

## Unit Profile :

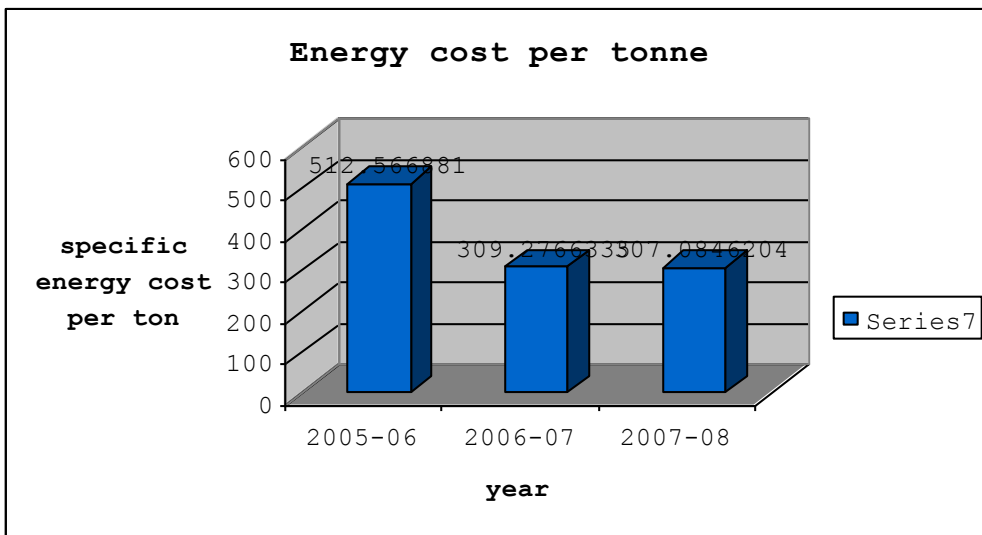
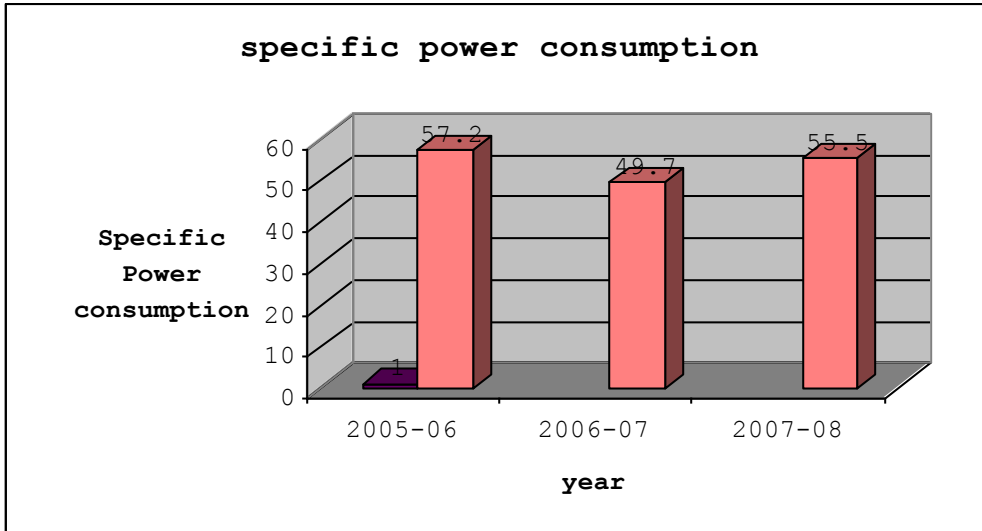
For over a quarter of century, the best in corporate & business world have looked to 'Surfacos' as the Paint Company of choice. Among the top paint companies in 'South India' , Surfacos continue to add true aesthetic value to the world of concrete & steel providing spectacular array of brilliant , vivid and Eco - friendly paints that amaze the eyes & mind equally.

Unit – III plant was set up in year 2001 and expanded continuously in capacity since year 2004. The unit has got ISO 9001 Certification and contributes very significantly in growth and turnover of the organisation.

