SLOVENSKI STANDARD
SIST EN 12909:2006

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Nadomešča:
SIST EN 12909:2000

Proizvodi, ki se uporabljajo za pripravo pitne vode – Antracit

Products used for treatment of water intended for human consumption - Anthracite

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Anthrazit

Produits utilisés pour le traitement de l'eau destinée à la consommation humaine - Anthracite

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This European Standard was approved by CEN on 4 August 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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Contents

Foreword

This European Standard (EN 12909:2005) has been prepared by Technical Committee CEN/TC 164 “Water supply”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2006, and conflicting national standards shall be withdrawn at the latest by April 2006.

This European Standard supersedes EN 12909:1999.

Significant technical difference between this edition and EN 12909:1999 is as follows:

a) Replacement of the reference to EU Directive 80/778/EEC of 15 July 1980 with the latest Directive in force (see [1]).

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the product covered by this European Standard:

a) This European Standard provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA;

b) It should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

NOTE Conformity with this European Standard does not confer or imply acceptance or approval of the product in any of the Member States of the EU or EFTA. The use of the product covered by this European Standard is subject to regulation or control by National Authorities.

1 Scope

This European Standard is applicable to anthracite used for treatment of water intended for human consumption. It describes the characteristics of anthracite and specifies the requirements and the corresponding test methods for anthracite. It gives information on its use in water treatment.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references the latest edition of the referenced document (including any amendments) applies.

EN 12901:1999, *Products used for treatment of water intended for human consumption - Inorganic supporting and filtering materials – Definitions*

EN 12902, *Products used for treatment of water intended for human consumption - Inorganic supporting and filtering materials - Methods of test*

3 Terms, definitions and symbols

For the purposes of this European Standard, the terms, definitions and symbols given in EN 12901:1999 apply.

4 Description

4.1 Identification

4.1.1 Chemical name

Carbon.

4.1.2 Synonym or common name

Natural anthracite.

4.2 Commercial forms

Anthracite according to this European Standard is available in different particle size ranges.

5 Physical properties

5.1 Appearance

The product is a black coloured lustrous granular material.

The product has a granular or angular shape, amorphous structure, smooth texture.

The product shall be generally homogeneous and shall be visibly free of extraneous matter.

5.2 Particle size distribution

The particle size distribution shall be determined on samples taken at the point of manufacture using the method of test given in EN 12902.

NOTE 1 The particle size can decrease during transportation and handling.

The particle size distribution shall be described by either:

a) effective size: (d_{10}) with a maximum deviation of ± 5%;

uniformity coefficient: (U) which shall be less than 1,5;

minimum size: (d_1) with a maximum deviation of ± 5%;

or

b) by particle size range and by mass of oversize and undersize particles according to application.

The maximum contents of oversize and undersize shall be a mass fraction of 5% for application of the product as a filtration layer in multi media filters and a mass fraction of 10% for use in single media filters. For use as a support layer, maximum mass fractions of oversize and undersize of 15% are acceptable. See A.2.3 for examples of available particle sizes that are used.

NOTE 2 Other values can be necessary for certain applications.

5.3 Density

5.3.1 Bulk density loose

The bulk density loose shall be in the range of 650 kg/m^3 to 800 kg/m^3.

5.3.2 Bulk density packed

The bulk density packed shall be in the range of 670 kg/m^3 to 820 kg/m^3.

6 Chemical properties

This European Standard specifies the minimum purity requirements for anthracite used for the treatment of water intended for human consumption. Limits are given for impurities commonly present in the product. Depending on the raw material and the manufacturing process other impurities may be present and, if so, this shall be notified to the user and when necessary to relevant authorities.

NOTE 1 Users of this product should check the national regulations in order to clarify whether it is of appropriate purity for treatment of water intended for human consumption, taking into account raw water quality, contents of other impurities and additives used in the products not stated in this product standard.

Limits have been given for impurities and chemical parameters where these are likely to be present in significant quantities from the current production process and raw materials. If the production process or raw materials lead to significant quantities of impurities, by-products or additives being present, this shall be notified to the user.

The composition of the commercial product shall conform to Table 1.

Table 1 - Composition of commercial product

Parameter		Mass fraction %
C (water and ash free basis)	min.	90
Ash	max.	7
Volatile matter	max.	10

NOTE 2 These parameters do not influence filtration properties but give information about the source of anthracite.

NOTE 3 Other potential components are given in A.2.1.

NOTE 4 After filling, washing and commissioning of a filter system producing drinking water, anthracite should not increase the concentrations of chemical parameters (see [1]).

NOTE 5 Water extractable substances, determined in accordance with the method for granular materials given in EN 12902, can be used to estimate the leaching of the chemicals specified in EN 12902.

7 Test methods

7.1 Sampling

Prepare the laboratory sample(s) required by the relevant procedures described in EN 12902.

7.2 Analysis

7.2.1 Particle size distribution

The particle size distribution shall be determined in accordance with EN 12902.

7.2.2 Bulk density loose

The bulk density loose shall be determined in accordance with EN 12902.

7.2.3 Bulk density packed

The bulk density packed shall be determined in accordance with EN 12902.

7.2.4 Content of carbon

The content of carbon shall be determined in accordance with EN 12902.

7.2.5 Ash

The ash shall be determined in accordance with EN 12902.

7.2.6 Content of volatile material

The content of volatile material shall be determined in accordance with EN 12902.