

BS EN ISO 11127-6:2011



BSI Standards Publication

**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

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**National foreword**

This British Standard is the UK implementation of EN ISO 11127-6:2011. It supersedes BS EN ISO 11127-6:1998, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee STI/21, Surface preparation of steel.

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

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**Amendments issued since publication**

Date	Text affected
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English Version

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 (ISO 11127-6:2011)

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 (ISO 11127-6:2011)

Vorbereitung von Stahloberflächen vor dem Auftragen von Beschichtungsstoffen - Prüfverfahren für nichtmetallische Strahlmittel - Teil 6: Bestimmung der wasserlöslichen Verunreinigungen durch Messung der Leitfähigkeit (ISO 11127-6:2011)

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## Foreword

This document (EN ISO 11127-6:2011) has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" in collaboration with Technical Committee CEN/TC 139 "Paints and varnishes" 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of an identical text or by endorsement, at the latest by June 2012, and conflicting national standards shall be withdrawn at the latest by June 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 11127-6:1997.

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## Foreword

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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*.

This second edition cancels and replaces the first edition (ISO 11127-6:1993), which has been revised so that the result is now calculated and reported in microsiemens per centimetre (rather than in millisiemens per metre as in the previous edition) and to update the structures of ISO 11126 and ISO 11127 presented in Annex A.

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*



# 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 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 referenced documents are indispensable for the application 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 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 11127-1, *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 defined in ISO 3696.

### 4 Apparatus

Ordinary laboratory apparatus and glassware, together with the following:

**4.1 Conductivity-measuring bridge**<sup>1)</sup>.

**4.2 Conductivity cell**<sup>1)</sup>.

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

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1) Any commercial conductivity bridge and conductivity cell with temperature compensation and a range of 10  $\mu\text{S}/\text{cm}$  to 1 000  $\mu\text{S}/\text{cm}$  are suitable.

## 5 Sampling

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

## 6 Procedure

**6.1** Carry out the determination in duplicate.

**6.2** Weigh a test portion of  $(100 \pm 0,1)$  g of the sample into a 250 ml flask and add  $(100 \pm 1)$  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.

**6.3** 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 microsiemens per centimetre 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  $\gamma_s$ , in microsiemens per centimetre, of the abrasive, using the equation

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

where

$\gamma_m$  is the conductivity, in microsiemens per centimetre, 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 10  $\mu\text{S}/\text{cm}$ .

## 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 consists 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 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: Almandite garnet*

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*
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