

Consumer Electronics & Durables

Project Name

Six Sigma project on less cover high spray

Business Case

The client is India's largest central air-conditioning company and fulfils the air-conditioning needs of a large number of corporate and commercial customers. It is a customer focused organization, deliberately tuned to deliver a world-class experience. Painting the pane of the machine is the final stage of air-condition manufacturing. Any defect during this process influences the aesthetic value of machine and contributes to rejection and rework.

Initial condition

- 54% contribution to defective panes made by less cover and high spray
- Recycling of component necessitated by high spray
- Touch up paint and man hour to rework required due to less cover
- Defects during the painting process also affected the product quality and durability leading to loss of business to competitors
- Financial loss accounted due to these defects amounted to ₹9,75,712 per year

Target condition

- To reduce defect by 94% for First Time Right product

Root Causes and Solutions

- Optimum tool settings and pressure conditions for painting were identified using Design Of Experiments
- To implement accurate settings, analog controllers were replaced by digital controllers
- New storage room was created to protect powder from lump formation and First In First Out was implemented
- Rearrangement of storage of raw material
- Maintenance of machinery and painting equipments was standardized to reduce variation in painting thickness
- Redesigning of component holding equipments was done for better conductivity during painting

Results achieved

- Reduction in number of defective paint jobs
- Reduction in material used for rework
- Cost savings of ₹45,69,256 p.a.

Intangible benefits

- Improvement in aesthetics giving immense satisfaction to end customers
- Operator morale encouraged due to increase in first time right product

Results achieved

Benefit Analysis Chart

