BRITISH STANDARD

BS EN ISO
3262-4:1998

# Extenders for paints — Specifications and methods of test —

## Part 4: Whiting

The European Standard EN ISO 3262-4:1998 has the status of a British Standard

ICS 87.060.10

# National foreword

This British Standard is the English language version of EN ISO 3262-4:1998. It is identical with ISO 3262-4:1998. Together with the other Parts of BS EN ISO 3262, it will supersede BS 1795:1976 which is declared obsolescent.

The UK participation in its preparation was entrusted to Technical Committee STI/1. Pigments, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

**Cross-references**

Attention is drawn to the fact that CEN and CENELEC standards normally include an annex which lists normative references to international publications with their corresponding European publications. The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled "International Standards Correspondence Index", or by using the "Find" facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

**Summary of pages**

This document comprises a front cover, an inside front cover, pages i and ii, the EN ISO title page, page 2, the ISO title page, page ii, pages 1 and 2, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

**Amendments issued since publication**

| Amd. No. | Date | Comments |
|---|---|---|
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This British Standard, having been prepared under the direction of the Sector Board for Materials and Chemicals, was published under the authority of the Standards Board and comes into effect on 15 September 1998



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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN ISO 3262-4

July 1998

ICS 87.060.10

Descriptors: See ISO document

English version

# Extenders for paints — Specifications and methods of test — Part 4: Whiting

(ISO 3262-4:1998)

Matières de charge pour peintures — Spécifications et méthodes d'essai — Partie 4: Craie (ISO 3262-4:1998)

Füllstoffe für Beschichtungsstoffe — Anforderungen und Prüfverfahren — Teil 4: Kreide (ISO 3262-4:1998)

This European Standard was approved by CEN on 21 June 1998.

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**CEN**

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**



Ref. No. EN ISO 3262-4:1998 E

## Foreword

The text of the International Standard ISO 3262-4:1998 has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" in collaboration with Technical Committee CEN/TC 298 "Pigments and extenders", the secretariat of which is held by DIN.

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 January 1999, and conflicting national standards shall be withdrawn at the latest by January 1999.

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

## Endorsement notice

The text of the International Standard ISO 3262-4:1998 has been approved by CEN as a European Standard without any modification.

NOTE Normative references to International Standards are listed in Annex ZA (normative).

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INTERNATIONAL STANDARD

**ISO 3262-4**

First edition
1998-07-01

# Extenders for paints — Specifications and methods of test —

## Part 4: Whiting

*Matières de charge pour peintures — Spécifications et méthodes d'essai —*

*Partie 4: Craie*

Reference number
ISO 3262-4:1998(E)

## 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 3262-4 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 2, *Pigments and extenders*.

Together with the other parts (see below), this part of ISO 3262 cancels and replaces ISO 3262:1975, which has been technically revised. Part 1 comprises the definition of the term extender and a number of test methods that are applicable to most extenders, whilst part 2 and the following parts specify requirements and, where appropriate, particular test methods for individual extenders.

At present, the following parts of ISO 3262 are published or in preparation, under the general title *Extenders for paints — Specifications and methods of test*:

— *Part 1: Introduction and general test methods;*
— *Part 2: Barytes (natural barium sulfate);*
— *Part 3: Blanc fixe;*
— *Part 4: Whiting;*
— *Part 5: Natural crystalline calcium carbonate;*
— *Part 6: Precipitated calcium carbonate;*
— *Part 7: Dolomite;*
— *Part 8: Natural clay;*
— *Part 9: Calcined clay;*
— *Part 10: Natural talc/chlorite in lamellar form;*
— *Part 11: Natural talc, in lamellar form, containing carbonates;*
— *Part 12: Muscovite-type mica;*
— *Part 13: Natural quartz (ground);*
— *Part 14: Cristobalite;*
— *Part 15: Vitreous silica;*
— *Part 16: Aluminium hydroxides;*
— *Part 17: Precipitated calcium silicate;*
— *Part 18: Precipitated sodium aluminium silicate;*
— *Part 19: Precipitated silica;*
— *Part 20: Fumed silica;*
— *Part 21: Silica sand (unground natural quartz);*
— *Part 22: Diatomaceous earth (kieselguhr).*

**Descriptors:** Paints, extenders, calcium carbonates, specifications, materials specifications, tests.

## 1 Scope

This part of ISO 3262 specifies requirements and corresponding methods of test for whiting.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 3262. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 3262 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 787-2:1981, *General methods of test for pigments and extenders — Part 2: Determination of matter volatile at 105 °C.*

