

COMPANY PROFILE

Chettinad Cement Corporation Limited (CCCL) was launched three decades ago by one of the India's most illustrious sons Dr.Raja Sir. Muthiah Chettiar. The company continues to uphold and illustrates today under the dynamic leadership of Dr.M.A.M.Ramaswamy, Chairman and M.A.M.R.Muthiah, Managing Director.

Chettinad Cement Corporation Limited is having the registered office at

Rani Seethai Hall Building
PB No. 748
603, Anna Salai,
Chennai 600 006

Telegram : Best Cement
Telephone : 28292727
Fax : 28291558
Email : chtdmds@vsnl.com
Web site: www.chettinadcement.com

The factory is located at about 60 Km from Trichy on the Trichy - Coimbatore state Highway at the following address.

Chettinad Cement Corporation Limited
Kumararajah Muthiah Nagar
Puliyur Cement Factory
Karur District - 639 114

Tel : 04324 - 251354,251355,251356
Fax : 04324 - 251320
Email : kru_cccl@sancharnet.in

Chettinad Cement Corporation Limited was started in the year 1967. Initially the Cement was manufactured in the wet process technology. Due to hike in the fuel prices the company went for expansion in the year 1989 to produce cement with the latest dry process technology.

CCCL has acquired most of its critical equipments, from Europe, USA and Japan and utilised foreign technological expertise to installed and commissioned these equipments.

The vertical roller mill from Loesche for grinding Lignite, the first of its kind in the country is commissioned for processing the fuel requirement. The company with the installation of OK Mill, the world's most sophisticated and Hi-Tech cement mill (a vertical roller mill), the production capacity has quantum leaped and expected to touch a million mark.

CCCL, apart from manufacturing cement, is also into wind energy farms. This includes harnessing power from 66 windmills setup at Poolavadi with various capacities. CCCL has taken elaborate measures for pollution control spending almost 10 crores in this field. Many of the electrostatic precipitators and several filters and bag dust collector in cement mill are installed all over the plant. STP is also working to take care of water pollution. For Occupational Health & Safety, CCCL has institutionalized a Safety Committee working group, promoted the use of Personal Protective Equipment (PPE) in key work areas and subjecting the employees for regular health check-up.

List of Award Received

S.No.	AWARDS	YEAR
01.	NATIONAL SAFETY AWARD (For Outstanding performance in Industrial Safety in achieving lowest frequency rate in industry). Runners up. Highest % reduction in frequency rate.	1976 1977
02.	MERIT AWARDS from Regional Directorate of workers Education.	1982 1985
03.	TAMILNADU FILM ARTS ASSOCIATION , Chennai. Shield	1978
04.	a.) NATIONAL PRODUCTIVITY AWARD (Best Productivity performance in cement industry issued by NPC) Second best Best Best Second Best Second Best b.) BEST PRODUCTIVITY AWARD (Issued by Govt. of Tamilnadu)	1985-86 1986-87 1995-96 1996-97 1998-99 1994-95 1995-96
05.	NATIONAL SAFETY AWARD (Mines- For Lowest injury frequency rate Metal Mines Mechanised Open cast), Longest Accident Free Period. Highest % reduction in frequency rate. Best Performance of the year.	1986 1986 1987 1989
06	CONSERVATIONIST OF THE YEAR (For outstanding progress in the filed of Conservation of Energy, Metal Components & Machinery)	1987
07	NCBM NATIONAL AWARDS (Improvement in Energy Performance) Second Best Best Best (Manufacture of Blended Cement) Best (Manufacture of Blended Cement) Best (Manufacture of Blended Cement)	1994-95 1995-96 1998,99 1999-2000 2000-01
08.	TNEB ENERGY CONSERVATION AWARD (One among the 15 Energy Efficient H.T. Industries of 2000 KVA)	1998-99
09.	NCBM NATIONAL AWARDS (Improvement in Electrical Energy Performance) Second Best	1998-99
10.	NCBM NATIONAL AWARDS Award for Energy Efficiency - 1 st Prize Best Improvement in Thermal Energy Performance	2000-01
11.	MINISTRY OF ENERGY National Energy Conservation Award National Energy Conservation Award for the Cement Sector	2000-01 2002
12.	TAMILNADU GOVERNMENT AWARDS State Safety Awards 1 st & 3 rd Prize	1998
13.	NATIONAL AWARD FROM NCCBM Best Environmental Excellence in Cement Industry	2004-05
14.	WARDED THREE LEAVES By the Centre for Science and Environment in Green Rating Project	2004-05

Chettinad Cement Corporation Ltd., Puliur Cement Factory has won international Recognition by getting IS/ISO 9001:2000 Quality Management System Certification And IS/ISO 14001:2004 Environmental Management System Certification..

