
**Preparation of steel substrates before
application of paints and related
products — Test methods for non-metallic
blast-cleaning abrasives —**

Part 7:

Determination of water-soluble chlorides

ISO 11127-7:1993

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Préparation des subjectiles d'acier avant application de peintures et de produits assimilés — Méthodes d'essai pour abrasifs non métalliques destinés à la préparation par projection —

Partie 7: Détermination des chlorures solubles dans l'eau



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 11127-7 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 12, *Preparation of steel substrates before application of paints and related products*.

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ISO 11127 consists of the following parts, under the general title *Preparation of steel substrates before application of paints and related products — Test methods for non-metallic blast-cleaning abrasives*:

- Part 1: *Sampling*
- Part 2: *Determination of particle size distribution*
- Part 3: *Determination of apparent density*
- Part 4: *Assessment of hardness by a glass slide test*
- Part 5: *Determination of moisture*
- Part 6: *Determination of water-soluble contaminants by conductivity measurement*
- Part 7: *Determination of water-soluble chlorides*
- Part 8: *Determination of abrasive mechanical properties*

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At the time of publication of this part of ISO 11127, part 8 was in course of preparation.

Annex A of this part of ISO 11127 is for information only.

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Preparation of steel substrates before application of paints and related products — Test methods for non-metallic blast-cleaning abrasives —

Part 7:

Determination of water-soluble chlorides

1 Scope

This is one of a number of parts of ISO 11127 dealing with the sampling and testing of non-metallic abrasives for blast-cleaning.

The types of non-metallic abrasive and requirements on each are contained in the various parts of ISO 11126.

The ISO 11126 and ISO 11127 series have been drafted as a coherent set of International Standards on non-metallic blast-cleaning abrasives. Information on all parts of both series is given in annex A.

This part of ISO 11127 specifies a method for the determination of water-soluble chlorides in non-metallic blast-cleaning abrasives.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 11127. 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 11127 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 3696:1987, *Water for analytical laboratory use — Specification and test methods.*

ISO 11127-1:1993, *Preparation of steel substrates before application of paints and related products — Test methods for non-metallic blast-cleaning abrasives — Part 1: Sampling.*

3 Reagents

Use only reagents of recognized analytical grade and only water of at least grade 3 purity complying with ISO 3696.

3.1 Sulfuric acid, concentrated, approximately 96 % (m/m), $\rho \approx 1,84$ g/ml.

3.2 Silver nitrate, standard volumetric solution, $c(\text{AgNO}_3) = 0,01$ mol/l.

4 Apparatus

Ordinary laboratory apparatus and glassware, together with the following:

4.1 Equipment for amperometric titration, any commercial equipment being suitable.

4.2 Microburette.

4.3 Balance, capable of weighing to an accuracy of 0,1 g.

5 Sampling

Take a representative sample of the product to be tested, as described in ISO 11127-1.

6 Procedure

Carry out the determination in duplicate.

6.1 Weigh a test portion of $(100 \pm 0,1)$ g of the sample (m_0) into a 250 ml flask and add (100 ± 1) ml of water. Shake for 5 min and allow to stand for 1 h. Then shake again for 5 min and allow to settle. If the solution does not completely clear, filter it by any suitable method.

6.2 Take 25 ml of the solution, add 0,1 ml of the sulfuric acid (3.1) and dilute to approximately 75 ml with water.

6.3 Titrate the solution with the silver nitrate (3.2) from the microburette (4.2), noting the end point as the voltage at which the pointer of the galvanometer reverses direction.

7 Calculation

Calculate the water-soluble chloride content $w(\text{Cl})$, of the abrasive, expressed as a percentage by mass, using the equation

$$w(\text{Cl}) = \frac{V \times 0,000\ 355 \times 4}{m_0} \times 100$$

where

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

V is the volume, in millilitres, of silver nitrate solution (3.2) used;

0,000 355 is the factor for the conversion of millilitres of silver nitrate solution, $c(\text{AgNO}_3) = 0,01$ mol/l, to grams of Cl.

If the duplicate determinations differ by more than 10 % (relative to the higher result), repeat the procedure described in clause 6.

Calculate the mean of two valid determinations and report the result to the nearest 0,000 1 %.

8 Test report

The test report shall contain at least the following information:

- all details necessary to identify the product tested, in accordance with the appropriate part of ISO 11126 (see annex A), if applicable;
- a reference to this part of ISO 11127 (ISO 11127-7);
- the result of the test;
- any deviation from the test method specified;
- the date of the test;
- the name of the person who carried out the test.

Annex A (informative)

International Standards for non-metallic blast-cleaning abrasives

Requirements and test methods for non-metallic blast-cleaning abrasives are contained in ISO 11126 and ISO 11127 respectively.

ISO 11126 will consist of the following parts under the general title:

Preparation of steel substrates before application of paints and related products — Specifications for non-metallic blast-cleaning abrasives

- Part 1: General introduction and classification
- Part 2: Silica sand
- Part 3: Copper refinery slag
- Part 4: Coal furnace slag
- Part 5: Nickel refinery slag
- Part 6: Iron furnace slag
- Part 7: Fused aluminium oxide
- Part 8: Olivine sand
- Part 9: Staurolite
- Part 10: Garnet

ISO 11127 will consist of the following parts, under the general title:

Preparation of steel substrates before application of paints and related products — Test methods for non-metallic blast-cleaning abrasives

- Part 1: Sampling
- Part 2: Determination of particle size distribution
- Part 3: Determination of apparent density
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