Suraseth Srirod 2009: Reducing of Electrostatic Hazard for Slitting Process in Textile Finishing Plant. Master of Engineering (Safety Engineering) Major Field: Safety Engineering, Interdisciplinary Graduate Program. Thesis Advisor: Assistant Professor Parnjit Damrongkulkamjorn, Ph.D. 86 pages.

This research studies the reducing of electrostatic hazard for slitting process in textile finishing plant by installing an air ionizer along with the grounding system in order to reduce the electrostatic charges at the machine and the cart. The main problems resulting from electrostatic in slitting process are: the burning of the textile at the machine rollers which causes serious problem to the plant; and the electrostatic shock on the employees who handle the carts. The employees have to wait about 35 minutes for the electrostatic discharge before begin able to move the cart safely. As a result, the slitting process for 150 meter sheet increases from 110 minutes to 145 minutes. The author therefore proposes the use of air ionizer and the grounding system in order to reduce the electrostatic hazard at the process. The air ionizer helps stopping the burning of the textile as well as reducing the amount of charges at the textile before being put in the cart. Then the grounding system at the cart reduces the electrostatic charges to a safety level for the employees.

The results of the research show that with the air ionizer alone, the discharge waiting time is reduced to 30 minutes. When only the grounding system is applied to the cart the discharge waiting time is 15 minutes. Finally, when both air ionizer and grounding system are applied simultaneously, the discharge waiting time is only 5 minutes. The slitting process is therefore safer and faster since the process for 150 meter sheet takes only 115 minutes.

/ ___ /