

DEVELOPMENT OF A COST EFFECTIVE MATERIAL HANDLING SYSTEM

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DECLARATION

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I carried out the work described in this report under the supervision of Dr. VPC Dassanayake.



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Abstract

Various kind of material transfer systems are being used around the world with different needs. Variations in transfer systems depends mostly with following factors

1. User requirements
2. Available technology
3. Financial limitations
4. Space limitations
5. Degree of automation

However it is evident that the energy saving factor as a design parameter, has not been considered in past and it is revealed from the literature surveys and studies about material transfer systems.



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MAS Linea Aqua (Pvt) Ltd is a leading swim wear manufacturing garment factory where it has production capacity of 100 million garments per annum. Fabric transfer process to the cutting section is through a fabric relaxing process and has 1300 fabric rolls movement between relaxing section and fabric stores per day which is located in two floors. Since the existing process of fabric transfer is inefficient there was a requirement of single operator operated efficient, less time consuming transfer system where the opportunity was created to come up with a novel concept to develop energy efficient fabric transfer system.

In this research a new concept is introduced where the system follows the load balancing theory hence eliminating the unnecessary loads so that the motor has to lift while saving energy.

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