## Energy Consumption Details:

Specific power consumption details	Unit	2005-06	2006-07	2007-08
Annual Production	MT	2224.1	3602.6	3949.4
Total Electrical Energy consumption per annum	KWH	127300	179000	219200
Total Energy cost	Rs.	1140000	1114200	1212800
Specific Power Consumption	KWH / MT	57.2	49.7	55.5
Specific Energy cost per ton	Rs/Ton	512.567	309.2766	307.08462

# Graphical Representation of Specific Energy consumption & cost :

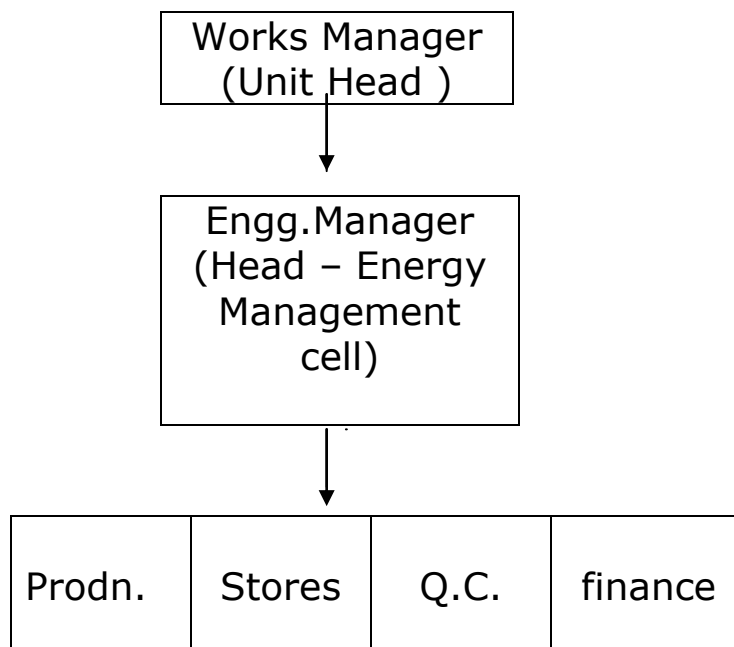


## Energy Conservation Cell:

The company has 'Energy Management Cell' which is responsible for monitoring of energy consumption and explores & implements energy saving techniques and ideas.

The cell is headed by engineering manager who also held responsibility as 'Energy Manager'. The cell works under the guidance of 'Works Manager' and consists of cross-functional team.

Each idea emerged in brain storming session is evaluated for 'Returns On Investment' or efforts and implemented after feasibility and management approval. Results are monitored for any deviations.



The energy conservation cell also works to create awareness among all the employees for energy conservation and waste minimisation.

## **Energy Policy :**

- 1 ) Surfacoats is committed to continuously improve energy efficiency by optimum utilisation of resources, monitoring & benchmarking energy consumption and elimination of waste.
  
- 2 ) Continuously explore and implement non-conventional methods and best prevailing practices to conserve energy.
  
- 3 ) We strive to build overall awareness among employees for energy conservation and Eco-friendly methods

## **Energy Conservation Achievements**

Since last 5 years, result oriented initiatives and focused efforts have resulted into improved manufacturing operation and work flow. Energy conservation efforts have direct and major bearing on this continuous improvement process.

As part of this drive, several energy conservation and eco friendly initiatives have been implemented Solar street lighting system, rain water harvesting, use of A.C.drive, arresting air leakages, reduction & optimising of contract demand, de-rating of motors, improving power factor to 0.99 value and exploring & use of different type of machineries are main contributors to above.

In last 3 years itself, energy savings have amounted more than Rs.18 lakhs. It is clearly reflecting in the fact that even though there is 60% growth in production in last 3 years, there is hardly any rise in energy cost.

