

Eliminating Problem of sulphur in Cured Tyres in Tyre manufacturing process

Case Study



The Company

A well known reputed Tyre manufacturer with product range being Radial passenger car Tyres & radial bus and truck Tyres.

The Problem

The company wanted to improve the performance in terms of reducing Non-conformity like scrap, rework, repair, rejects, customer complaints etc. through TQM Principles.

The Approach

TQMI conducted a comprehensive diagnosis of the Plant. Few important observations of the diagnosis are given below:

- The Top management had clear idea about Quality Management intellectually but practice in the operations was limited.
- Middle Management/Plant level senior management strongly believed that a managers job is to give orders to Team members. Problem solving ability was at best "Average". Problems were dealt with as they crop up, and with limited understanding /analysis of why it occurs.
- Team members (qualified people) found themselves having limited recognition and identity in the company and were mentally ready to quit anytime whenever suitable opportunity comes.
- Customer Focus was weak. After sales service, Delivery schedules not committed or honoured.
- Internal working-Cost control was the main drive and Quality improvement secondary

TQMI started its work with the company with basics of daily work Management involving development of clear roles/responsibilities for all, defining accountability with managing point and check points, standardisation of the processes ,combined with visual control.

Gradually the activity stepped up to solve chronic issues using 7QC tools/Six sigma – One such problem was recurring issue of Sulphur in Cured Tyres leading to rejection of Tyres after the final stage of manufacture.

As a first step the concept of "Process Analysis" was started, followed by strengthening of Control plan and application of A3 approach of problem solving to cover the entire work. Periodic review and site observation, identifying & correcting the abnormalities then and there led to significant improvement in the work culture among operating people and ultimately led to reduction in rejection of Tyres due to presence of free sulphur.

The Result

There was 3X reduction in sulphur content which led to reduction in rejection by 50%. The team became competent in understanding and applying TQM/Statistical Control principles. The diffusion of the success story gave greater confidence to all sections of the plant and the zeal/Enthusiasm improved over a period of time. People now keep aside their opinions and emotions, develop strict logical thinking, collect data/facts from Gemba before analysis and problem solving.

At a Glance

Customer

- Tyre Manufacturer
- Latest technology with limited human intervention

Problem

- High scrap, rework, rejects
- Intuition based problem solving
- High customer complaints

Solution

- Implemented DWM
- Process Analysis
- Application of A3 Approach
- Strengthening of Control Plan
- Timely action on abnormalities

Outcome

- Reduction of rejection by 50%
- Sense of achievement