

SHREE DIGVIJAY CEMENT COMPANY LIMITED Jamnagar (Gujarat)

Unit Profile

Shree Digvijay Cement Company Limited was established in the year 1946 and its first kiln of 90,000 Tones/Annum was commissioned in the year 1948. With the passage of time Company kept on upgrading technology and equipment's, In 1984, company installed a Dry process kiln with two string separate line calciner, and latest 18 MW Diesel generating sets in 1999. Today an ISO 9002 and API quality system certified Company producing more than 11,00,000 Tones of seven types of Cement. Company is producing special purpose Cement like Oil Well Cement as Import substitution and saving valuable Foreign Currency. Company's products are enjoying market reputation and its specific purpose products like Sleeper grade Cement, Sulphate Resistant Cement have market premium share.

Company has its own Jetty with reputed Export House status. Company's Clinker and Cement enjoys reputation in International Market also. Through its subsidiary Company Imports coal to meet own requirement as well as of it's Aditya Birla Group sister concerns. Company has to its credit various Outstanding Exporter and productivity Awards. Rich Experience with Expertise and being part of ADITYA BIRLA GROUP are Company's strengths. Company is committed for value addition to stack of Customers, Shareholders & Employees through R & D and adoption of World Class Manufacturing Standards.

Energy Consumption

Cement being high energy consuming process, special emphasis is laid for reduction of Thermal and Electrical Energy. The Energy scenario of unit in last three years is as follows,

Sr. No.	Description	Unit of Measurement	2001-02	2002-03	2003-04
1	Annual Cement Production	MTs	701939	721444	747607
2	Total Electrical Energy Consumption	Lakhs Kwh	781.98	1033.87	930.24
3	Specific Electrical Energy Consumption	Kwh/T of Cem.	113.83	103.7	102.38
4	Total Thermal Energy Consumption	Million Kcal	606920.6	792111.82	678013.28
5	Specific Thermal Energy Consumption	Kcal/kg of Clinker	883.28	780.4	797.16
6	Total Sales turnover of the unit	Rs. Lakhs	17624	19722	16668
7	Total Energy Cost	Rs. Lakhs	4027.62	6024.38	5674.64
8	Energy as % of Total Manufacturing cost	%	45.29%	50.28%	52.69%

Energy Conservation Commitment, Policy and Set up

Due to high cost of Energy in manufacturing process of Cement, high priority is laid by Management to conserve energy. Energy consumption parameters are daily analysed and deliberated with floor level operating & supervisory staff by managerial staff. Daily, Monthly reports are prepared with emphasis on Energy by MIS Cell. Energy consumption is also compared with other Group Companies in the manufacture of same product at Plant management and corporate level. Development in any of Group Company or World over in the field of Energy conservation is relayed to each other. Also, suggestion scheme is implemented to get good suggestions from all levels.

Energy Conservation Achievements

Energy Saving Schemes identified In house or suggested by external agencies are examined for viability and adopted or slated for future adoption on availability of means. The major measures adopted during last four years are listed below: -

- * Vertical Pregrinder incorporated with Ball mill for cement grinding.
- * Multi Channel Swirl Burner for fine coal firing in Kiln.
- * High efficiency Fans for clinker cooling in grate cooler.
- * New generation high efficiency Separator in Coal Mill for Electrical energy saving & further grinding quality improvement.
- * 3 x 6.3 MW Captive Power Generation plant for reduction of T&D losses and losses incurred due to vagaries of State Electricity Board supply like Low Voltage, Low frequency, interrupted Power supply etc.
- * Modifications of Kiln & Calciner top twin cyclones for Thermal & Electrical Energy savings.
- * Procurement & installation of energy efficient equipment like rubber belt elevator, Enmass conveyor etc. during reconstruction of plant facility damaged in Earthquake.
- * Construction of Silo of small height & capacity so as to reduce power for transportation of raw meal, silo extraction etc.
- * Increasing the size of Calciner Vessel height & Tertiary Air Duct Diameter
- * To run Hot Gas fan of Atox Coal Mill on VVVF drive.
- * Enlargement of Kiln Inlet Riser Duct.
- * Replacement of RM ESP suction cone with new modified cone.
- * Replacement of PC Fan suction cone with new modified cone.
- * Replacement of PH Fan suction cone with new modified cone.
- * Re-modification of Kiln & calciner string twin cyclones
- * Enlargement of Kiln Inlet Riser duct
- * Installation of modified flaps in cooler hopper discharge