## Energy Conservation Projects implemented in year 2007 - 08

Sr. No.	Project Description	Background of the project	Observations Made	Technical & Financial analysis	Impact Of Implementation	Annual Saving achieved (Rs.)
1	Star Delta Converter for attritor of 50 hp rating	attritor runs on high load initially after charging & after on low load.	During low load period,attritor continue to run on delta leading to high power consumption	It is feasible to install star delta converter which will change the mode between delta and star depending on load.Investment of Rs.17000 is required with payback period of 7 months	Installed star delta converter successfully.	<b>33671</b>
2	Maximum demand controller for power system.	When new machines of about 100 hp rating are added in system,there was expected rise of maximum demand by at least 75 KVA	After detailed study of load factor at any given time,we decided to schedule running time of machines in such a way that we could manage with the same demand.To have control on demand,maximum demand controlled is suggested.	It is feasible to install maximum demand controller which will warn & cut the load if set demand is exceeding. Investment of Rs.28000 is required with payback period of 3 months	Maintained maximum demad below contracted demand.	<b>162000</b>
3	Hour meter for ball mills	Ball Mill is an energy intensive machine which runs for 20 hours per batch.	If the grinding time is not maintained properly,machine tend to run 1 to 1.5 hours more than desired.To avoid this,correct recording and accounting of running hours is needed throughout the batch.Hence hour meters are suggested.	Hour meters account the correct grinding time avoiding human error in noting power failure time etc over the period of 20 hours batch time. Investment of Rs.2000 is required with payback period of 2 months	Recording & controlling of grinding hour is possible after hour meters are installed.It also helped in standardising grinding hours depending on product.	<b>17008</b>

4	Slow speed stirrer of 3hp instead of 25 hp High speed stirrer	Oil based paint thinning involves only mixing which can be done at reduced power and RPM.	High speed stirrer even when used with A.C.drive for speed control draws more power than the application required.To avoid this,slow speed stirrer of 3 hp capacity is suggested	Investment of Rs.50000 is required with payback period of 19 months	Without compromising the product quality,after step-by-step modification in stirrer speed by changing pulleys has been made.Pulley with the optimum required speed has been installed .	<b>29931</b>
5	Lighting Redistribution	A single point control of more than one lamp was resulting in switching on lamps which are not required at that time.	High wattage lamps ( 250 w ) are to be provided with individual switches for on off control.	Investment of Rs.2300 is required with payback period of 12 months	Separate switches are provided for all the 4 high wattage lamps with necessary changes in wiring.	<b>2280</b>
6	Recalibration of Fuel Injection Pump of diesel generator	If fuel injection pump is not having optimum setting,it results into en -efficient burning of fuel i.e.higher consumption with more pollution.	Fuel consumption of diesel generator set has increased considerably per unit.It is decided to re calibrate the same after repairing / replacing nozzles	Investment of Rs.12000 is required with payback period of 18 months	F.I.P has been re-calibrated which reduced diesel consumption by 2 liters per hour for same generated units.	<b>8400</b>
7	Calibration of attritors for optimum grinding in less time	Grinding time of an attritor is depending on type & quantity of grinding media added apart from other factors.If optimum type & quantity is decided by scientific meathods,there will be reduction in grinding hours.	Major part of energy consumption in factory is in attritor as they have to run more hours.If it is controlled,there will be major impact on energy consumption.	Feasible & essential to carry out step by step study to achieve optimum grinding in attritor.Needs no investment.	Exact quantity & type of grinding media suitable to our requirement is charged after calibration.Batch Cycle Time has reduced by 1 hour per batch.The entire energy requirement after expansion of the factory has been provided by this innovation.	<b>346560</b>
<b>T O T A L</b>						<b>599850</b>

## Energy Conservation Plans & Target :

Sr.No.	Project Description	Investment required (Rs.)	Projected benefits per annum (Rs.)
1	Lighting energy saver major lighting area.	13000	<b>17100</b>
2	Installation of star delta converter for 2 attritors,1 ball mill and 1 pug mixer	68000	<b>125993</b>
3	Hour meters for 10 nos.of attritors	15000	<b>86746</b>
<b>T O T A L</b>			<b>229839</b>

## Environment & Safety

Surfacos is committed to protection of the environment through adoption of new processes & technologies, elimination of hazardous operation and producing Eco friendly paints.

The unit recycles the resources such as water & solvent used for paint production. Treated water is used for gardening purpose. Rain water harvesting is also implemented. Excellent natural ventilation is provided in the plant since inception. Green belts and lawns are developed in and around the factory to improve the environment.

Safety management is followed & given top most priority in the organization. Internal safety audit is conducted to evaluate possible situation & accident prone areas. Active involvement of workmen in hazard identification and suggestion scheme is promoted. Various training programs on first aid, fire fighting and job related safety topics are conducted. All safety gadgets like shoes, mask, gloves etc are provided to the employees.