The company is having its captive mines for limestone about 40kms from factory (Seethainagar Limestone Mines). It is fully mechanised with latest sequential blasting technology. The limestone after blasting is handled and transported to crusher by means of heavy (earth moving equipments like shovel, dumpers, pay loaders. The limestone is unloaded to the impact crusher through hopper for crushing. This crusher helps in reducing the size of the limestone to the required size for further processing. The crushed limestone is transported by belt conveyors to bunker where the loading of the limestone takes place. The loading is done systematically by pneumatic gates provided below the bunkers to the wagons. The transportation of limestone is being done by our own wagons and locomotives. We have our own MG railway line with the intermediate station. The wagons containing limestone are unloaded by the wagon tippler in the factory and transported to the stockpile.

The Stacker reclaimer is a linear stock pile which helps to blend the material by forming layers and while extracting material by reclaimer is right angle to the formation. This ensures blending of material. The stacker & reclaimer was supplied by Elecon and having a capacity of 2 x 24,000 M.T. Stacking capacity. The limestone reclaimed from the stock pile Bauxite and Iron Ore as additives to compensate deficiencies of the limestone are filled in the hoppers. These materials are weighed and extracted to the vertical roller mill for grinding.

The Vertical Roller Mill for raw material grinding is a highly energy efficient mill having the latest process controls. The material is ground to a fine powder and is collected in an Electrostatic Precipitator and transported to blending silos by means of bucket elevator. There are two silos for storing the ground raw material (Raw meal) which are also used for blending. The blended rawmeal is extracted from the silo bottom and after weighment, it is transported to pyroprocessing section.

The blended rawmeal is transported by bucket elevators to the top of preheater where there are sets of five cyclones to transfer the heat or to preheat the raw meal by means of kiln and precalciner exhaust gases. The preheated raw meal is sent to precalciner where fuel is fired to calcine the material. The calcined raw meal is sent to kiln where further fuel is fired to convert the raw meal to clinker. The entire pyroprocessing is supplied by Fuller - USA.

Coal / Lignite is used as fuel which again is ground to a fine power for handling and easy burning by means of vertical Roller Mill and stored in the coal bins. These are weighed and extracted at the bottom by screw conveyors, fired in the precalciner and kiln as mentioned above

The clinker after formation is cooled in a CIS/CFG cooler and the cooled clinker is stored in the two silos. The clinker from the silos are extracted by conveyors and are transported to hoppers alongwith flyash and gypsum (Retarder) to convert into a final product.

The weighed Quantity of clinker , Flyash, and gypsum are ground by vertical roller mill (OK mill) supplied by ONODO-KOBE Japan. This is one of the biggest mill in India with the latest sophistication. The ground cement is transported to the silos as per the type of cement by bucket elevators. The cement is extracted from the silo bottom and are packed in automatic packers. There are four automatic packers which helps to pack the cement in 50kg per bag and are transported to the destination by means of trucks and wagons. We have latest sophisticated

SITE DESCRIPTION AND SITE PLAN

CCCL is located at Puliur village in Karur (Dt.) Tamil Nadu, Trichy- Karur Highway 65km away from Trichy and 13 Km before Karur. It is situated at the elevation of approx 110 m Mean sea level. The Ambient temperature is 42 deg C max and 25 deg C Min with an average rainfall of 600-800mm in a year. The relative Humidity is 80-85% max and 50% min. The Maximum wind velocity is 50Km/Hr Max during the windy seasons. For 6 month wind direction is East- west and for the next 6 months west-east. Topographically the firm is generally flat. Amaravathi river which is tributary to river Cauvery, is situated about 2 Km away from the Factory. We have provided a school for our employees and for our near by society behind our colony. It is well connected by road in Tamil Nadu and Broad gauge Railway throughout India.

The Chettinad Cement Corporation Limited (CCCL) is one of the most modern cement plant in the country located at Puliur in Karur district, Tamilnadu.

1967 - 4 lac tonnes per annum cement production capacity with wet process

1989 - Dry process kiln of 1700 TPD commissioned with vertical roller mill for fuel & limestone grinding.

