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INTERNATIONAL STANDARD



3136

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Styrene-butadiene rubber latices — Determination of bound styrene content

Latex de caoutchoucs de styrène-butadiène — Détermination de la teneur en styrène lié

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FOREWORD

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International Standard ISO 3136 was drawn up by Technical Committee ISO/TC 45, *Rubber and rubber products*, and circulated to the Member Bodies in May 1973.

It has been approved by the Member Bodies of the following countries :

Austria	Hungary	Romania
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Canada	New Zealand	U.S.A.
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France	Portugal	Yugoslavia

No Member Body expressed disapproval of the document.

Styrene-butadiene rubber latices — Determination of bound styrene content

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the bound styrene content of styrene-butadiene rubber (SBR) latices.

The method is applicable to hot (approximately 50 °C) emulsion polymerized SBR latices having a bound styrene content, expressed on the SBR content, of up to 55 % and to cold (approximately 5 °C) emulsion polymerized SBR latices having a bound styrene content between 18 and 40 %.

The method is not applicable to reinforced styrene-butadiene rubber (SBR..Y) latices, carboxylated-styrene-butadiene rubber (XSBR) latices and pyridine-styrene-butadiene rubber (PSBR) latices.

2 REFERENCES

ISO 123, *Rubber latex — Sampling*.

ISO 2028, *Butadiene homopolymer and copolymer latices — Preparation of dry polymer*.

ISO 2453, *Styrene-butadiene copolymers — Determination of bound styrene content*.

3 PRINCIPLE

Conversion of the latex to a dry polymer which is extracted and pressed into a thin sheet. Calculation of the bound styrene content from the measured refractive index of this sheet.

4 REAGENTS AND APPARATUS

The reagents and apparatus specified in ISO 2028 and ISO 2453 are required.

5 SAMPLING

Sampling shall be carried out in accordance with one of the methods specified in ISO 123.

6 PROCEDURE

In accordance with ISO 2028, coagulate the latex with sodium chloride and sulphuric acid in the presence of methanol and collect and dry the resultant crumb.

In accordance with ISO 2453, sheet out the polymer, extract with ethanol-toluene azeotrope, dry, press into a thin sheet and determine the refractive index.

7 EXPRESSION OF RESULTS

Calculate the bound styrene content, as a percentage by mass of the SBR content of the latex, in accordance with ISO 2453.

8 TEST REPORT

The test report shall include the following particulars :

- a) the reference of the method used;
- b) the results and the method of expression used;
- c) any unusual features noted during the determination;
- d) any operation not included in this International Standard, or regarded as optional.

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