

**METHODS OF TESTING
RAW RUBBER AND UNVULCANIZED
COMPOUNDED RUBBER**

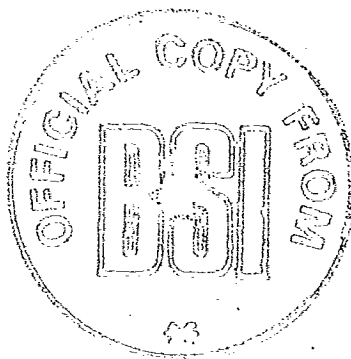
**PART 5 : ANALYSIS OF STYRENE BUTADIENE
COPOLYMERS (SBR)**

Section 5.2. Moisture

Section 5.3. Solvent Extract

Section 5.4. Total Ash

B.S. 1673 : Part 5/5.2 to 5.4



BRITISH STANDARDS INSTITUTION

INCORPORATED BY ROYAL CHARTER

BRITISH STANDARDS HOUSE, 2 PARK ST., LONDON, W.1

TELEGRAMS: STANDARDS LONDON W1

TELEPHONE: MAYFAIR 9000



Documents

Document Sharing Hub

THIS BRITISH STANDARD, having been approved by the Rubber Industry Standards Committee and endorsed by the Chairman of the Chemical Divisional Council, was published under the authority of the General Council on 17th June, 1964.

The Institution desires to call attention to the fact that this British Standard does not purport to include all the necessary provisions of a contract.

In order to keep abreast of progress in the industries concerned, British Standards are subject to periodical review. Suggestions for improvements will be recorded and in due course brought to the notice of the committees charged with the revision of the standards to which they refer.

A complete list of British Standards, numbering over 4000, indexed and cross-indexed for reference, together with an abstract of each standard, will be found in the Institution's Yearbook,

This standard makes reference to the following British Standard:

B.S. 572. . Interchangeable conical ground glass joints.

British Standards are revised, when necessary, by the issue either of amendment slips or of revised editions. It is important that users of British Standards should ascertain that they are in possession of the latest amendments or editions.

The following B.S.I. references relate to the work on this standard:
Committee references RUC/10 and RUC/10/5
Draft for comment D63/6242

CO-OPERATING ORGANIZATIONS

The Rubber Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government department and scientific and industrial organizations:

- *Federation of British Rubber and Allied Manufacturers
- *Institution of the Rubber Industry
- *Ministry of Aviation
 - Natural Rubber Bureau
- *Natural Rubber Producers' Research Association
- *Rubber and Plastics Research Association of Great Britain
 - Rubber Growers' Association
- *Society of Motor Manufacturers and Traders Ltd.

The Government department and scientific and industrial organizations marked with an asterisk in the above list, together with the following were directly represented on the committee entrusted with the preparation of this British Standard:

Admiralty
Air Ministry
Association of British Chemical Manufacturers
British Chemical Plant Manufacturers' Association
British Railways Board
British Rubber and Resin Adhesive Manufacturers' Association
Cable Makers' Association
Electrical Research Association
Institution of Chemical Engineers
Institution of Mechanical Engineers
Institution of Municipal Engineers
Institution of Water Engineers
Ministry of Housing and Local Government
National College of Rubber Technology
Post Office
Royal Institute of Chemistry
Rubber Trade Association of London
Society for Analytical Chemistry
War Office

BRITISH STANDARD

METHODS OF TESTING RAW RUBBER AND UNVULCANIZED COMPOUNDED RUBBER

PART 5. ANALYSIS OF STYRENE BUTADIENE COPOLYMERS (SBR)

Sections 5.2 to 5.4

FOREWORD

With the manufacture of general purpose synthetic rubbers in the United Kingdom it has become desirable that their specifications should be covered by British Standards. This necessarily involves appropriate test methods being available and committees of the British Standards Institution are actively concerned with them. It is proposed to issue methods of chemical analysis for synthetic rubbers as parts of B.S. 1673 which has always included as Part 2 the methods of chemical analysis for raw natural rubber. Part 5 comprises the analysis of styrene-butadiene copolymers (SBR); Section 5.1 dealing with the determination of bound styrene has already been issued.

SECTION 5.2. MOISTURE

5.2.1. Summary and explanatory note. A weighed test portion is milled between the heated rolls of a laboratory mill until the moisture is driven off, after which the loss in weight is recorded.

The moisture content determined by this method will include substances other than water which are volatile under the conditions of the determination.

5.2.2. Procedure. Weigh a test portion of about 450 g to the nearest 0.1 g and then pass repeatedly between the rolls of a laboratory mill maintained at 100–105°C with a nip setting of 0.5 mm. Pass the test portion repeatedly between the rolls for 4 minutes without allowing it to band and then re-weigh to the nearest 0.1 g. Pass the test portion between the rolls for an additional 2 minutes and re-weigh. If the weights at the end of the 4 and 6 minute periods are not within 0.2 g, continue passing until such constancy is obtained.

5.2.3. Expression of result

$$\text{Moisture content} = \frac{L}{W} \times 100 \text{ per cent}$$

where L = loss in weight in grammes,

W = initial weight of test portion in grammes.