

VIKRAM CEMENT – LINE-III
(Unit of Grasim Industries Ltd.)
Vikramnagar; P.O. Khor; Distt.Neemuch (MP)

UNIT PROFILE

Vikram Cement (a Unit of Grasim Industries Ltd.) a flagship Company of Aditya Birla Group is involved in manufacturing Gray cement and clinker. Vikram Cement (VC), the acknowledged pioneer of TPM in the Indian Subcontinent, is one of the single location highest cement and clinker producing plant with production capacity more than 3 million tons per annum. It has three production lines, & main product portfolio includes:

- A. Special Cement:
 - Birla Plus (Premium Composite Cement)
- B. Vikram Premium Cement:
 - Ordinary Portland cement – OPC 43
 - Ordinary Portland cement – OPC 53

Delivery mechanism for cement is direct to institutional client, govt. projects as well as through dealers & distributors. Cement is transported through road or rail depends upon economical logistic mode & geographical location of customer and response time required. The unit has broad gauge & Metre gauge facility for cement loading inside the plant

Vikram Cement Vision is “To be the world class cement plant producing, best quality of composite cement at optimum cost with Eco-friendly, safe and healthy environment”.



PLANT VIEW - VIKRAM CEMENT LINE-III IS FIRST FROM RIGHT

VIKRAM CEMENT LINE-1II

Commissioned in 1991 Vikram Cement Line-III is one of the most modern Cement Plants of Grasim Industries Ltd., of Aditya Birla Group. Vikram Cement

Line-3 is equipped with the latest modern Dry Process, DOPOL 6 stage preheater with inline precalciner for Kiln Pyro Processing. It is having close circuit ball mill with latest roll press and V-Separator technology for raw meal, Vertical Coal Mill supplied by M/s KP, Germany and close circuit 2 chamber Cement Mill with latest technology roll press for grinding. Complete process control and instrumentation is computerized through FL Smith FUZZY LOGIC Controller.



With many feathers like TPM Excellence Award, SA:8000, ISO:9001, ISO:14001 & ISO:18001 certification etc. in it's cap, it is one of the most energy efficient plant of its type in the view of world standards. A list of important accreditation won by the unit is given below:

- TPM Excellence Award -1995 and TPM Consistency Award - 2001 (JIPM, Japan)
- British Safety Council Award - 1996, 1997, 1999 & 2000
- OHSAS 18001- Occupational Health & Safety Assessment Series - DNV, Netherlands – 2001
- Greentech Environment Excellence Award 2001
- National Award for Quality Excellence in Indian Cement Industry - 2001-02
- SA 8000 – DNV – 2003
- Fuller Energy Award M.P. Chamber of CMA – 2000 & 2003
- MP State Environment Award - 2003
- Manufacturing Excellence & Competitive Advantage Award - 2002
- 7th FL Smidth Energy Award (DG Set) - 2003-04
- National Award for Environment Excellence in Indian Cement Industry - 2005
- National Award for Electrical Energy Excellence in Indian Cement Industry - 2005
- National Award for Thermal Energy Excellence in Indian Cement Industry - 2005
- 8th FL Smidth Award for Energy Consumption - 2005
- 5th Greentech Safety Award in Cement Sector - 2006

ENERGY CONSUMPTION

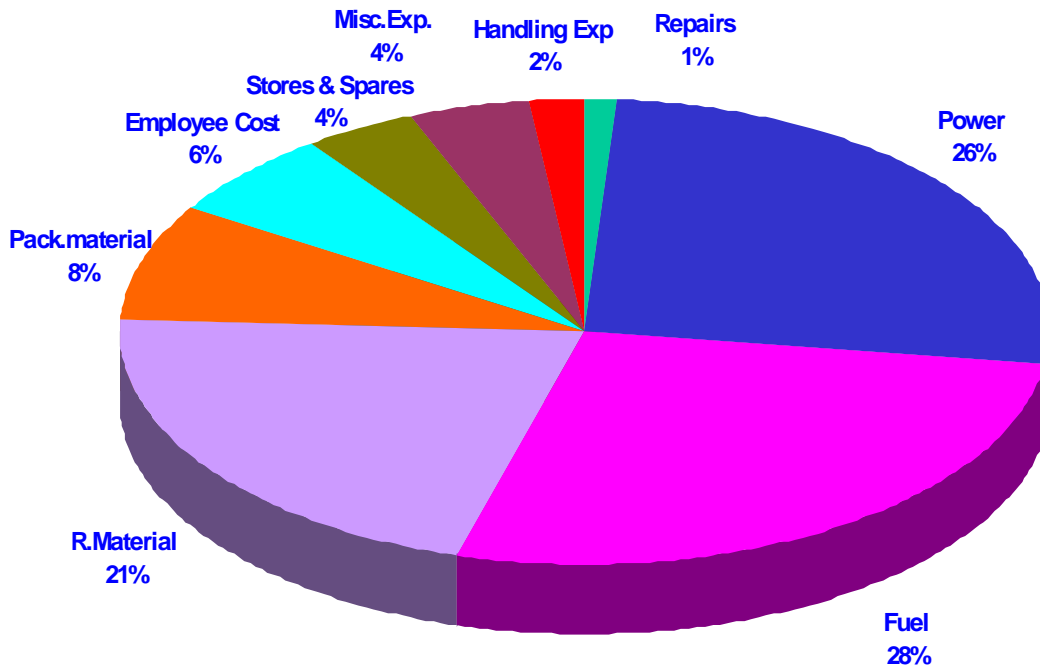
Total energy input for manufacture of cement as percentage of manufacturing cost is about 54% of total cost. and is having an increasing trend as the costs of coal, diesel, furnace oil and electricity (purchased and self generated) are constantly rising

Electrical energy has been brought down from 88.79 kWh/ton Cement in 2003-2004 to 82.11 KWh/ton Cement in 2006-2007. Specific thermal energy consumption has reduced from 699 KCal/Kg clinker in 2003-2004 to 690 KCal/Kg clinker in 2006-2007.

