

USE OF ACRYLIC POLYMERS FOR THE PREPARATION OF GRANULAR NATURAL RUBBER

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Many countries including Sri Lanka produce rubber in the form of sheets and blocks. The power consumption in processing of rubber in the form of sheet or slab is very much higher than that for the rubber in powder or granular or liquid forms. NR in granular form is more convenient to process or to compound with other ingredients.

Therefore presentation of NR in powder and granular forms will simplify all stages of handling and manufacturing. Although the term powder implies for a particle of size less than 1 mm, for rubber no restriction is given regarding to the size as long as the particles are free flowing. The free flowing nature can only be achieved by preventing the self adhesion between the particles.

This paper is concerned with preparation of natural rubber in granular form using homo polymers and co-polymers of acrylic monomers as encapsulating agents. The acrylic polymers used in this work have been prepared by free radical polymerization of acrylic monomers using persulfate/sodium meta bisulfate reagent as the initiator and chain regulating agent. Sodium salt of these homo and copolymers in the range of 5%, 10% and 15% based on dry rubber content (d. r. c.) were mixed with natural rubber latex. Alum was used for coagulation. The granular rubber obtained can also be subjected to a method called double encasement method, to avoid agglomeration of the individual rubber particles.

The results on raw rubber properties as well as on technological properties of vulcanizates obtained were compared with those of the control and were found to be better than the control.