Edible Oil refinery

Background

One of the largest edible oil manufacturers were looking to implement the core concepts of TPM in their units.

Objective

- To improve effectiveness of man, machine and material and reduce costs
- To bring in culture of continual improvement

Improvement Themes

- Reduce packing losses – oil, film and carton
- Improve people productivity
- Reduce packing material inventory

Implementation Approach

A series of process improvement workshops as Per the schedule shown alongside

	Nov	Dec	Jan	Feb	Mar
Roadmap					
Workshop - I					
Review I					
Monitoring					
Review II					
Workshop II					
Review III					
Monitoring					

Theme 1: Reducing Packing Loss

Step 1:Pouch Loss due to rejection at packing machines

Type of Defect	Observation	Actions Taken
Company Joint	Loss of several pouches in running	Getting joint free film roll from supplier
Roll joint	Average 5 pouches lost per change of roll	Template for joining installed. SOP made.
Long / short pouch	Some defects due to roll shifting problem	Film guide fixed
Weight variation	4-5 pouches lost on every restart	Electromagnetic device fixed – right weight in first pouch

Step 2:Leakage in pouch after placing in cartons

Sealing defects
Corner damage

Restoration of machines to basic condition
SOP for cleaning and maintenance of joint sealing mechanism

Chute mechanism for expelling air from inside pouch

Theme 1: Reduce packing losses

Step3: Improve Packing material storage and handling, establish visual control

Film: Machine-wise storage of printed film rolls, pull based FIFO system for issue to packing machine

Carton: Storage of cartons in front of machine, visual control on pallets and truck wise storage of FG to reduce handling and transportation of FG

Oil: Modified system for recovery – design of table changed to drain maximum oil from cut pouches

RESULTS

✓Dead loss reduced by 80% and reprocessing by 40%
✓Film loss and carton loss halved

Annualized savings of Rs.133 lakhs

Theme 2: Improve people productivity

Major kaizen projects taken up

- Flow layout for tin manufacturing plant and tin filling line as well as for jar moulding and filling
- 100% online pre-inspection before filling
- Improved jar inspection method by developing a new setup
- Improved foil sealing method to avoid reworks and spillages

Benefits

- 12.5% increase in tin manufacturing
- 33% increase in tin filling capacity while productivity increased by 80%
- Improved cleanliness and placement of labels on tins
- Leak free sealing of jars
- 20% increase in jar line productivity