PREPARATION OF RIBBED SMOKED SHEET FROM PRESERVED FIELD LATEX USING A POST TREATMENT

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Received: 02 April 2024 Accepted: 06 May 2024

Joseph, J. (2024). Preparation of ribbed smoked sheet from preserved field latex using a post treatment. *Rubber Science*, **37**(1): 117-124.

Fresh latex is generally used for preparation of ribbed smoked sheets (RSS) and are graded by visual grading as per '*The Green Book*' specifications. Uniformity in quality is a major concern in India as sheets are mostly made in the small growers sector. This uniformity in quality can be achieved by adopting recommended processing practices through group processing centres (GPCs). To run a GPC in an economically successful manner, it is required to ensure an uninterrupted supply of latex throughout the year. For this, it is necessary to preserve latex by adding 0.25 to 1.00 per cent ammonia and this preserved field latex (PFL) can be used for making sheets during lean seasons. However, preserved field latex is not generally suitable for making sheets due to the immediate coagulation of the PFL at the point of contact of the acid with consequent formation of lumps of coagulum suspended in latex and the poor plasticity retention index (PRI) of the resulting rubber. This paper reports the results of treating the PFL with a proprietary chemical to maintain the PRI and a proprietary new method to prepare quality ribbed smoked sheet from the treated PFL. Both low ammonia and high ammonia preserved latex samples were stored for various periods under ambient conditions and were subjected to a chemical treatment. The samples were coagulated at regular intervals and raw rubber properties were studied. Dry rubber thus obtained was also compounded using a standard formulation and vulcanizate properties were evaluated. The study revealed that ribbed smoked sheet could be prepared from the treated PFL and good PRI values can be retained by suitable chemical treatment. It was found that the treatment did not affect the technological properties of rubber thus produced. The study showed that this method can be used for making ribbed smoked sheets from ammonia preserved field latex without adversely affecting the properties of natural rubber produced from it.

Keywords: Chemical treatment, Plasticity retention index, Preserved field latex, Ribbed smoked sheets

INTRODUCTION

During the process of tapping, latex oozing out of the bark tissue of rubber tree *Hevea brasiliensis* is acted upon by microorganisms which degrade the latex (Twiss and Amphlet, 1941). Hence, the latex is quickly converted into suitable marketable forms like ribbed smoked sheet (RSS) rubber, crepe rubber, technically specified rubber (TSR) or block rubber, preserved field latex (PFL), centrifuged latex and creamed latex (Zuhainis *et al*., 2015). Sheet rubber, crepe rubber and TSR are dry forms of rubber whereas PFL, centrifuged latex and creamed latex are colloidal liquid forms. Majority of the products like tyres, rubber mats,

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