First Prize *Paints & Allied Products*

BEEPEE COATINGS PRIVATE LIMITED

Vithal Udyognagar (Gujarat)

Unit Profile

Beepee Coatings is a private limited company incorporated in 27th February 1982, as a 100% subsidiary of **Berger Paints India Limited**, the 2nd Largest Paint Manufacturing Company in India. It is located at Vithal Udyognagar, Near Karamsad ie. Birth Place of Late Shri. Sardar Vallabhbhai Patel, Anand, Gujarat.

To brief on its Holding Company, Berger Paints India is headquartered at Kolkata, with 10 strategically located manufacturing units and about 110 stock points. Berger Paints also has an international presence in 4 countries (Nepal, Bangladesh, Poland and Russia). With employee strength of above 2800 and a countrywide distribution network of 25,000+ dealers, Berger is acclaimed as a game changer in the sector with a vibrant portfolio of paints and tailor-made customer services in every paint segment.

Beepee Coatings is engaged into the Manufacturing of Enamels Paints, Water Based Paints, Resins and Emulsions, It also manufactures Automotive, General Industrial and Protective Coatings, and Wood Care Products. The Company has a Water Base Plant capacity of 2500 MT, Enamel Paints capacity of 2000 KL, Resins Plant with capacity of 1200 MT and First Emulsion Manufacturing unit of Berger set-up in the year 2011 with manufacturing capacity of 2000 MT.

Solvent & Water Base Plant

Bird eye view - Protecton, Admin Bldg

Resin Plant

Emulsion Plan

The overall turnover of Berger is 4500 Crores and Beepee Coatings is has a turnover of 23.22 Crores, figures from the financial year 2015-16. Company has imbibed various initiatives and changes since 2010 and the changes brought in by the Company has shown great results in the field of Ownership Building, Team Work, Productivity Improvement, Infrastructure Development, Employee Development, Trainings and Power Savings.

Energy Savings:

Savings in Grinding Media – Steel Balls vs. High Alumina Balls

		STEELBALLS	HIGH ALUMINA With Cyclic Energy Saver
1	Bal lmill Capacity	500 G (Ballmill No 2)	500 G (Ballmill No 2)
2	Hp / Rpm	25 / 1475	25 / 1475
3	Shell Rpm	18	18
4	Product	Red Oxide Primer R 83	Red Oxide Primer R 83
5	Slurry Finish	4+	4+
6	Grinding hrs	**16**	**12**
7	Grinding Media in Kgs	2400 kgs	2260 kgs
8	Size of Grinding Media in mm (D)	19	25 + 20 (40 %+60 % mixed)
9	Landed cost of grinding Media	Rs 115/kg	Rs 249/kg
10	Electrical Load	**20 Amp**	**9 Amp**
11	Electrical Consumption	226 Kwh / 16 hrs	77 Kwh/ 12 hrs
12	Electrical Consumption	67800 Kwh / year	23100 Kwh / Year
13	Cost of Electrical@Rs 8/kwh	Rs 542400 / Year	Rs 184800 / Year
	Saving from single BM		**Rs. 3,57,600/Year**

Energy Conservation Measures Implemented:

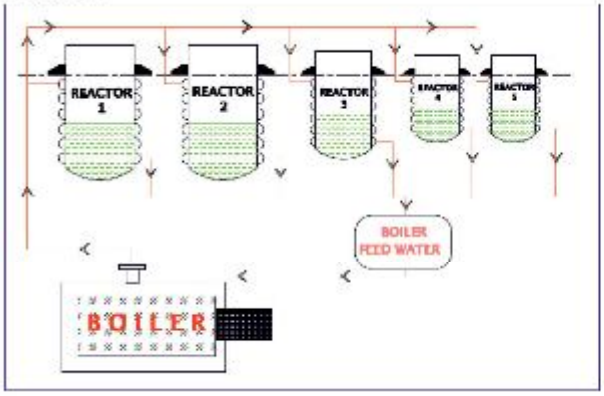
1. FIXED PIPE LINE AND PUMP FOR PUMPING WASHING MTO TO DEDICATED TANK

a) Ease of operation
b) No spillage & leakage during consumption
c) Accurate consumption of W.MTO
d) Saving of four man power per month for transporting barrels from the filling to solvent base floor
e) Total saving = Rs. 10,000
f) Reduction of barrels usage for W.MTO