1990 - 2 Nos. of KVA Capacity WARTSILA DG set installed.

1994-96 - 66 Nos. of wind electric Generator of total capacity 17.3 Mw installed at Poolavadi Udumaplet Taluk.

1995 - ISO – 9001 Certificate received.

1996 - Stacker & Reclaimer for Limestone.

1996-97 - Belt Elevator for Raw mill and Kiln feed installed.

1997 - A) Impact Crusher for lime stone crushing at mines installed.B) Bag filter for coal mill grinding system.

1998 - Vertical roller mill for cement grinding installed.Additional ESP installed for Klin / Raw mill to handle excess process gases.

2000 - A) CIS / CFG Cooler installed. Low pressure Cyclone installed.Latest Technology LV- Tech Classifier installed in Raw millKiln capacity increased to 2800 TPD. B) Green field Cement Plant with capacity of 1.1 Million was commissioned at Karikkali works.

2001- Rock breaker (Terminator) installed in mines.

2003 - ISO 14001:2004 is implemented

2004 - Environmnet Management Service Certificate option.

2004 - Fly Ash Silo construction work 5,000MT Capacity started

2005 - Fly Ash Silo construction work completed.

2006 - IS:ISO 18001:2000 is implemented

2007 - Bag House installed in Raw Mill/Kiln Circuit

2007- 15 MW Captive Power Plant erection work started

The product offered by CCCL is as given below:

ORDINARY PORTLAND CEMENT OPC-43, OPC-53
PORTLAND POZZOLANA CEMENT (PPC)
SULPHATE RESISTING PORTALND CEMENT
PORTLAND SLAG CEMENT

(ii) Energy Consumption

Include information on total energy consumption (i.e. coal, oil, gas, electricity and money value). Information on energy consumption in terms of percentage of manufacturing cost should also be presented. Also, it should highlight the specific energy consumption for the period 2004-2005, 2005-2006 & 2006-2007. Good Computer Graphic Presentation related to Specific Energy Consumption may also be incorporated. **(Enclosed 3 years Graphic)**

The energy consumption in various section of the plant is being monitored every day and various efforts are being made to reduce the power consumption. CCCL has installed an energy monitoring system of all the operations like crushing, grinding and pyro processing are individually monitored along with its subsection with the help of transducers fixed at different locations. The transducer output through programmable logic control (PLC) are communicated to the computer at CCR to facilitate monitoring of different sections. Then cumulative power consumption is converted into Kwh/Ton of material, Kwh/Ton of cement and also % loading.

(iii) Energy Conservation Commitment, Policy and Organizational Set up
(Please include a photo copy of unit's Energy Conservation Policy, if decided)

CCCL has formed an energy conservation committee. The committee is headed by the President. The committee meets twice in the month with specific agenda to review the progress of implementation of proposals. It is made clear that the main responsibility of implementing proposals and achievement of saving shall be with the concerned operating and maintenance personnel.

MONITORING AND REPORTING SYSTEMS.

Our company has formed an Energy Conservation Committee. The committee consists of senior level Managers both from operations and maintenance department. The company has selected the HOD of electrical maintenance as Energy Manager. The committee meets twice in a month with a specific agenda to review the progress of implementation of proposals. Target is fixed as part of ISO Auditing System and is thoroughly monitored with reporting to the President. The meeting and the Energy Manager is assisted by HOD from maintenance and operation departments. It is made clear that the main responsibility of implementing the proposals and achievement of saving shall be with the concerned operating and maintenance personnel.

All the stages of operation like crushing, grinding, pyro processing are individually monitored along with its subsection with the help of transducers fixed at different locations. Then transducer output through programmable logic controller (PLC) are communicated to the computer at CCR to facilitate monitoring of different sections. Then cumulative power consumption is converted into KWH/Ton of material, KWh/Ton of cement and also % loading. The entire energy monitoring system is by M/s. Enercon and the cost of package is 25 Lakhs.

(iv) Energy Conservation Achievements

Include one paragraph write-up on each major energy conservation project implemented during the year 2006-2007 only. The important achievement as our CCCL is proud to say that the specific energy consumption has been considerably reduced from 130 Kwh/Ton of cement in the year 1992 to 72.97Kwh/Ton of cement in the year 2006-2007 by implementing various in-house measures.

