ISO 11127 PT*1 93 ■ 4851903 0551677 540 ■

INTERNATIONAL STANDARD

ISO 11127-1

First edition
1993-12-15

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

Part 1: Sampling

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 1: Échantillonnage

Reference number
ISO 11127-1:1993(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 11127-1 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*

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

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

Annexes A and B of this part of ISO 11127 are for information only.

INTERNATIONAL STANDARD © ISO ISO 11127-1:1993(E)

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

Part 1: Sampling

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 B.

This part of ISO 11127 specifies a method for the sampling of non-metallic blast-cleaning abrasives from consignments and for the subdivision of the sample into quantities suitable for undertaking the appropriate test methods specified in other parts of ISO 11127.

2 Definitions

For the purposes of this part of ISO 11127, the following definitions apply.

2.1 total quantity: The overall quantity of the abrasive to be tested (for example the quantity of a consignment) for which the sampling procedure is to be considered as representative.

2.2 single sample: A sample obtained from the total quantity by a single sampling operation. This sample is not immediately used for testing.

2.3 mixed sample: A sample obtained by mixing a number of single samples.

2.4 reduced sample: A sample obtained by reduction of a mixed sample.

NOTE 1 In order to obtain a sample quantity which is suitable for testing, all reduced samples but one are discarded after each reduction; the reduction procedure is then repeated if necessary on the sample retained.

2.5 test sample: A reduced sample that comprises a mass or volume sufficient for testing, portions of which are immediately used for testing.

3 Apparatus

3.1 Sample thief, made from seamless steel tubing of inside diameter approximately 25 mm and length approximately 800 mm. The tube shall be pointed at one end and have a "T" handle at the other end. Holes shall be bored in a straight line, lengthways along the tube, and spaced at 50 mm intervals. The diameter of the holes shall be determined by the size of the particles to be sampled and shall be approximately three times the size of the largest particle.

NOTE 2 It is normally sufficient to use holes 10 mm in diameter for non-metallic abrasives.

3.2 Sample divider, **riffler** or **other equipment** suitable for splitting a sample into parts.

4 Procedure

4.1 Sampling of consigments

Depending on the quantity of abrasive to be tested and the condition of the consignment (packaged or unpackaged), the sampling procedure may be carried out manually or mechanically. Take samples as uniformly distributed as possible over the total quantity of the consignment, where appropriate, using the sampling thief (3.1). The number of single samples to be taken shall be as specified in table 1.

Table 1 — Number of single samples to be taken from a consigment

Total quantity tonnes	Number of single samples
< 50	5
50 to 100	10
> 100	15

Guidance on sampling from stockpiles and transportation units is given in annex A.

4.2 Preparation of the mixed sample

Pour all the single samples obtained as described in 4.1 into a suitable container and mix them until a uniform distribution of all particle sizes within the mixed sample can be expected.

4.3 Reduction of sample size

Subdivide the mixed sample either mechanically, for example using a riffler-type sampling divider (3.2), or manually. Unless otherwise specified or agreed, discard one of the reduced samples obtained after each subdivision (see figure 1). Continue the operation until a test sample of appropriate size is obtained.

4.4 Test sample

The quantity of test sample needed will depend on the individual test method and is given in the appropriate part of ISO 11127 (see annex B).

Be sure to store the sample in a sealed container until required. Remix the test sample before taking portions for testing to ensure uniformity is maintained. Do not remix used portions with remaining sample.

5 Sample identification

Each sample shall be clearly identified as to its origin. Test samples shall carry at least the following information:

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

b) the consignment identification details, e.g. supplier's name, order number, date of despatch/receipt, etc.;

c) any product traceability reference which relates to the unit sampled.

