

3F INDUSTRIES LIMITED

Tadepalligudem (Andhra Pradesh)

Unit Profile

3F Industries Limited (formerly Foods Fats & Fertilisers Ltd.) was established in 1959 and is well known for its introduction of 'Rice Bran Oil extraction' in India, the first of its kind.

3F IL has state-of-the-art manufacturing facilities located in Tadepalligudem (West Godavari district), and Krishnapatnam (Nellore District) of Andhra Pradesh. 3F IL is into the manufacturing & processing of edible oils, margarine, bakery fats, speciality & confectionery fats.

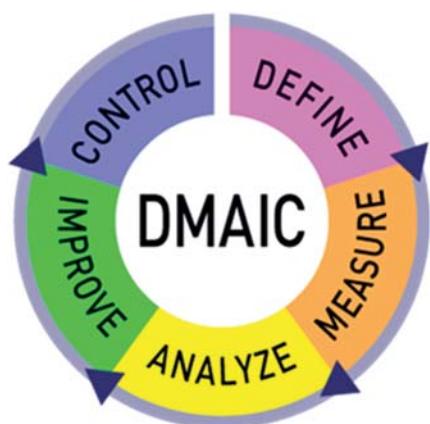
3FIL is the first Company in India to produce speciality fats namely Shea stearin, Sal stearin, Mango Stearin etc., which form raw materials in the manufacture of confectionary fats used in chocolate industry as replacement for cocoa butter.

Testimony to company quality is the continued patronage from large manufacturers of Cocoa Butter Equivalents in Japan, Malaysia, Italy, Holland, UK & the Scandinavian countries.



3F IL, Tadepalligudem Unit is certified with ISO 9001: 2008; Kosher, Halal & HACCP certifications; and has won numerous awards from Trade bodies, towards technical innovation, exports & industry leadership awards. Total turnover of the Unit for the year 2014-15 was 537 Crores.

Energy Consumption



The edible oil and Fat processing industry is a major consumer of energy, as substantial quantities of steam and electrical power are consumed in the processing of oilseeds & vegetable oils. As the edible oil Industry is very competitive, company constant focus is on reducing the costs, and hence, company continuously strive to give major thrust and emphasis on conservation of energy. This is achieved through benchmarking of company manufacturing practices with other similar Industries. Company follow the DMAIC in Energy Conservation, which is:

Define: Company Goal is to achieve 1% reduction in consumption of energy, year on year.

Measure: The energy consumption is measured through the standard equipment

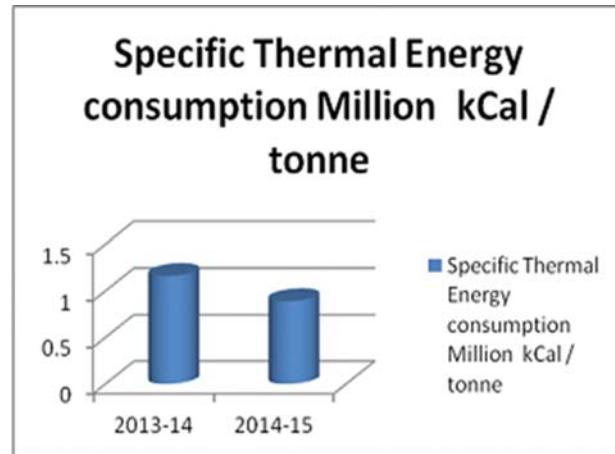
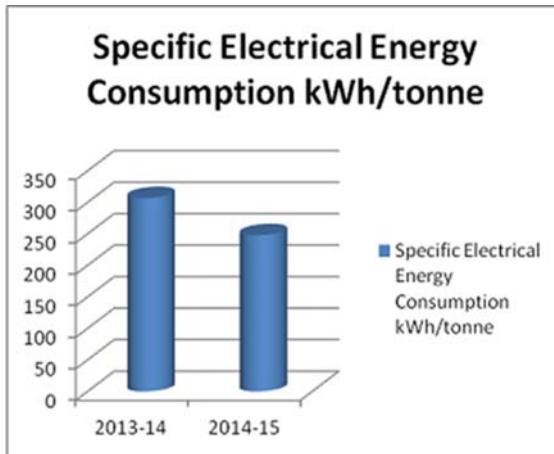
Analyse: Evaluation of these measures taken through M/s.AEEE Consultancy Services a BEE accredited Energy Auditor

