Operational Excellence in Plastic Packaging Industry

Case Study
India

About Client

Client is one of the leading names and an ISO 9001:2008, ISO 15378:2011 & CE marking certified Pharma packaging company. Client’s comprehensive portfolio of products includes HDPE bottles, PP closures, dosage dispensers & specialty products for pharmaceutical applications.

Client has a huge infrastructure spreading over various locations. It has three existing manufacturing units one each in Ujjain, Pithampur and Goa; which have the capacity to yield around 1.5 Mn Containers and 2 Mn Closures a day.
Objectives

To improve OEE
To reduce changeover time
To improve manpower productivity
To roll out robust Daily Work Management
To optimize inventory levels
To roll out Five S + Safety

Analysis

After exhaustive analysis & discussion with the client, following key improvement areas were identified:

- Need to increase Overall Equipment Effectiveness (OEE)
- High changeover time
- Need to improve productivity
- Inventory levels need to be optimized
- Lack of work management mechanism
- Lack of appropriate improvement culture
- Poor space utilization

Approach

Project Initiation

- Training on Lean Foundations & Five S + Safety
- Autonomous Maintenance (AM) mechanism & AM audits rolled out
- Single Minute Exchange of Die (SMED) rolled out for changeover time reduction
- Daily Work Management Mechanism
- Data Management mechanism
- Operations Review Meeting mechanism
- Kanban mechanism
- Purchase process streamlining
- Kaizen and ECRS rolled out
Project Implementation
Team Faber Infinite took the following steps
- Conducted training on Lean foundations and Five S, also set up Steering Committee
- SMED, Kaizen and ECRS steps implemented to reduce the changeover time
- Implemented Autonomous Maintenance (AM) step 1-3
- OEE data collection practice started
- Robust data capturing methodology rolled out for
  - All types of downtimes minute-wise
  - Shift wise total production
  - Reason wise defects
  - Shift wise production losses for each machine
  - Trend of Production (kg) / manpower
  - Trend of weekly & monthly OEE for all machines and sections. (i.e Containers, Caps, Assembly)
- Discussed the reasons for less OEE or any other problem & action plan implementation initiated
- Identified runner spares and defined maximum inventory and reorder levels
- Established and rolled out a system for inventory data segregation to make it easy to use for SAP
- Current State analysis of Purchase Process done to identify the gaps
- Improved PR (purchase requisition) step to eliminate the delay of material and important spares, which in turn affected the availability of machines due to spares stockouts
- Daily work management initiated in all three section

Results Delivered
Productivity improved by ~67%
Production improved by 28% in container section & 29% in closure section
No. of Brazing cycles improved by 225%
Changeover time reduced by ~40%
Throughput time reduced by ~17%
OEE improved by ~11%
Quality improvement by 136%
~20% improvement in the Faber Infinite benchmarking audit score

Sustenance
Implemented results shall be sustained over a period using Systematic Audit & Improvement Loop (SAIL) & Daily Work Management (DWM)

Visit Faber at www.faberinfinite.com for more information and a complete list of regional contacts or send us e-mail: consulting@faberinfinite.com