
**Lithopone pigments — General
requirements and methods of testing**

Lithopone pour peintures — Exigences générales et méthodes d'essai



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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).

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For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

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

This third edition cancels and replaces the second edition (ISO 473:1982), which has been technically revised. The main changes compared to the previous edition are as follows:

- a new specification of lithopone with a 20 % zinc sulphide (ZnS) content (lithopone 20 %) has been included;
- a new method of test, Method B (Na₂EDTA titration method) has been introduced;
- the text of the document has been editorially revised.

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.

Introduction

Over the last decade, requirements such as the hiding power for exterior coatings have become less stringent with a view to reducing cost. In addition, there is a growing demand in the international exterior coatings market for lithopone with a 20 % total zinc sulphide (ZnS) content rather than the more expensive lithopone with a 30 % or 60 % total zinc sulphide content (hereinafter referred to as lithopone 20 %, lithopone 30 % and lithopone 60 %, respectively). The previous edition of this document provided for only two specifications of lithopone, namely lithopone 30 % and lithopone 60 %. To avoid confusion and disputes related to the transportation, release and clearance of lithopone 20 %, it has been included as a third specification in this document.

The determination of the total zinc content in lithopone using the potassium hexacyanoferrate titration method is rather complicated to operate and apt to fail. With such a test method, fluctuations in the temperature of the solution may be experienced and it is difficult to read the titration end point. Therefore, the Na₂EDTA direct titration method has been added to this document, which is time-saving and easier to operate, and with a proven accuracy. This testing method is based on Reference [2].

Lithopone pigments — General requirements and methods of testing

WARNING — Persons using this document should be familiar with normal laboratory practice. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices.

1 Scope

This document specifies the requirements and the corresponding test methods for three types of lithopone pigments.

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 385, *Laboratory glassware — Burettes*

ISO 648, *Laboratory glassware — Single-volume pipettes*

ISO 787-1, *General methods of test for pigments and extenders — Part 1: Comparison of colour of pigments*

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 787-4, *General methods of test for pigments and extenders — Part 4: Determination of acidity or alkalinity of the aqueous extract*

ISO 787-5, *General methods of test for pigments and extenders — Part 5: Determination of oil absorption value*

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

ISO 787-17, *General methods of test for pigments and extenders — Comparison of lightening power of white pigments*

ISO 1042, *Laboratory glassware — One-mark volumetric flasks*

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

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

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

ISO 18451-2, *Pigments, dyestuffs and extenders — Terminology — Part 2: Classification of colouring materials according to colouristic and chemical aspects*