Implement: New ideas based on the outcomes of the Analysis

Control: These measures are sustained through continuous improvement

Energy conservation details for the last two years, are as below

Description	Unit	2013-14	2014-15
Electrical energy	Lacs kWh / Year	200.67	193.149
Thermal energy	Million kCal / Year	75807.9	69555.15
Specific Electrical Energy Consumption	kWh/tonne	306.9	248.1
Specific Thermal Energy Consumption	Million kCal / tonne	1.16	0.89



Energy Conservation measures implemented

- Maintaining PF close to unity at even individual MCC level by provision of capacitor after carrying PF & power quality survey at individual MCC panel.
 - Energy audit team carried flue gas path analysis. Result shown infiltration at APH, ESP etc. Energy saving due to boiler efficiency improvement by plugging flue gas duct leaks. This also resulted in power consumption for ID fan.
 - Detailed thermography of thermal insulation revealed latent thermal leakage, which are difficult to find out. Energy conservation by reconditioning, renovating & revamping the thermal insulation of pipe lines, headers, process vessels, storage tank, steam trap, condensate recovery system & major steam consuming utilities of HP & LP Steam extracted from turbine. Company is successfully able to save approx. 2 Tons per hour of steam.
 - Energy audit study revealed minor modification can lead to utilization of gravity flow. Stopping pumps in process wherever gravity flow is possible.
- " The installation of VFD in the power plant, for:
- a. Cooling Tower Fans 1 & 2: to make the system load responsive.
 - b. ACW (Auxiliary cooling water) pump for power plant (55 kw)
 - c. SA (Secondary Air) fan for power plant (90 kw)
 - d. FD (Forced Draft) fan for power plant (45 kw)
 - e. ID (Induced Draft) fan for power plant (55 kw)
 - f. BFP (Boiler Feed Pump) fan for power plant (260 kw)
 - g. Condensate Extraction Pump in Power Plant
- Heat transfer co-efficient is increased by suitably changing the design of condenser in Solvent Extraction Plant, reducing the flow of water, resulting in reduction of power consumption of water pump, from 40HP to 25HP.

- Steam pressure is more closely measured and controlled, which has reduced the load on cooling tower significantly.
- Trimming of pump impellers has resulted in getting the required heat and quality of water flow, thereby reducing the power consumption of the motor.
- The water from one cooling tower was diverted to another operational cooling tower and effective load balancing techniques were used. This synergy helped us save significant power consumption.
- By installing plate heat exchangers, were able to reduce the water quantity, resulting in saving of 10HP power consumption. This also increased the operational efficiency of plant heat exchange systems.

Energy Policy



3F INDUSTRIES LTD.

3F INDUSTRIES LIMITED

ENERGY MANAGEMENT POLICY

We at 3F Industries Ltd will strive to reduce energy consumption across all our locations – both manufacturing and administrative. The energy conservation initiative will be adopted as part of our corporate policy from July 2012 and will be closely monitored by a dedicated team. Our standard goal will be to reduce our energy consumption a minimum of 1% year-on-year by:

1. Maximizing capacity utilizations, co-generation and recovery of waste energy.
2. The elimination and prevention of all types of loses in the utilisation of power, steam, water, biomass, compressed air and cooling systems.
3. Incorporating energy efficient and energy-rated designs in all our new & existing projects.
4. Benchmarking specific energy consumption of all machinery and equipment against national and international standards in similar industries; and setting up systems to control the same.
5. Conducting energy management programs thereby enhancing skills and competence of our employees and rewarding them to come forward with innovative ideas for energy conservation.
6. Holding our business heads responsible in adopting energy conservation practices, using top-down initiatives.
7. Conduct regular energy audits to optimize resources.

“Energy Saved is Energy Produced”

Date: 10th July 2012



(Sushil Goenka)
Director

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