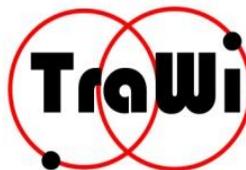




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Programm für
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Instruction for students

Determination of dry matter and moisture as a quality indicator in the production of rubber.

Task:

Imagine that you are working in Gumotex in OZ3 laboratory for quality, and there you have the daily task of determining the moisture and dry matter in the rubber. This determination is one of the most important laboratory tests, because the moisture and the dry weight is an important parameter for the rubber mixtures dissolved in toluene or benzene. The resulting mixture must comply with the prescribed requirements. For example, if the value of the dry weight would be too low, in the coating of textiles, the mixture piercing could face and that would lead to the depreciation of the product.

The test result then write in the enterprise software or laboratory diary, where the values are requiring the company standard. From the results you determine if the test is satisfied or not. According to the results of the test is then tested rubber mixture for further processing sent (or not sent).

- 1) Determine the dry matter content in the submitted sample
- 2) Determine the moisture content in the sample submitted

Principle:

The dry matter content is a basic characteristic. The dry mass of the residue obtained by drying the sample at prescribed temperatures under conditions of the process. The evaporated portion is referred to as water (or moisture). In the products, there are both free water and bound (for example, to proteins, etc.).

Determination of dry matter and moisture is one of the provisions set forth in practice most frequently, especially in the rubber industry, food industry, etc.

The dry matter or moisture content is a fundamental parameter of product quality.

etc. The dry matter content is determined (up to 100 ° C at atmospheric pressure of 101 325 Pa) by drying the sample in the dryer at temperature higher than the boiling point of water.

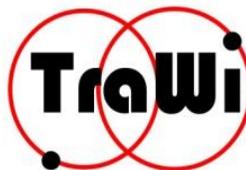
Utilities:

With the support of the Lifelong Learning Programme of the European Union.

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Aluminum containers (weighing bottles), dryer, analytical balance, desiccator, laboratory tongs, Laboratory spoon

Chemicals:

Sample (eg. flour, bread, mustard, ketchup, rubber)

Procedure:

Determination of dry mass:

1. Weigh in the clean and weighed aluminum dish that has been previously dried at 1300C, 10 g of homogenized sample with accuracy of 0.1 mg.
2. Enter the sample on the tray into a drier and dried at 105 ° C to constant weight.
3. Result of the test is the average of two parallel determinations carried out (Results may not differ by more than 0.5% absolute value of the dry mass)

Determination of moisture:

Calculate the moisture in% as determined by the dry mass.

Evaluation and calculations:

Calculation of the dry matter content:

Calculate the dry mass content in weight percent -

Aluminum shell weight with the sample - weight of the clean cup = 100% by weight and an aluminum bowl with of the dry mass - weight of clean shell = x% dry mass

Calculation of moisture content:

100% - % dry mass = % moisture

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