INTERNATIONAL STANDARD

ISO 11127-6

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

Part 6:
Determination of water-soluble contaminants by conductivity measurement

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 6: Détermination des contaminants solubles dans l'eau par conductimétrie

Reference number
ISO 11127-6:1993(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 11127-6 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*.

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 6:
Determination of water-soluble contaminants by conductivity measurement

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 contaminants in non-metallic blast-cleaning abrasives by conductivity measurement.

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 Reagent

3.1 Conductivity water, of at least grade 2 purity as specified in ISO 3696.

4 Apparatus

Ordinary laboratory apparatus and glassware, together with the following:

4.1 Conductivity-measuring bridge[1].

4.2 Conductivity cell[1].

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

1) Any commercial conductivity bridge and conductivity cell with temperature compensation and a range of 1 mS/m to 100 mS/m are suitable.

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 ± 0,1) g of the sample into a 250 ml flask and add (100 ± 1) ml of the conductivity water (3.1). Shake for 5 min and allow to stand for 1 h. Then shake again for 5 min and allow to settle. If the liquid does not completely clear, filter it by any suitable method.

6.2 Transfer sufficient of the liquid to fill the conductivity cell (4.2) of the conductivity-measuring bridge (4.1). Measure the conductivity of the solution in millisiemens per metre at 20 °C.

The conductivity bridge shall be compensated at 20 °C or, alternatively, the conductivity shall be measured at 20 °C.

7 Expression of results

Calculate the conductivity γ_s, in millisiemens per metre, of the abrasive, using the equation

$$\gamma_s = \gamma_m \times K_{20}$$

where

γ_m is the conductivity, in millisiemens per metre, of the solution at 20 °C;

K_{20} is the cell constant of the conductivity cell at 20 °C.

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 1 mS/m.

8 Test report

The test report shall contain at least the following information:

a) all details necessary to identify the product tested, in accordance with the appropriate part of ISO 11126 (see annex A), if applicable;

b) a reference to this part of ISO 11127 (ISO 11127-6);

c) the result of the test;

d) any deviation from the test method specified;

e) the date of the test;

f) 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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— *Part 8: Determination of abrasive mechanical properties*

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Descriptors: paints, varnishes, substrates, steel products, blast-cleaning, abrasives, non-metallic abrasives, tests, determination, contaminants, conductimetric methods.

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