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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION
R 249

DETERMINATION OF DIRT IN RAW NATURAL RUBBER

1st EDITION
March 1962

For each individual country the only valid standard is the national standard of that country.

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 249, *Determination of Dirt 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. 342) 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.

ISO Recommendation R 249 March 1962

DETERMINATION OF DIRT IN RAW NATURAL RUBBER

1. SCOPE

This method is intended for the determination of dirt contained in raw natural rubber, and not dirt present as surface contamination. In order that the method will give a satisfactory result, the raw rubber should be sampled in accordance with ISO Recommendation R 250, *Sampling of Raw Natural Rubber*.

2. REAGENTS

2.1 *Any rubber solvent*, boiling at or above 130 °C, such as mixed xylenes or white spirit, conforming with the ISO Recommendation for white spirit.*

2.2 *Light petroleum*, of boiling range 60 to 80 °C.

2.3 *Rubber peptizing agent*.

3. APPARATUS

3.1 *Conical flask*, of 250 ml.

3.2 *Thermometer*, reading to 150 °C and above.

3.3 *Non-corrodible wire sieve*, with apertures of 45 µ.** The apertures of the sieve should conform to the tolerance specified by Technical Committee ISO/TC 24, *Sieves*.

4. PROCEDURE

The test portion of about 10 g of rubber is weighed to the nearest 0.1 g, cut into strips and placed in a 250 ml conical flask. It is covered with 150 ml of the rubber solvent and about 0.5 g of a peptizing agent is added. The flask and contents are heated to a temperature of 125 to 130 °C, the temperature being checked by a thermometer in the flask. The contents of the flask are shaken as necessary to assist dissolution.

When dissolution is complete (usually after about 2½ to 3 hours), the solution is filtered through a previously weighed clean and dry sieve. The dirt in the flask is washed three times with 20 to 30 ml of hot light petroleum, which is filtered through the sieve, if necessary with suction.

The dirt is transferred to the sieve by means of a jet of light petroleum and washed until free from rubber. The sieve and dirt are then dried to constant mass at about 100 °C. The mass of the dirt is determined to the nearest 0.1 mg.

5. EXPRESSION OF RESULTS

The results of two determinations are averaged and expressed as the percentage dirt content of the rubber.

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* Under preparation by Technical Committee ISO/TC 35, *Raw Materials for Paints, Varnishes and Similar Products* (presently draft proposal).

** This size has been tentatively accepted by Technical Committee ISO/TC 24, *Sieves*.