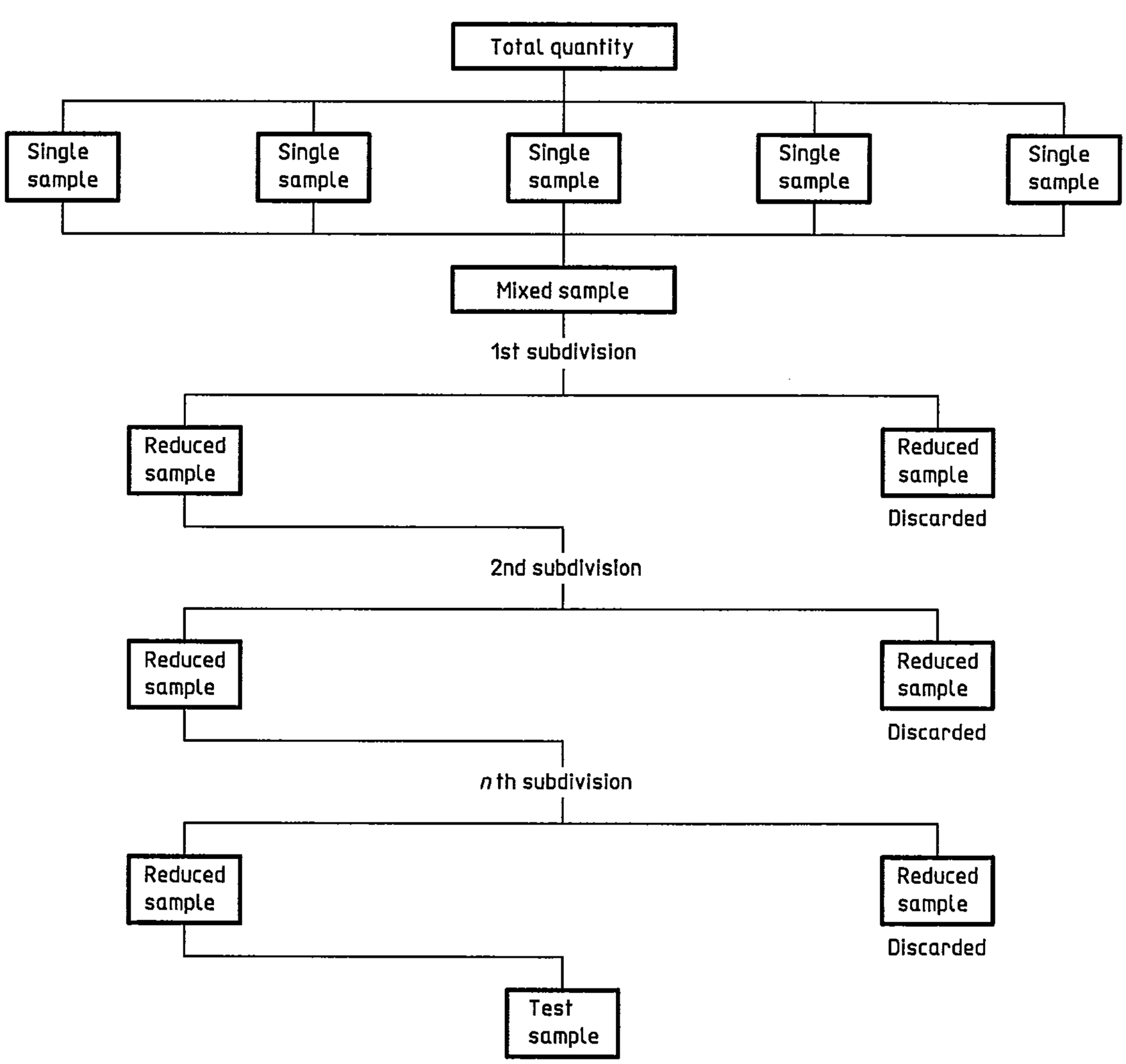

Figure 1 — Scheme for sampling and division of samples
(example beginning with five single samples, followed by subdivision)

Annex A
(informative)

Guidance on sampling from stockpiles or transportation units[1)]

A.1 Scope

In some situations it is necessary to sample aggregates that have been stored in stockpiles or loaded into rail cars, barges, or trucks. In such cases the procedure should ensure that segregation does not introduce a serious bias in the results.

A.2 Sampling from stockpiles

A.2.1 In sampling material from stockpiles it is very difficult to ensure unbiased samples, due to the segregation which often occurs when material is stockpiled, with coarser particles rolling to the outside base of the pile. For coarse or mixed coarse and fine aggregate, every effort should be made to enlist the services of power equipment to develop a separate, small sampling pile composed of materials drawn from various levels and locations in the main pile, after which several increments may be combined to compose the field sample. If necessary to indicate the degree of variability existing within the main pile, separate samples should be drawn from separate areas of the pile.

A.2.2 Where power equipment is not available, samples from stockpiles should be made up of at least three increments taken from the top third, at the mid-point, and from the bottom third of the volume of the pile. A board pushed vertically into the pile just above the sampling point aids in preventing further segregation. In sampling stockpiles of fine aggregate the outer layer, which may have become segregated, should be removed and the sample taken from the material beneath. Sampling tubes approximately 30 mm min. by 2 m min. in length may be inserted into the pile at random locations to extract a minimum of five increments of material to form the sample.

A.3 Sampling from transportation units

In sampling coarse aggregates from railroad cars or barges, effort should be made to enlist the services of power equipment capable of exposing the material at various levels and random locations. Where power equipment is not available, a common procedure requires excavation of three or more trenches across the unit at points that will, from visual appearance, give a reasonable estimate of the characteristics of the load. The trench bottom should be approximately level, at least 0,3 m in width and in depth below the surface. A minimum of three increments from approximately equally spaced points along each trench should be taken by pushing a shovel downward into the material. Coarse aggregate in trucks should be sampled in essentially the same manner as for rail cars or barges, except for adjusting the number of increments according to the size of the truck. For fine aggregate in transportation units, sampling tubes as described in A.2 may be used to extract an appropriate number of increments to form the sample.

---

1) Abstracted from ASTM D 75-1987, *Practices for sampling aggregates.*

Annex B
(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*

— *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*

UDC 667.648.1:621.7.023:621.921.2/.3:620.11

Descriptors: paints, varnishes, substrates, steel products, blast-cleaning, abrasives, non-metallic abrasives, tests, sampling.

Price based on 5 pages