INTERNATIONAL STANDARD 1125

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Carbon black for the rubber industry — Determination of ash content

Noir de carbone pour l'industrie des élastomères — Détermination de la teneur en cendres

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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, International Standard ISO 1125 replaces ISO Recommendation R 1125-1969 drawn up by Technical Committee ISO/TC 45, *Rubber and rubber products.*

The Member Bodies of the following countries approved the Recommendation :

Australia	Hungary	Portugal
Austria	India	Spain
Brazil	Iran	Sweden
Canada	Israel	Switzerland
Czechoslovakia	Italy	Thailand
Egypt, Arab Rep. of	Japan	United Kingdom
France	Netherlands	U.S.A.
Germany	New Zealand	U.S.S.R.
Greece	Poland	Yugoslavia

No Member Body expressed disapproval of the Recommendation.

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Carbon black for the rubber industry — Determination of ash content

1 SCOPE AND FIELD OF APPLICATION

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

2 PRINCIPLE

Ignition of an accurately weighed portion of dried sample until all the carbonaceous material is oxidized.

Cooling of the crucible in a desiccator, weighing, and calculation of the percentage of ash.

3 APPARATUS

3.1 Muffle furnace, capable of maintaining a temperature of 550 ± 25 °C.

3.2 Porcelain crucible, tall form, diameter 35 mm, height 30 mm, with cover.

3.3 Analytical balance, accurate to ± 0,1 mg.

3.4 Desiccator.

3.5 Oven, preferably gravity convection type, capable of maintaining a temperature of 105 ± 2 °C.

4 PROCEDURE

4.1 Ignite the crucible with cover in the muffle furnace at a temperature of 550 ± 25 °C for 1 h. Place the crucible and cover in the desiccator. Cool to ambient temperature and weigh to the nearest 0,1 mg.

4.2 Dry an amount of a little more than 2 g of carbon black for 1 h at a temperature of 105 ± 2 °C.

4.3 Weigh, to the nearest 0,1 mg, about 2 g of the dried carbon black into the ignited crucible, place in the furnace at a temperature of 550 ± 25 °C and heat with the cover removed until constant mass is obtained. Replace the cover, remove to the desiccator, and allow to cool to ambient temperature. Weigh to the nearest 0,1 mg.

NOTE — Take the following precautions :

a) keep the door of the furnace open about 0,5 cm to admit air to support the combustion of organic material;

b) after the test portion has cooled in the desiccator, admit air slowly to avoid loss of ash from the crucible by air currents.

5 EXPRESSION OF RESULTS

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

$$\frac{m_2 - m_0}{m_1 - m_0} \times 100$$

where

m_0 is the mass, in grams, of the crucible and its cover;

m_1 is the mass, in grams, of the crucible and its cover plus the test portion;

m_2 is the mass, in grams, of the crucible and its cover plus the ash.

6 TEST REPORT

The test report shall include the following particulars :

a) the reference of the method used;

b) the results and the method of expression used;

c) any unusual features noted during the determination;

d) any operation not included in this International Standard, or regarded as optional.