- 1 Power Boss Energy Saver for Belt Conveyor - Encl. Photo.
- 2 Energy Efficient Electronic Chokes for Tube Light Fittings - Encl: Photo.
- 3 Humidity Controller and Sensor for P&V System at DG House - Encl. Photo

(v) Energy Conservation Plans and Targets

S.No.	Energy Saving Proposals	Annual Savings (Rs. Lakhs)	Investment Required (Rs. Lakhs)	Pay back Period (Months)
1	Install auto delta star converters for the identified lightly loaded motors	1.00	2.50	30
2	Convert V belt drives into flat belt drives	1.62	2.00	15
3	Optimise the operation of cooling fans of GRR	7.50	1.00	2
4	Install lighting energy savers in the identified areas	0.88	2.20	30
5	Switch off Tr-3 at 110 KV substation	2.60	0.00	
6	Install VFD for shell cooling fans	1.60	2.40	18
7	Install VFD for cooling tower fans	1.40	1.80	16
8	Replace PA fan with correct size fan	4.00	3.70	11
9	Replace coal mill hot ESP fan with correct size fan	10.12	3.00	4
10	Reduce the pressure drop in PH down comer	15.00	10.00	8
11	Optimise the operation of coal conveying blowers	3.60	1.00	4
12	Install VFD for coal mill vent fan	4.50	15.00	36
13	Increase the pressure drop across the identified dust collectors	1.68	0.00	
14	Avoid damper loss in identified fans and install VFD	5.06	7.00	19
15	Minimise infiltration in coal mill circuit	3.71	1.00	3
16	Replace RABH fan with correct size fan	35.40	30.00	11
17	Minimise infiltration in raw mill circuit	17.55	10.00	7
18	Interconnect packer - 1&2 and packer - 3&4	2.92	0.75	7
19	Replace old reciprocating compressor with new efficient compressor	3.30	3.50	13
20	Optimise operation of GCT waster spray system	1.91	1.50	9
21	Optimise the operation of RABH compressor	2.60	0	
22	Install VFD for coal mill BDC purging air compressor	1.67	1.5	14
23	Reduce operating pressure in cement mill compressor	1.17	1.00	11
24	Reduce speed of Bin-3 aeration blower	1.05	0.20	3
25	Reduce speed of P&V blowers in Raw Mill & 132 KV	0.84	0.20	3
26	Install VFD for AHU fan in CCR Building	0.45	0.60	16
	TOTAL	133.13	101.85	16

SUMMARY

Total Annual Savings (26 proposals)	133.13
Annual savings without investment (3 proposals)	6.88
Annual savings without investment (23 Proposals)	126.25
Investment Required (23 Proposals)	101.85
Average payback period for capital proposal	10

- (vi) Environment and Safety
 (A sample write up is attached at Annexure `C' for ready reference). Beside the energy conservation programme the company also given more attention towards the Environmental Control in Mines as well as plant site. The following Environmental improvement scheme adopted in our company.

ENVIRONMENTAL IMPROVEMENTS

- 1 GCT water spray system upgraded to improve Raw Mill ESP performance.
- 2 Cement mill bag house purging system timer modified to improve the collection efficiency any reduce emission.
- 3 Around 170 Nos. of water sprinklers fixed in the roads, yards and in the transfer point to avoid fugitive emission
- 4 59, 500 Nos. of trees planted in and around the factory, colony & schools (Detials enclosed)
- 5 Pet coke used as an altenative fuel
- 6 Use of low grade Limestone to reduce baxuite consumption.
- 7 Rain water harvesting arrangements
- 8 Use of Lime Sludge as an alternative raw material
- 9 Use of blast furnace slag use of filter cake in place of iron ore. Trails are being conducted to use ETP Sludge form dyeing untis in Karur as raw material.
- 10 STP treated water used in clinker cooler and cement mill water spray.
- 11 Increase production of blended cement

2004- 2005		2005-2006		2006-2007	
PPC	SLAG	PPC	SLAG	PPC	SLAG
688977	Nil	927515	62138	838313	55708

GREEN BELT DEVELOPMENT ACTIVITIES AT FACTORY, SCHOOL, COLONY & QUARRY PREMISES AS FOLLOWS.

