

## Production Capacity Enhancement in Glass Manufacturing Unit through Lean Concepts



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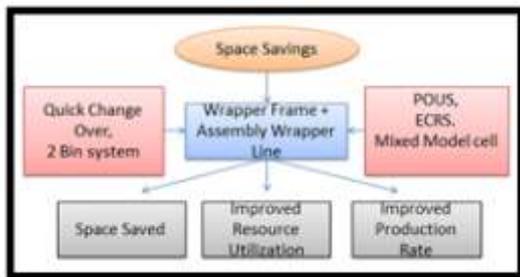
**Keywords:** Lean Layout, Cycle Time, Takt Time, Wrapper Frame, Assembly Wrapper

**Abstract:**

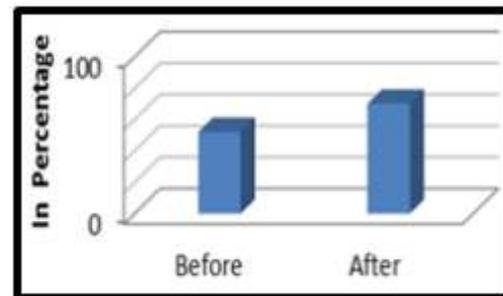
The contribution of the medium and small scale industry is mainly affected poor layout design. These particular problems thus affect the productivity, the line efficiency and more space consumption. The project was carried out in wrapper line. The wrapper consists of two types' assembly wrapper and wrapper frame which is running in different line. The average monthly demand of assembly wrapper is only 332 numbers. It becomes difficult for the company to accommodate assembly wrapper in a different line as the new product orders are coming and space becomes a constraint to the company. Thus the aim of the project is to design and develop a lean layout for a weld shop which accommodates the assembly wrapper and wrapper frame variants to save 400 Square feet space. The project is carried out in Madras radiators and pressings situated in Chennai.

The wrapper frame and assembly wrapper are the two types of components which comes in the assembly of tractor. The project formulated from the space constraints in the company as the production of assembly wrapper is very low. Thus it becomes difficult for the company to accommodate a separate line for assembly wrapper. The project work started with process flow study, cycle time study, Takt time calculations, brainstorming sessions, concept design generation and its validation using arena software. The main lean concepts used in new layout is POUS, two bin system, quick change over, ECRS system, line balancing and mixed model cell.

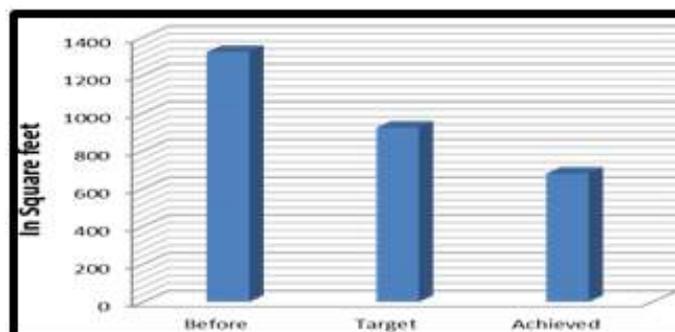
The outcome of the project resulted in 643.5 square feet space savings, resource utilization improved by 18%, reduced work in process inventory in the line. The project was also able to save three welding machine, one hand drilling machine and one labour from the line by saving monthly Rs. 82,241 to company. The saved space and resource will be for developing foot step assembly line.



**Project overview**



**Resource utilisation**



**Project result**