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The Rheological Behavior of Natural Rubber Modified by Admicellar Polymerization Technique of Styrene SAMAN ISAHOH, RATHANAWAN MAGARAPHAN, The Petroleum and Petrochemical College, Chulalongkorn University — The combination with appropriate polymer component is the one way to improve the mechanical properties and processability of polymer according to gain the industrial importance. The admicellar polymerization is a fine-coating technique to form the ultrathin polymer films on charged surface of another polymer that could be possible to improve its mechanical properties¹. In this work, the thin polystyrene films are used to coat on natural rubber particles to improve its modulus and impact strength. The study of optimum condition regarding types of surfactant and initiator and amount ratio of monomer/initiator was completed. The thermal analysis, physical properties and rheological behavior of natural rubber modified with 50-mM, 100-mM, 200-mM and 300-mM styrene were also investigated. It was found that the higher contents of polystyrene modified in natural rubber show natural rubber with more plastic.

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