Cement and clinker production vis a vis the cost of electrical energy and fuel for the last 3 years have been as given below:

	2004-2005	2005-2006	2006-2007
Cement production (Lac Ton)	10.50	11.13	11.08
Clinker production (Lac Ton)	12.27	12.94	13.75
Thermal energy (Kcal/Kg of clinker)	695	688	690
Elect. energy (KWh/ Ton of cement)	85.25	83.17	82.11

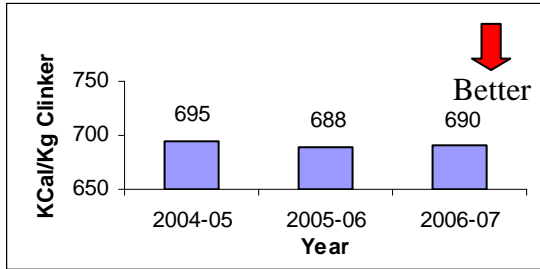
Cost component of production



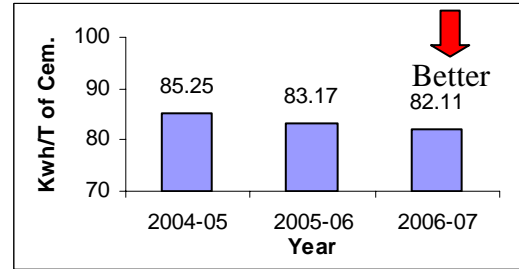
ENERGY CONSERVATION - ACHIEVEMENTS

Energy conservation has been one of the main agenda of Vikram Cement since the commissioning of the plant.

The reducing trend of the specific thermal energy consumption shown below is indicator of achievements.



THERMAL



ELECTRICAL

REDUCTION OF ENERGY CONSUMPTION

Petcoke is being used in increasing percentage as fuel by Vikram Cement. Due to poor grindability and finer grinding requirements, specific electrical energy consumption has increased, but the total cost has considerably come down.

The following major energy conservation schemes have been implemented during 2006-2007.

- Installation of lube oil heat recovery module in DG.
- Installation of HT capacitor bank.

In addition to the above measures, plant upgradation and optimization has been done and many smaller energy conservation schemes have been implemented, under Kaizen, as a part of WCM implementation.

Regular heat balance studies and false air leakage monitoring help in maintaining the gain and improving it further.

The thermal energy conservation schemes implemented since 2003-04 to 2006-2007 have resulted in saving of 09 Kcal/kg clinker.

Energy Conservation Plans and Target

Various energy conservation schemes under implementation/active consideration at Vikram Cement are given below:

- V-separator in Cement Mill grinding circuit.
- On-line free lime analyser for reduction in cement grinding power.
- Plant capacity enhancement and installation of LP cyclone to reduce pressure drop across preheater.
- Enhance production of blended cement
- Installation of Captive Thermal Power Plant to reduce cost of energy generation .
- Reduction of specific electrical energy consumption by frequency & voltage optimisation.
- OMEGA plates for cooler

The target for the unit for 2007 – 2008 for specific thermal energy is 695 KCal/Kg Clinker and that for specific electrical energy consumption 84.30 Kwh/Tonne cement.

ENVIRONMENT & SAFETY

Environment and safety are the priority areas for Vikram Cement. This is reflected by the list of credentials reproduced below:

We have set up our (EHS) Environment Health & Safety Policy. Vikram Cement adopted Environment Management System and got certified to ISO 14001:1996 in August 1997 and became 1st Cement Plant in India to get certified to EMS. Vikram Cement also implemented and got certified to OHSAS 18001:1999 in August 2001 and became one of 1st Cement Plant to certified OHSAS from DNV, Netherlands.

As further step in the drive to conserve environment and natural resources the unit has taken following steps:

01. Use of high Calorific Value petcoke to reduce the use of high grade limestone and increase the life of captive mines directly. Petcoke is by-product of Oil Refineries and creates disposal problems.
02. Reduction in coal grinding power and stable running of plant by installing separate grinding and handling system for petcoke
03. Installed Mechanized Flyash Handling System for the use of Flyash in PPC manufacturing. PPC is a high strength, high durability cement. This will reduce disposal problem of Thermal Power Plant and overall reduction in the use of energy for cement manufacture.

04. Large investment has been done for upgradation of plant capacity and reduction of pollution.
05. Energy conservation as well as water conservation schemes are being implemented.



GREEN BELT DEVELOPMENT

Variety of fruit and other environment friendly trees have been planted over 151.35 hectares area. The number of trees planted upto 2006-2007 period is 3,39,080 Their survival rate of 80%. Tree plantation has been started since 1985 at the rate of more than 10000 tree per year and for 2007-2008 we have targeted plantation of 22500 trees.

Vikram Cement has a separate Environmental Cell with a team of qualified engineers, scientists and well equipped laboratory for environment monitoring on continuous basis and regular environment audits are carried out by them.

Full fledged Safety Department under Senior Manager(Safety) and Fire Department under Senior Manager(Security) at Vikram Cement. It has the following functions and they are implemented religiously :

- OHSAS 18001 - 1999 implementation
- SHE Policy, Safety Manuals
- Work Permit System. Regular Safety Audits, Safety Committee
- On Site Emergency Plan
- Regular Fire Drill.
- Modern fire Fighting System
- Fire Alarm System for all vital locations
- Celebration of Departmentwise SAFETY WEEK
- Celebration of World Environment Day in Plant and School