ISO 787-3:1979, *General methods of test for pigments and extenders — Part 3: Determination of matter soluble in water — Hot extraction method.*

ISO 787-7:1981, *General methods of test for pigments and extenders — Part 7: Determination of residue on sieve — Water method — Manual procedure.*

ISO 787-8:1979, *General methods of test for pigments and extenders — Part 8: Determination of matter soluble in water — Cold extraction method.*

ISO 787-9:1981, *General methods of test for pigments and extenders — Part 9: Determination of pH value of an aqueous suspension.*

ISO 787-14:1973, *General methods of test for pigments — Part 14: Determination of resistivity of aqueous extract.*

ISO 842:1984, *Raw materials for paints and varnishes — Sampling.*

ISO 3262-1:1997, *Extenders for paints — Specifications and methods of test — Part 1: Introduction and general test methods.*

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods.*

## 3 Definition

For the purposes of this part of ISO 3262, the following definition applies:

**3.1**
**whiting**

a natural calcium carbonate derived from chalk, a sedimentary rock of soft texture originating from the Cretaceous period. It is characterized by microcrystalline calcitic crystals (up to 1 µm 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

the term "whiting" shall not be used to describe forms of naturally occurring or precipitated calcium carbonate other than chalk

## 4 Requirements and test methods

For whiting complying with this part of ISO 3262, 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. | % (*m*/*m*) | 98 | 95 | ISO 3262-1 |
| Matter volatile at 105 °C, max. | % (*m*/*m*) | 0,4 | | ISO 787-2 |
| Loss on ignition, max. | % (*m*/*m*) | 46[a] | | ISO 3262-1 |
| Matter soluble in water, max. | % (*m*/*m*) | 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. | % (*m*/*m*) | 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 | % (*m*/*m*) | To be agreed between the interested parties | ISO 787-7 |
| Particle size distribution (instrumental method) | % (*m*/*m*) | To be agreed between the interested parties[a] | |
| Colour | | To be agreed between the interested parties | ISO 3262-1 |
| Lightness | | | To be agreed between the interested parties[b] |
| Resistivity of aqueous extract | Ω·m | | ISO 787-14 |

[a] A general description of a sedimentation method using X-ray absorption is given in EN 725-5:1996, *Advanced technical ceramics — Methods of test for ceramic powders — Part 5: Determination of the particle size distribution.*
[b] Test method in preparation.

## 5 Sampling

Take a representative sample of the product to be tested, as described in ISO 842.

## 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 at least grade 3 purity as defined in ISO 3696.

**6.1.1** *Hydrochloric acid*, approximately 25 % (*m*/*m*), $\rho \approx 1{,}125$ 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.

### 6.3 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 $w(\mathrm{MI_{HCl}})$, expressed as a percentage by mass, using the equation

$$w(\mathrm{MI_{HCl}}) = \frac{m_2 - m_1}{m_0} \times 100$$

where

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

$m_1$ is the mass, in grams, of 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 part of ISO 3262 (ISO 3262-4);

c) the results of the tests and whether or not the product complies with the relevant specification limits;

d) any deviation from the test methods specified;

e) the dates of the tests.

## Annex ZA (normative)
## Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

| Publication | Year | Title | EN | Year |
|---|---|---|---|---|
| ISO 787-2 | 1981 | General methods of test for pigments and extenders — Part 2: Determination of matter volatile at 105 degrees C | EN ISO 787-2 | 1995 |
| ISO 787-3 | 1979 | General methods of test for pigments and extenders — Part 3: Determination of matter soluble in water — Hot extraction method | EN ISO 787-3 | 1995 |
| ISO 787-8 | 1979 | General methods of test for pigments and extenders — Part 8: Determination of matter soluble in water — Cold extraction | EN ISO 787-8 | 1995 |
| ISO 787-9 | 1981 | General methods of test for pigments and extenders — Part 9: Determination of pH value of aqueous suspension | EN ISO 787-9 | 1995 |
| ISO 3262-1 | 1997 | Extenders for paints — Specifications and methods of test — Part 1: Introduction and general test methods | EN ISO 3262-1 | 1998 |
| ISO 3696 | 1987 | Water for analytical laboratory use — Specification and test methods | EN ISO 3696 | 1995 |

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