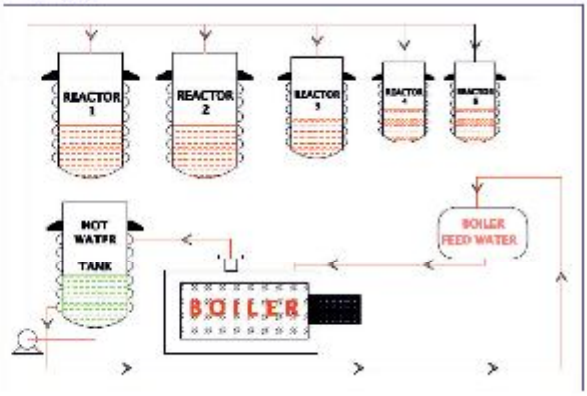
2. Use of Hot Water in Reactors (Earlier Steam from Boiler was used):

The Conversion of using Hot Water – Direct heating instead of Steam through boiler have shown great results in energy savings and capacity enhancement. The consistency in Emulsion batch cycle time have also enhanced an brief schematic diagram to understand the flow is presented as below.

Before



After



Company have also adopted recommendations from the various Energy Audits Firm conducted by TERI, Gujarat Safety Council, and other notified agencies. The company have taken sustainable measures in Implementation of the recommendations.

3. Delta – Star Converter : Use in Heavy Loaded Equipments

A Total of 27 major equipments was preliminary studied and implementation of Delta-Star converter was executed to all equipments. The resultant figures was motivating and it have shown a annual power reduction of around 30% with volume savings of around Rs. 12 Lacs.

4. Go Green Initiative:

Company has initiated community driven go green initiative in 2012. In the drive all employees of any cadre have contributed by voluntary donating money and time to transform into a green plant from a chemical workplace, a green workplace.

5. Giving back to mother earth:

To help save a precious resource that is fast depleting in India. Though Rain Water Harvesting in its company. They have ***installed 60 KL/Hr RWHS Which will charge approximate 15,000 KL water to ground during rains, equivalent to 04 month water consumption year on year.***

6. Corporate Social Responsibilty (CSR) :

Company has implement various CSR programmes since last few years in the area of Girl Education, Sanitation Project for Girls School, Infrastructure development for schools, Health and Hygiene in Schools.

KANSAI NEROLAC PAINTS LIMITED

Lote Factory, Ratnagiri (Maharashtra)

Unit Profile

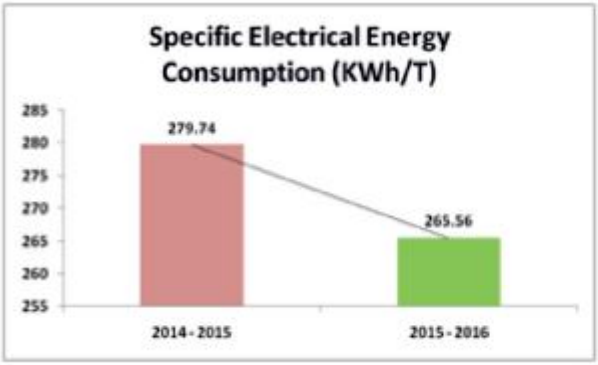
Kansai Nerolac Paint Limited (KNPL) a subsidiary of Kansai Paints Co. Ltd., Japan began its journey in the year 1920 as Gahagan Paints and Varnishes Company Ltd. at Lower Parel, Mumbai.

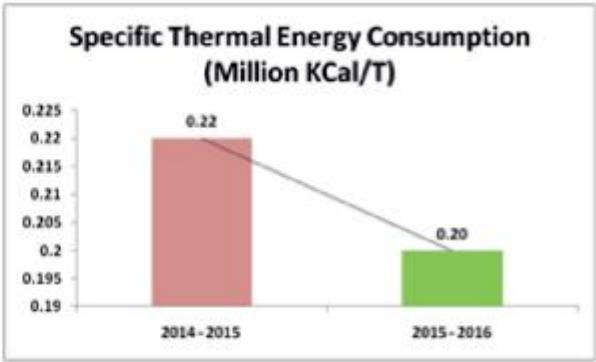
KNPL services customers both in decorative as well as industrial segments. It enjoys leadership position in the Industrial Paints segment and is one of the leading players in Decorative segment. The company has coating solutions across the Decorative, High Performance Coatings, Powder Coatings, Automotive and Auto Refinish market segments. The company serves its customers through a network of four manufacturing facilities strategically located at Lote in Maharashtra, Bawal in Haryana, Jainpur in UP and Hosur in Tamil Nadu and around hundred strategically located depots. Its Lote Unit is established in the year 1998 is in Maharashtra which is the main producer of Industrial (Auto & GI) and Decorative (Solvent Base & Water Base) paints.

