

INTERNATIONAL STANDARD

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Natural rubber in bales — Amount of bale coating — Determination

Caoutchouc naturel en balles — Quantité d'enduit — Détermination



Reference number
ISO 1434:1995(E)

Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 1434 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 3, *Raw materials (including latex) for use in the rubber industry*.

This second edition cancels and replaces the first edition (ISO 1434:1975), which has been technically revised.

Annex A of this International Standard is for information only.

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International Organization for Standardization

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Natural rubber in bales — Amount of bale coating — Determination

WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

1 Scope

This International Standard specifies a method of determining, using an ashing procedure, the amount of bale coating present on the outside wrapper sheets of bales of natural rubber. It also specifies a method for determining, by a brushing or scraping procedure, the amount of bale coating on the outside wrapper sheets of all grades of smoked sheet rubbers only.

NOTES

1 The brushing or scraping procedure, while much faster, is not suitable for use on crepe rubbers because coating dust penetrates in through holes in the outside wrapper sheet and is difficult to remove from between wrapper sheets. This necessitates the use of the ashing procedure on crepe rubbers.

2 The ashing procedure is not suitable for coating materials which are affected by the ashing procedure. In particular, coatings containing carbonates or organic matter can give very low results.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Mem-

bers of IEC and ISO maintain registers of currently valid International Standards.

ISO 247:1990, *Rubber — Determination of ash*.

3 Sampling

Remove three pieces at random from the outside wrapper sheets, taking them carefully (to minimize loss of bale coating) from any three contiguous sides of the bale, one piece from each side. Each piece shall be large enough to provide two 50 mm × 50 mm test specimens if the ashing procedure is to be used or one 150 mm × 150 mm test specimen if the brushing or scraping procedure is to be used. Handle and store the sample so as to minimize loss of bale coating. If the ashing procedure is used, the thickness of the pieces shall not exceed 5 mm.

The number of bales sampled shall be agreed between the customer and supplier.

4 Procedure

4.1 Ashing method

Die out or cut out two 50 mm × 50 mm test specimens from each of the three pieces removed from the bale, taking care not to lose bale coating. Test each specimen separately. Any bale coating falling from the test specimen shall be added to the ashing crucible together with the test specimen. Determine the ash in accordance with ISO 247, but using a 50 mm × 50 mm test specimen, weighed to the near-

est 0,01 g, instead of the 5 g to 6 g portion of homogenized rubber.

4.2 Brushing or scraping method

Die out or cut out a test specimen measuring exactly 150 mm × 150 mm from each of the three pieces removed from the bale, taking the same precautions as given in 4.1. Weigh the test specimen, to the nearest 0,02 g, before and after removal of the bale coating. Remove as much of the bale coating as possible, using a stiff wire brush or by scraping, taking care not to abrade rubber from the wrapper sheet.

5 Expression of results

5.1 Ashing method

Calculate the amount of bale coating per bale, expressed in grams per kilogram of rubber, using the formula

$$\frac{A_1 \times m_2}{A_2 \times m_1}$$

where

- A_1 is the nominal surface area, in square millimetres, of the bale;
- A_2 is the surface area, in square millimetres, of one test specimen;
- m_1 is the nominal mass, in kilograms, of the bale;
- m_2 is the average mass of ash, in grams, for the six test specimens.

NOTES

3 Ash arising from the rubber itself in the wrapping sheet contributes to the ash determined. At an ash level of 1% (m/m), this contribution is equivalent to 0,7 g per kilogram of rubber for a test specimen 5 mm thick, cut from a 110 kg bale.

4 The calculation will give an approximate value of the total amount of coating on the bale. For an absolute value,

the actual mass of the bale, the thickness of the test specimen and the amount of ash arising from the rubber itself must be taken into account.

5.2 Brushing or scraping method

Calculate the amount of bale coating per bale, expressed in grams per kilogram of rubber, using the formula

$$\frac{A_1 \times m_3}{A_3 \times m_1}$$

where

- A_1 is the nominal surface area, in square millimetres, of the bale;
- A_3 is the surface area, in square millimetres, of one test piece;
- m_1 is the nominal mass, in kilograms, of the bale;
- m_3 is the average mass of bale coating, in grams, for the three test pieces, determined from the differences in mass before and after removal of the bale coating.

6 Test report

The test report shall include the following information:

- a) a reference to this International standard and the method used, i.e. ashing or brushing/scraping;
- b) all details necessary for the identification of the sample;
- c) the results and the units in which they have been expressed, and whether the results have been corrected as in note 3;
- d) any operation not specified in this International Standard or in the International Standard to which reference is made, and any operation regarded as optional;
- e) the date of the test.

Annex A

(informative)

Amount of bale coating

The “International Standards of Quality and Packing for Natural Rubber Grades” (The Green Book), Part V, Section 7.C, specifies that “the maximum weight of bale coating solids shall not exceed 16 oz. (0,45 kg) per bale (of 0,14 m³ in volume)”, i.e. 4 g bale coating per kilogram of rubber.

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