

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 248

DETERMINATION OF VOLATILE MATTER
IN RAW NATURAL RUBBER

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 248, *Determination of Volatile Matter in Raw Natural Rubber*, was drawn up by Technical Committee ISO/TC 45, *Rubber*, the Secretariat of which is held by the British Standards Institution (B.S.I.).

Work on this question by the Technical Committee began in 1948 and led, in 1958, to the adoption of a draft ISO Recommendation.

In December 1959, this Draft ISO Recommendation (No. 341) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Australia	Hungary	Sweden
Austria	India	Switzerland
Burma	Israel	United Kingdom
Chile	Japan	U.S.A.
Colombia	Mexico	U.S.S.R.
Czechoslovakia	Netherlands	Yugoslavia
France	Portugal	
Germany	Spain	

One Member Body opposed the approval of the Draft: Italy.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in March 1962, to accept it as an ISO RECOMMENDATION.

DETERMINATION OF VOLATILE MATTER IN RAW NATURAL RUBBER

1. SCOPE

This method is essentially intended for the determination of moisture content of raw natural rubber, but applies also to the determination of any other matter which the rubber may contain and which is volatile at 100 °C. The method requires the use of results of measurements made during the preparation of the test portion described in section 5 of ISO Recommendation R 250, *Sampling of Raw Natural Rubber*.

2. PROCEDURE

2.1 Preparation of test portion

In accordance with the recommended procedure for sampling raw natural rubber,* the piece is weighed to the nearest 0.1 g, then homogenized by 10 passes through the nip of a roll mill and again weighed to the nearest 0.1 g.

2.2 Determination of volatile matter

Two test portions of 10 g each are cut from the piece and are immediately weighed to 1 mg. If these test portions cannot be immediately weighed, they are placed in an airtight container or wrapped in polyethylene so as to conserve their moisture content. Each test portion is sheeted to a thickness not exceeding 2 mm by passing it twice between the tightly closed rolls of a laboratory mill or by cutting in small pieces whose maximum dimension is less than 2 mm. Each test portion is then dried at 100 ± 5 °C for one hour and then until the loss in mass on successive weighings at half-hour intervals is less than 1 mg.

3. EXPRESSION OF RESULTS

The volatile matter is calculated from the following formula:

$$\text{Volatile matter, per cent} = \left(\frac{A-B}{A} + \frac{C-D}{C} \right) \times 100$$

where A = initial mass of piece,

B = mass of piece after homogenization,

C = initial mass of test portion,

D = minimum mass of test portion after drying in oven at 100 °C.

* ISO Recommendation R 250, *Sampling of Raw Natural Rubber*.