SLOVENSKI STANDARD
oSIST prEN ISO 3262-4:2022

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Polnila za barve - Specifikacije in metode preskušanja - 4. del: Belilo (ISO/DIS 3262 -4:2022)

Extenders for paints - Specifications and methods of test - Part 4: Whiting (ISO/DIS 3262 -4:2022)

Füllstoffe - Anforderungen und Prüfverfahren - Teil 4: Kreide (ISO/DIS 3262-4:2022)

Matières de charge - Spécifications et méthodes d'essai - Partie 4: Craie (ISO/DIS 3262-4:2022)

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Extenders — Specifications and methods of test —

Part 4: Whiting

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC *256, Pigemnts, dyestuffs and extenders*.

This second edition cancels and replaces the first edition (ISO 3262-4:1998), which has been technically revised.

The main changes are as follows:

— the title has been changed to "Extenders";

— the test method for particle size distribution in Table 2 has been changed to ISO 8130-13;

— the normative references have been updated and the text has been editorially revised.

A list of all parts in the ISO 3262 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Extenders — Specifications and methods of test —

Part 4: Whiting

1 Scope

This document specifies requirements and corresponding methods of test for whiting.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 787-2, *General methods of test for pigments and extenders — Part 2: Determination of matter volatile at 105 °C*

ISO 787-3, *General methods of test for pigments and extenders — Part 3: Determination of matter soluble in water — Hot extraction method*

ISO 787-7, *General methods of test for pigments and extenders — Part 7: Determination of residue on sieve — Water method — Manual procedure*

ISO 787-8, *General methods of test for pigments and extenders — Part 8: Determination of matter soluble in water — Cold extraction method*

ISO 787-9, *General methods of test for pigments and extenders — Part 9: Determination of pH value of an aqueous suspension*

ISO 787-14, *General methods of test for pigments and extenders — Part 14: Determination of resistivity of aqueous extract*

ISO 3262-1, *Extenders — Specifications and methods of test — Part 1: Introduction and general test methods*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 8130-13, *Coating powders — Part 13: Particle size analysis by laser diffraction*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

ISO 18451-1, *Pigments, dyestuffs and extenders — Terminology — Part 1: General terms*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 18451-1 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
whiting
natural calcium carbonate derived from chalk, a sedimentary rock of soft texture originating from the Cretaceous period

Note 1 to entry: Whiting is characterized by microcrystalline calcitic crystals (up to 1 mm across). Chalk is formed mainly from shells and skeletons of small maritime organisms, e.g. foraminifera and coccoliths. Residual shell fragments are an essential characteristic of chalk.

Note 2 to entry: The term "whiting" shall not be used to describe forms of naturally occurring or precipitated calcium carbonate other than chalk Whiting is characterized by microcrystalline calcitic crystals (up to 1 mm across).

4 Requirements and test methods

For whiting complying with this document, the essential requirements are specified in Table 1 and the conditional requirements are listed in Table 2.

Table 1 — Essential requirements

Characteristic	Unit	Requirement		Test method
		Grade A	Grade B	
$CaCO_3$ content, min.	% mass fraction	98	95	ISO 3262-1
Matter volatile at 105 °C, max.	% mass fraction	0,4		ISO 787-2
Loss on ignition, max.	% mass fraction	46[a]		ISO 3262-1
Matter soluble in water, max.	% mass fraction	0,5		ISO 787-3 or ISO 787-8[b]
pH value of aqueous suspension		8 to 9,5[a]		ISO 787-9
Matter insoluble in hydrochloric acid, max.	% mass fraction	2	5	See Clause 6

[a] These values do not take account of the effect on the result of any surface treatment.

[b] Method to be agreed between the interested parties.

Table 2 — Conditional requirements

Characteristic	Unit	Requirement	Test method
Residue on 45 μm sieve	% mass fraction	To be agreed between the interested parties	ISO 787-7
Particle size distribution (instrumental method)	% mass fraction	To be agreed between the interested parties	ISO 8130-13
Colour		To be agreed between the interested parties	ISO 3262-1
Lightness			To be agreed between the interested parties
Resistivity of aqueous extract	**Ω·m**		ISO 787-14

5 Sampling

Take a representative sample of the product to be tested, in accordance with ISO 15528.

6 Determination of matter insoluble in hydrochloric acid

6.1 Reagents

During the analysis, use only reagents of recognized analytical grade and only water of a least grade 3 purity as specified in ISO 3696.

6.1.1 Hydrochloric acid, CAS[1)] No. 7647-01-0, approximately 25 % mass fraction, ρ ≈ 1,125 g/ml.

6.2 Apparatus

Use ordinary laboratory apparatus and glassware, together with the following:

6.2.1 Membrane filter, pore size 0,8 µm.

6.2.2 Air oven, capable of being maintained at (105 ± 2) °C.

6.2.3 Balance, with an accuracy of 0,000 1 g.

6.3 Procedure

Weigh, to the nearest 0,1 mg, approximately 10 g (m_0) of the test sample into a 600 ml beaker. Add 50 ml of water and, carefully, approximately 50 ml of hydrochloric acid (6.1.1). Cover the beaker with a watch glass and boil the solution for 15 min.

Dry the membrane filter (6.2.1) in the air oven (6.2.2) at (105 ± 2) °C to constant mass, cool in a desiccator to room temperature and weigh it to the nearest 0,1 mg (m_1). Then filter the solution through it. Wash the residue on the filter eight times with hot distilled water. Dry the residue on the filter in the air oven at (105 ± 2) °C for about 1 h. Allow to cool in a desiccator to room temperature and weigh to the nearest 0,1 mg (m_2).

6.4 Expression of results

Calculate the matter insoluble in hydrochloric acid, expressed as a percentage by mass, using Formula (1):

$$\frac{m_2 - m_1}{m_0} \times 100 \qquad (1)$$

where

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

m_1 is the mass, in grams, of the dried membrane filter;

m_2 is the mass, in grams, of the dried membrane filter plus the residue.

7 Test report

The test report shall contain at least the following information:

a) all details necessary to identify the product tested;

b) a reference to this document, i. e. ISO 3262-4:—;

1) Chemistry Abstracts Service Registry Number

c) the results of the test, the method used, and whether or not the product complies with the relevant specification limits;

d) any deviation from the method of test specified;

e) any unusual features (anomalies) observed during the test;

f) the date of the test.