

# **Application of Lean Six Sigma for Process Optimization and Sustainability**

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**Abstract:** The objective of the project is to identify challenges in the Polymetric Waterproofing Membrane Industry, and to determine optimal solutions to improve the overall performance. The research is based on a single case study to be carried out in an organization using DMAIC (Define-Measure-Analyze-Improve-Control) approach, 5S tool and its applications to enhance the productivity. The root causes for the problems faced by the industry is identified through the data based analysis at different stages in the project. The process parameters are optimized and measured for sustainability in the process. Lean Six Sigma strategy resulted in reduced amount of energy and non-value-added activities associated with its production processes. The project will provide guidance to organizations regarding the applicability and importance of quality concepts. The project will also serve as a basis for further research in this area, focusing on practical experience of these concepts.

**Keywords:** Lean Six Sigma, DMAIC, Polymetric Waterproofing Membrane Industry.