- * Modification in Cooler ID fan inlet cone / outlet duct Various other Energy saving schemes are on anvil.
- * With the implementation of various energy conservation measurers during 2003-04, the unit has saved Rs. 249 lakhs, which is 4.4% of the energy cost of the plant.

Energy Conservation Plans and Targets

The following Energy Conservation Schemes are under implementation / active consideration of the Company; -

Energy Conservation Measures (Planned)	Anticipated savings in			Approx. investment (Rs. Lakhs)	Project Commencemnt & Completion year
	Power U/T of Cem.	Heat Kcal/Kg of cl.	Rs. Lakhs/ Annum		
* High efficiency separator for Vertical Raw Mill	1.0	—	34.00	30.00	2004-05
* Gearbox internals replacement for increasing Kiln rpm from 4.2 to 5.0	NT	—	—	10.00	2004-05
* Replacement of Kiln inlet seal with pneumatic seal	0.2	5.0	7.00	5.00	2004-05
* Installation of new generation screw compressors in place of obsolete and old reciprocating compressors.	0.5	—	17.00	30.00	2004-05
* Replacement of Precollector cyclone of Coal Mill with high efficiency cyclone.	0.2	—	6.80	10.00	2004-05
* Replacement of Kiln Outlet seal	—	2.0	0.05	5.00	2004-05
* Controller for maintaing DG Generation frequency at 49.2 Hz.	0.5	—	17.00	1.20	2004-05
* Replacement of LRS with new design GRR in starter circuit of Kiln ESP Fan alongwith removal of fan inlet damper.	0.2	—	6.83	7.00	2004-05
* Modification of cyclones of Preheater top stage (Twin cyclones of PH & PC string)	—	4.0	0.07	3.00	2004-05
* Fuzzy Logic software system for optimised operation of Kiln, Cooler & Coal Mill	0.5	2.0	17.00	8.00	2004-05
* Installation of VVVF drive for Cooler Fan No. 5 alongwith removal of fan damper.	NT	—	—	5.00	2004-05

* Replacement of Cooler Fan 2,3 & 4 with high efficiency fans	0.3	—	10.00	4.50	2004-05
* Mechanized Fly-ash feeding system for KCP Cement Mill	2.0	—	65.00	60.00	2005-06
* Replacement of Precollector cyclone of Cement Mill with high efficiency cyclone.	0.3	—	10.00	10.00	2005-06
* Deep bucket conveyor for clinker transport	1.0	—	34.00	200.00	2005-06
* Cooler upgradation with Pendulum cooler	—	20.0	0.37	200.00	2005-06
* Replacement of PH, PC, ESP & R/M Ex Fan along with down comer duct enlargement.	0.5	—	17.00	150.00	2005-06
* Vertical Raw Mill Reject Re-circulation	1.0	—	30.00	25.00	2005-06

There are several other identified Energy Saving Schemes under study & consideration.

It is planned to reduce Electrical Consumption to 88 kWh/T of Cement and 750 Kcal/kg of clinker.

Environment and Safety

Company is committed to protect environment and installed Pollution control equipment at all required points.

A separate Pollution Control Cell is established under a GM (E & I) & Sr. Engineer to take care of pollution control devices/measures. Our unit had invested lacs of rupees every year to upgrade pollution control equipments to bring down & maintain dust emission level the below-prescribed norms.

Company has a Horticulture section with annual outlay of Approx. Rs.15.0 Lakhs to upgrade plantation around plant. Company has a safety Policy and strives to achieve Zero Accident. A dedicated Safety Superintendent under the Safety Committee looks after safety aspect. It is mandatory to use safety appliances and safety procedures during work. Safety consciousness is encouraged in employees by suitably awarding best performing Department.