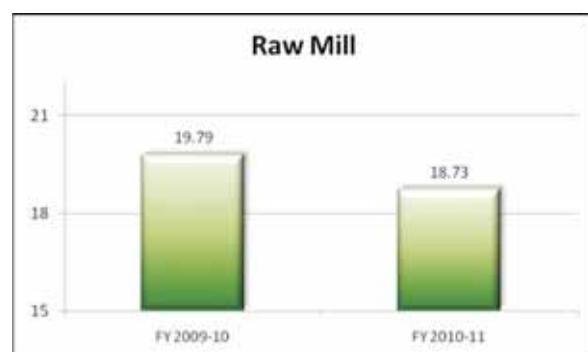
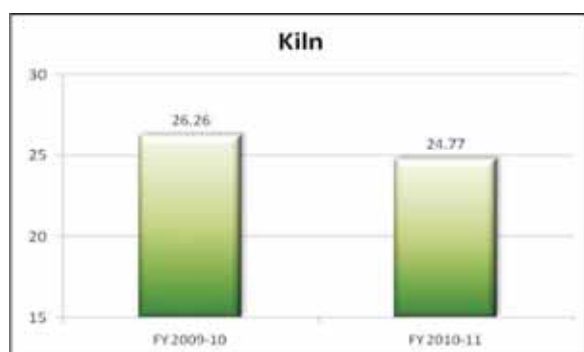
### Energy Consumption

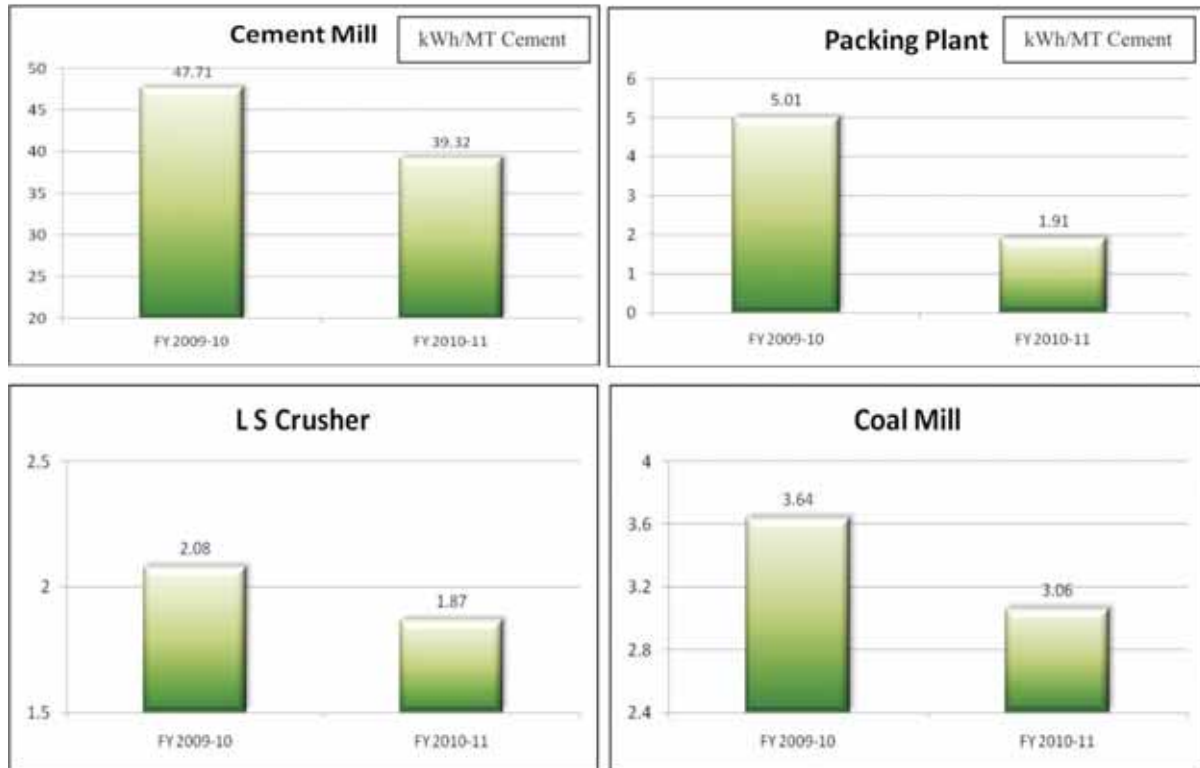
With the implementation of various energy conservation measures as ongoing practice, there is steady decline of specific energy consumption since plant commissioning. The Specific energy consumption figures for FY 2009-2010 & 2010-2011 are shown below, which depicts reduction in energy consumption due to plant sustained efforts to conserve it with the implementation of various energy conservation measures & ideas to increase efficiency of equipments.

Description	FY 2009-2010	FY 2010-2011
Specific Power Consumption kWh/MT Cement	109.04	92.85
Specific Heat Consumption Kcal/Kg Clinker	747	714



Kotputli Cement Works have focused on all spheres of activities to identify potential of energy consumption reduction and implemented the reduction measures. Find below the graphs of various major processes indicating reduction in energy consumption.






### **Energy Conservation Measures taken in FY 2010-2011**

At Kotputli plant has nurtured Kaizen culture to achieve a continual improvement in plant performance. Below mentioned are some of the initiatives which had been taken to achieve reduction in energy consumption in all activities.

1. Implementation of Energy Monitoring System "EMS" to monitor performance of all equipments.
2. Optimization of operations in all sections of plant reducing fan flows and enhancing plant productivity.
3. Installation of Process Interface system "PI System" on key desktops so that all executives/ Engineers can monitor the plant operations from their operating desks and keep a track of performance.
4. Optimizing Raw Mill Outlet temperature to enhance Kiln feed temperature; benefiting in reduction in specific heat consumption.
5. Modifications in plant operation logics to avoid idle running of auxiliary equipments.
6. Modifying equipment layouts to eliminate some of the equipments; reducing specific power consumption.

7. Installation of Variable frequency drives in Main bag house Fans for Dilution & Reverse air and modification in operation logic of the fans to reduce fan operating Speeds and power consumption in turn.
8. Various small Kaizens throughout the plant to reduce energy consumption and to enhance equipment productivity.
9. Enhancing usage of Clinker substitute (Flyash) in PPC Cement.

### **Energy Management Policy**



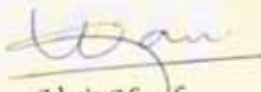
**ADITYA BIRLA**  
**UltraTech**

**ULTRATECH CEMENT LIMITED**  
UNIT: KOTPUTLI CEMENT WORKS  
**ENERGY MANAGEMENT POLICY**

*We are committed to demonstrate excellence in Energy Performance in all our activities on a continual basis so as to make our operations environmentally sustainable for future.*

*We shall achieve this by:*

- *Monitoring and control of energy consumption through effective energy management system and periodic energy audit.*
- *Continuous up-gradation of process with energy efficient and eco-friendly technology to optimize energy consumption.*
- *Promotion and propagation for energy awareness among all employees.*
- *Recognizing efforts of our employees in energy conservation initiatives.*
- *Benchmarking our performance with best and striving to beat the best.*

  
 Unit Head

Revision No.: 00

Date: 03-May-2010