A STUDY ON QUALITY IMPROVEMENT OF NATURAL RUBBER GLOVE MANUFACTURING PROCESS BY REDUCING THE GLOVE PIECES FORMATION DEFECT

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ABSTRACT

Quality improvement of services, products is always to be the first plan for any industry success. All industries and organizations have to perform well to survive and be profitable. As well as the rubber gloves manufacturing industry, the organization has to maintain the quality of its products to be able to delight customers and thus effectively compete in the market.

For improve the quality in any process, defects have to minimize. This study was conducted to improve quality of a natural rubber glove manufacturing process by reducing the glove pieces formation. Glove pieces form by destabilizing the centrifuge natural rubber latex.

The stability of the latex is a unique important and sensitive property which can be categorized as mechanical stability and chemical stability. Both mechanical and chemical stability changed when the latex is subjected into different actions such as mechanical agitation and addition of different chemicals. Natural Rubber latex particles are stabilized by adding fatty acid at the centrifuging stage and preserved with ammonia. The negative charge of the fatty acid soaps influences the stability of the rubber particle which usually increases with maturation time and after a maximum flattens and does not change thereafter. Therefore, the effect of fatty acid concentration was studied on the destabilization of latex in this research study. In addition of that, addition of positive ions affected for reducing the negative charge of a rubber particle. It causes the destabilization of natural rubber latex. Therefore, the effect of zinc ions and sodium ions on destabilization of natural rubber latex was studied also.

Key Words: Quality improvement, defects, glove pieces formation, destabilization