Energy Consumption and Specific Energy Consumption

Lote Units Volume & Energy Management

DESCRIPTION	UNITS	2014 - 2015	2015 - 2016
Production Volume	MT	32487	35624
Total Electrical Energy Consumption	Lac. KWh/Year	90.9	94.6
Specific Electrical Energy Consumption	KWh/T	279.74	265.56
Total Thermal Energy Consumption	Million KCal/Year	7246	6960
Specific Thermal Energy Consumption	Million KCal/T	0.22	0.20





Every Year Lote runs energy management programs in the factory to keep a track and manage its operating cost well within control and serve our mother nature by using it natural resources to optimal.

List of Energy Efficiency Initiatives Undertaken:

	Project description	Achievement of Annual energy savings in 2015-16			Investment incurred on the project Rs. (Lakhs)
		Electricity (Lakh kWh)	Fuel HSD (KL)	Total savings (Rs. Lakhs)	
1	Installation of Sola Tubes at BSR & DGLT	0.29		2.35	7.45
2	Installation of Energy Efficient Chiller 100TR -2 nos.	2.36		19.06	30
3	Power saving by Investment in Wind mill Project based out in Nandurbar in Open Access	29.78		18.47	Nil
4	Replacement of Conventional Motors with IE3 Motors	0.25		2	8
5	Air Compressor pressure optimization	0.46		3.74	Nil

6	Usage of Non Conventional Bio-Fuel for Heating Units		177.97	9.25	Nil
7	Usage of non conventional Briquette Fuel for Heating Unit		118.94	50.73	Nil
8	Lighting Power Saving by LED installation	1.49		12.04	12.71
9	Boiler Efficiency Improvement		71.6	34.15	Nil
10	Waste Heat Recovery from Boiler Flue Gas Outlet		10.6	5.05	Nil

Energy Initiatives :

Some of the major projects implemented are:

1. Installation of Sola Tubes at BSR & DGLT

Description of the energy conservation measure: As a step towards Energy Conservation Measure, Kansai Nerolac Paints Ltd explored the use of Non Conventional Energy Resources. Usage of HPMV Lamps was eliminated during day-time in RM Stores 3rd Floor area. Unit installed 23 nos. Sola Tubes on RM Stores 3rd Floor Roof which reduced the usage of HPMV lamps, 62 nos.(125 Watts each) by 50%.

Results: Energy cost savings, Rs.2.35 Lac.

2. Installation of Energy Efficient Chiller 100TR -2 nos.

Description of the energy conservation measure: Unit has been using traditional reciprocating Chiller -75 TR (90HP) – 2nos., for Chilling requirements since Plant inception. As the Chiller performance had deteriorated, unit selected Energy Efficient TRANE make (Screw Chiller) – 100TR (2 nos.) of same 90 HP Rating. Specific Power consumption of old 75 TR chiller was 0.91 KW/TR where as New 100 TR energy efficient chiller has 0.63 KW/TR.

Results: Energy cost savings, Rs. 19.06 Lac.

3. Power saving by Investment in Wind mill Project based out in Nandurbar in Open Access

Description of the energy conservation measure: Kansai Nerolac Paints invested in an arrangement for Power Units at subsidized rates through Non Conventional -Wind Mill (2.5MW) Resource at Nandurbar with a generator agency M/s Peethambra Granites Pvt Ltd. With this arrangement our LOTE Plants gets

benefits of Subsidized rates on Units generated by this Wind Mill on a monthly basis.

Results: Energy cost savings, Rs. 18.47 Lac.

4. Replacement of Conventional Motors with IE3 Motors

Description of the energy conservation measure: In an initiative towards Energy Conservation Measures Kansai Nerolac Paints have taken a step to replace its conventional motors to Energy Efficient Motors (IE3). In this project unit replaced 3nos. conventional motors (22KW, 37 KW & 55KW) by IE3 motors.

Results: Energy cost savings, Rs. 1.99 Lac.

5. Usage of Non Conventional Bio-Fuel for Heating Units

Description of the energy conservation measure: As an Energy Conservation Measures Kansai Nerolac Paints decided to partially replace usage of convention Diesel Fuel with Non-conventional Bio-Fuel for Thermic Fluid Heaters. Hence three numbers of heaters TP-4, TP-6 & TP-10 were converted to Bio-Fuel heating instead of HSD.

Results: Energy cost savings: Rs.9.25 lacs

6. Usage of non conventional Briquette Fuel for Heating Unit

Description of the energy conservation measure: As an Energy Conservation Measures Kansai Nerolac Paints decided to use Non-conventional Briquettes Fired Thermic Fluid Heater -15lac Kcal at the Polyester Resin Section instead of Diesel Fuel, thereby saving on Energy costs.

Results: Energy cost savings: Rs.50.96 lacs