YEAR	TREES NOS.	FACTORY GARDEN AREAS ACRES	TREES NOS.	COLONY, SCHOOL & QUARRY GARDEN AREAS ACRES.
1967 - 1996	900		1000	
1997 - 1998	300		500	
1998 - 1999	400		1000	
1999 - 2000	400	4.20	1500	2.50
2000 - 2001	500	0.60	1500	2.00
2001 - 2002	2000	2.50	6150	7.80
2002 - 2003	3545	3.75	3455	3.75
2003 - 2004	2000	2.50	8000	10.15
2004 - 2005	1500	1.88	3500	4.44
2005 - 2006	2500	3.34	7500	9.51
2006 - 2007	3600	3.47	7750	10.09
TOTAL	17645	22.24	41855	50.24

VARIETY OF TREES PLANTED AS FOLLOWS:(UPTO MARCH 2007)

S.No	TREES NAME	INSIDE FACTORY	COLONY, SCHOOL QUARRY
1.	Ashoka Trees	2700	6475
2.	Neem Trees	1000	3250
3.	Coconut Trees	0	1000
4.	Teak Trees	4500	5925
5.	Pungai Trees	2500	5600
6.	Eucalyptus	100	200
7.	Vagai Trees	2585	4700
8.	Banyan Trees	15	135
9.	Mango Trees	0	700
10	Cherry Trees	700	3000
11	Badam	1095	3200
12	Konnai	300	1500
13	Punnai	300	700
14	Perunalli	300	765
15	Thungumoonji	0	500
16	Tamrind	0	200
17	Suppotta	0	300
18	Puthrejeeva	250	650
19	Kumil	300	555
20	Magilam	500	1400
21	Others (Thannirkai, Aanaikundumani etc.)	600	1000
	TOTAL	17745	41755

Total trees planted up to March 2007: 59500 Nos.

Crotons plantation 500 M x 1.50 M = 750 m² @ road side.

In addition to above we already remitted the amount for 1,500 saplings to Managing Director, Tamilnadu Forest Plantation Corporation, Trichy and to The Commissioner Kulithalai Municipality towards the maintenance cost for 1,500 saplings.

SALAI ORA POONGA AROUND THE COMPOUND WALL (WEST AND NORTH SIDE) NEAR AMARAVATHI NAGAR SIDE.

We have developed Salai Ora Poonga to a length of 800 mtrs. and width of 3 mtrs. at west side of our factory boundary in Karur - Uppidamangalam - Manapparai Road side. Similarly we have developed Salai Ora Poonga to a length of 1000 metres and width of 2.8 mtrs. At north side of our factory boundary at Karur-Trichy NH Road. With this development, the State Highway and National Highway passing through our factory will have full of greenery.

We developed green belt in the Karur collectorate :

Total area covered : 5000 Sqft.

No. of trees planted : 1000

LIST OF CERTIFICATIONS

Version	Certifying Agency	Date of Certification
IS/ISO 9001:2000	Bureau of Indian Standards	16-01-2007
IS/ISO 14001 : 2004	Bureau of Indian Standards	23-07-2004
IS 18001:2000	Bureau of Indian Standards	29-01-2007

ENCL: ISO Certificate Copy

BREAK UP DETAILS IN INVESTMENT MADE FOR ENERGY & ENVIRONMENT IMPROVEMENTS DURING THE YEAR APRIL 2000 – MARCH 2007

Year	Areas	Expenditure Crores	Total Crores
April 2000- March 2001	Water spray for GCT	0.12	0.97
	Latest classifier for Raw Mill	0.6	
	New Electronic Controller for ESP's	0.25	
April 2001 – March 2002	New Controllers for Kiln/Raw Mill ESP		1.00
April 2002 – March 2003	Continuous Stack Monitors – 4 Nos.	0.20	1.20
	Green Belt Development and New Ponds	0.50	
	Sewage Treatment Plant for Colony	0.50	
April 2003 – March 2004	New Electrodes for additional ESP	0.50	1.40
	Concrete flooring and concrete roads inside the factory	0.10	
	New bags for Cement Mill Bag House	0.30	
	Green Belt Development and New Ponds.	0.50	
April 2004- March 2005	Dry Fly Ash Silo	5.00	5.25
	Concrete flooring and roads	0.15	
	Green Belt Development	0.10	
April 2005- March 2006	Concrete flooring and roads	1.55	1.67
	Green Belt Development	0.12	
April 2006- March 2007	Green Belt Development	0.15	10.15
	New Bag House installed in Raw Mill/Kiln Circuit	10.0	
Grand Total			21.64 Crores