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A REVIEW OF BIS SPECIFICATION IS: 5430-1981 FOR AMMONIA PRESERVED NATURAL RUBBER LATEX CONCENTRATE

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This paper describes an analysis of the test results of centrifuged latex samples collected from all the existing centrifuging factories in India. On the basis of the analysis, suggestions are made to modify the existing specifications for latex concentrate.

The study is confined to the testing of the centrifuged latex samples collected during 1989-90 and 1990-91. Altogether 596 samples were collected and tested for various parameters as per Bureau of Indian Standards Specification IS:5430-1981. It has been observed that out of the above, 152 samples failed to meet the specifications and the total number of failures is 254. Around 37.4 per cent of the failure is due to low MST, 28.3 per cent due to high VFA, 23.2 per cent due to low DRC, 6.3 per cent due to high KOH number, 2.8 per cent due to high nonrubber solids, 1.2 per cent due to low alkalinity and 0.8 per cent due to high coagulum. However, no failure is seen due to high sludge content, copper content or manganese content.

Bureau of Indian Standards has specified 12 parameters including colour and odour to assess the quality of centrifuged latex. The specifications are almost in line with other national specifications such as BS, ASTM and those of International Organisation for Standardisation (ISO).

Out of the various parameters failed to meet the specifications, it can be seen that DRC, NRS, alkalinity coagulum content, and MST can be controlled in the factory itself and any failure in these parameters is due to improper supervision. Only VFA number and KOH number are quality indicators since they depend on the state of preservation and age of the incoming latex for centrifuging respectively.

The values of sludge content, copper content and manganese content in the centrifuged latex do not depend on the nature of field latex, desludging condition, climatic condition or the type of machine used for

centrifuging. Long storage or storage conditions also do not have any impact on these parameters since the test reports of 47 market samples received through BIS also do not show any failure in these parameters. The reported values of sludge vary from 0.001-0.05 per cent, copper from 1-4 ppm and manganese only traces. Copper and manganese are present in the latex in very small amounts (0.07 and 0.02 per cent on total ash respectively) in the serum phase and most of them are removed through skim latex during centrifuging. Delay on collection or improper preservation also do not have any effect on the level of copper and manganese in the latex. Further, deliberate addition of these elements do not have any advantage to the processor. Copper and manganese are included in the IS specifications since they are pro-oxidants. However, reports indicated the presence of only negligible amounts of copper and manganese in the centrifuged latex.

Further, the testing of sludge, copper and manganese are the most tedious, time consuming and expensive. There is even a tendency among processors not to include these parameters in their regular testing programme.

It may be noted that none of the IS specification parameters reveal the chemical stability or the flow property of the latex which are very important for product manufacture. Viscosity and ZST are good indicators of flow property and chemical stability respectively.

Hence based on the study the following suggestions are made:

1. Delete sludge content, copper content and manganese content from IS:5430-1981 specifications
2. Include two additional parameters i.e., Viscosity and ZST in the specifications as

Viscosity, max - 120 cps

ZST - 100 secs

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STANDARDIZATION IN THE FIELD OF NATURAL RUBBER**D.K. Datta and Vinod K. Jain**Bureau of Indian Standards,
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Bureau of Indian Standards is responsible for formulation of national standards for terminology, methods of sampling and test, code of practice and specifications for raw materials and finished products for rubber and rubber products. Thus far, more than 200 standards have been formulated to provide a guidance to manufacturers and bulk purchasers as well as to consumers.

In the field of natural rubber, standards for raw natural rubber, ammonia preserved concentrated natural rubber latex, double centrifuged natural rubber latex, ammonia preserved creamed natural rubber latex etc.,

have been formulated. India is a recognized leader in natural rubber processing.

Formulation of Indian Standards have helped indigenous development and export of rubber products. The paper highlights the status of standardization and quality control in the country in the natural rubber industry. India through BIS also participates in formulation of International standards for rubber and rubber products under ISO/TC 45 and mechanical contraceptives under ISO/T C 157 of International Organization for Standardization (ISO).