INTERNATIONAL STANDARD 1435

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Pelletized carbon black for use in the rubber industry — Determination of fines content

Noir de carbone en granules pour l'industrie des élastomères — Détermination de la teneur en matières fines

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 45 has reviewed ISO Recommendation R 1435 and found it technically suitable for transformation. International Standard ISO 1435 therefore replaces ISO Recommendation R 1435-1970 to which it is technically identical.

ISO Recommendation R 1435 was approved by the Member Bodies of the following countries :

Australia	India	Spain
Austria	Iran	Sweden
Brazil	Ireland	Switzerland
Canada	Israel	Turkey
Colombia	Italy	United Kingdom
Czechoslovakia	Japan	U.S.A.
Egypt, Arab Rep. of	Korea, Rep. of	U.S.S.R.
France	Netherlands	Yugoslavia
Germany	Poland	
Hungary	South Africa, Rep. of	

No Member Body expressed disapproval of the Recommendation.

No Member Body disapproved the transformation of ISO/R 1435 into an International Standard.

Printed in Switzerland

Pelletized carbon black for use in the rubber industry — Determination of fines content

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for determining the fines content of all types of pelletized carbon black for use in the rubber industry.

2 REFERENCE

ISO 565, *Test sieves — Woven metal wire cloth and perforated plate — Nominal sizes of apertures.*

3 PRINCIPLE

Accurate weighing of a known mass of pelletized carbon black and sieving through a standard screen by using shaking and tapping. Measuring, as fines, the amount of material passing through the screens.

4 APPARATUS

4.1 Mechanical sieve shaker, having approximately the following characteristics :

- 300 ± 20 uniform rotary motions per minute;
- an automatic hammer that taps the seive 150 ± 10 times a minute with a kinetic energy of about 0,6 J;
- an automatic timer.

4.2 Sieve, approximately 200 mm in diameter and 25 mm in height, to fit the mechanical sieve shaker. The sieve shall have the characteristics specified in ISO 565, and shall have a nominal aperture of 125 μm.

4.3 Bottom receiver pan.

4.4 Sieve cover.

4.5 Riffle sample splitter, with six or more parallel troughs on each side, designed to divide a sample of carbon black into two equal parts.

4.6 Balance accurate to 0,1 mg.

5 PROCEDURE

5.1 Prepare the sample of carbon black as follows :

5.1.1 Pass the gross sample through the riffle sample splitter (4.5) to obtain a test portion of 22 to 28 g.

5.1.2 Weigh the test portion to the nearest 0,1 g.

5.2 Transfer the weighed test portion to the sieve (4.2), using other sieves as spacers if necessary. Cover the top and place the receiver pan (4.3) underneath. If spacers are used, the sieve containing the test material shall be placed at the bottom of the stack.

5.3 Allow the sieve assembly to shake for 5 min with the hammer operating.

5.4 Remove the sieve and receiver pan from the shaking device, and weigh the carbon black in the receiver pan to the nearest 0,1 mg.

6 EXPRESSION OF RESULTS

The fines content is given, as a percentage by mass, by the formula :

$$\frac{m_1}{m_0} \times 100$$

where

m_0 is the mass, in grams, of the test portion;

m_1 is the mass, in grams, of carbon black in the receiver pan.

Express the result to the nearest 0,1 %.

7 TEST REPORT

The test report shall include the following information :

a) proper identification of the sample;

b) results obtained.