SLOVENSKI STANDARD
SIST EN 846-13:2002

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Metode preskuġanja dodatnih komponent zidovine - 13. del: Doloļ evanje odpornosti organskih oblog/prevlek proti udaru, obrabi in koroziji

Methods of test for ancillary components for masonry - Part 13: Determination of resistance to impact, abrasion and corrosion of organic coatings

Prüfverfahren für Ergänzungsbauteile für Mauerwerk - Teil 13: Bestimmung der Schlagfestigkeit, des Abriebwiderstands und der Korrosionsbeständigkeit von organischen Beschichtungen

Méthodes d'essai pour composants accessoires de maçonnerie - Partie 13: Détermination de la résistance a l'impact, a l'abrasion et a la corrosion des protections organiques

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ICS:

91.080.30	Zidane konstrukcije	Masonry

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Methods of test for ancillary components for masonry - Part 13: Determination of resistance to impact, abrasion and corrosion of organic coatings

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This European Standard was approved by CEN on 23 June 2001.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 125 "Masonry", the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by February 2002, and conflicting national standards shall be withdrawn at the latest by February 2002.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies a method for determining the level of performance of those organic coatings classified in prEN 845-1 and prEN 845-2 as type 2 applied as a protective system to zinc coated steel plate used in the fabrication of ancillary components for masonry.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 197-1 *Cement - Part 1: Composition, specifications and conformity criteria for common cements.*

BS 871:1981[1] *Specification for abrasive paper and cloths.*

3 Principle

The performance of organic coatings is determined from tests for impact resistance, abrasion resistance and an accelerated corrosion test. The impact and abrasion resistance are determined using a heavy rigid pendulum apparatus whereby the spring loaded tip of the pendulum strikes the test specimen at a specified distance from bottom dead centre. The accelerated corrosion performance is determined from the electrical resistance of the organic coating during a period of exposure to an alkaline solution.

4 Sampling

4.1 Sampling for impact and abrasion tests

The minimum number of specimens for each test shall be six, plus two further specimens, if required (see **6.2**). Test specimens shall be flat plate not less than 300 mm long x 50 mm wide either:

- cut from a sample of the product, where practicable, or
- purpose made and protected using a process identical to that used to protect the product.

Where specimens are to be cut from a product, they shall be spaced not less than 300 mm apart.

NOTE It is critical to use flat plate since any undulations in the metal will cause local high or low spots.

[1] published by the British Standards Institution, 389 Chiswick High Rd., London W4 4AL.

4.2 Sampling for accelerated corrosion test

The minimum number of specimens shall be three, see **8.1.1**. Test specimens shall be flat plate chosen to suit the test cell dimensions (see **Figure 3**) but shall preferably be not less than 250 mm long x 100 mm wide either:

- cut from a sample of the product, where practicable, or
- cut from galvanized steel plate to the specification used to produce the product.

Where specimens are to be cut from a product, they shall be spaced not less than 300 mm apart.

5 Apparatus

5.1 Tolerances

The permissible deviation on masses of the apparatus shall be ± 10 g and on apparatus dimensions ± 1%.

5.2 Impact and abrasion tests apparatus

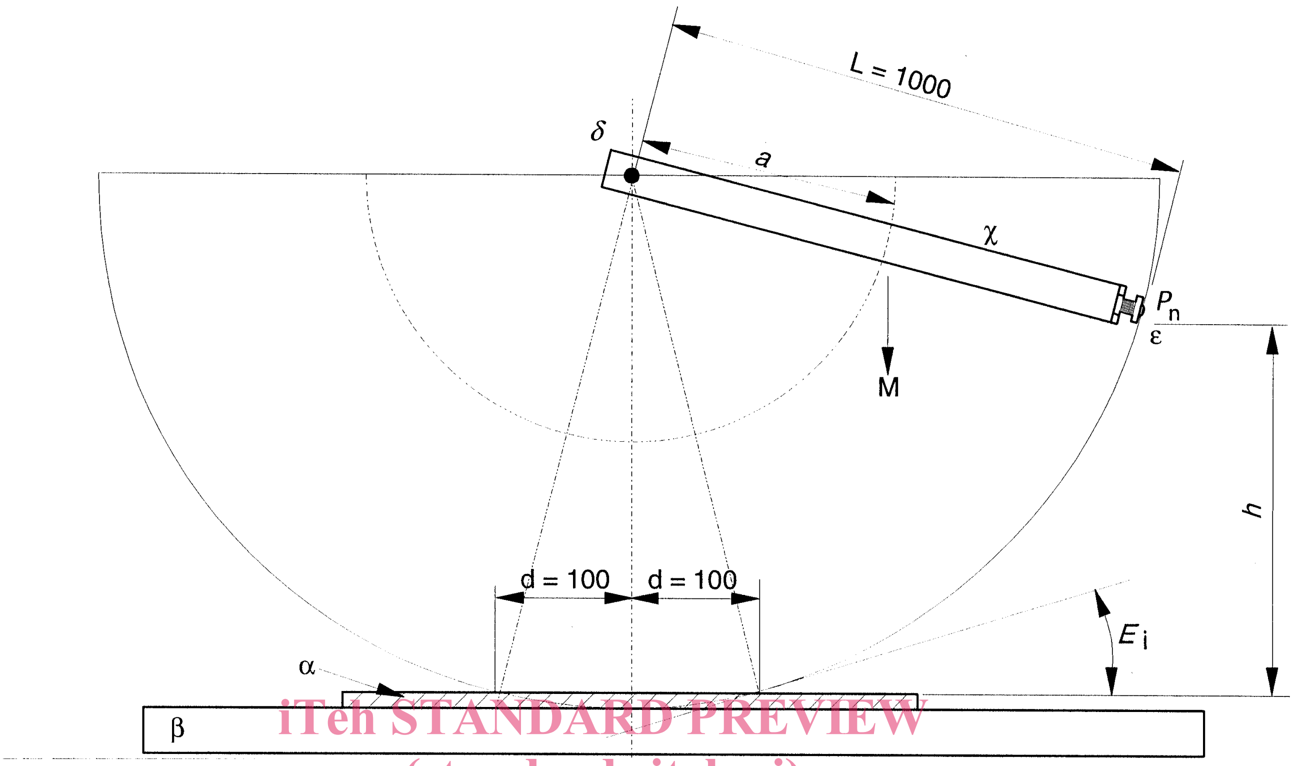
5.2.1 Steel pendulum

5.2.2 A typical **steel pendulum** is shown in **Figure 1.** Its mass acting at centre of action is 8,71 kg. The **pendulum tip for the impact test** is 0,5 mm thick and 3 mm wide and made from hardened carbon steel. The form of the tip used is shown in **Figure 2**. This is attached to the pendulum such as to produce a 3 mm wide impact strip (i.e. with the flat dimension perpendicular to the swing direction of the pendulum).

5.2.3 The **pendulum tip used for the abrasion test** is of hemi-cylindrical profile, radius 12,5 mm and length 12 mm, and made from hardened carbon steel. The tip is covered with first quality blue twill emery cloth conforming to the requirements of grade No. 1 of BS 871:1981.

NOTE At present there is no European Standard or International standard which covers the type and grade of the emery cloth used with the pendulum apparatus. Accordingly, it has been agreed to refer to British Standard 871).

Dimensions in millimetres

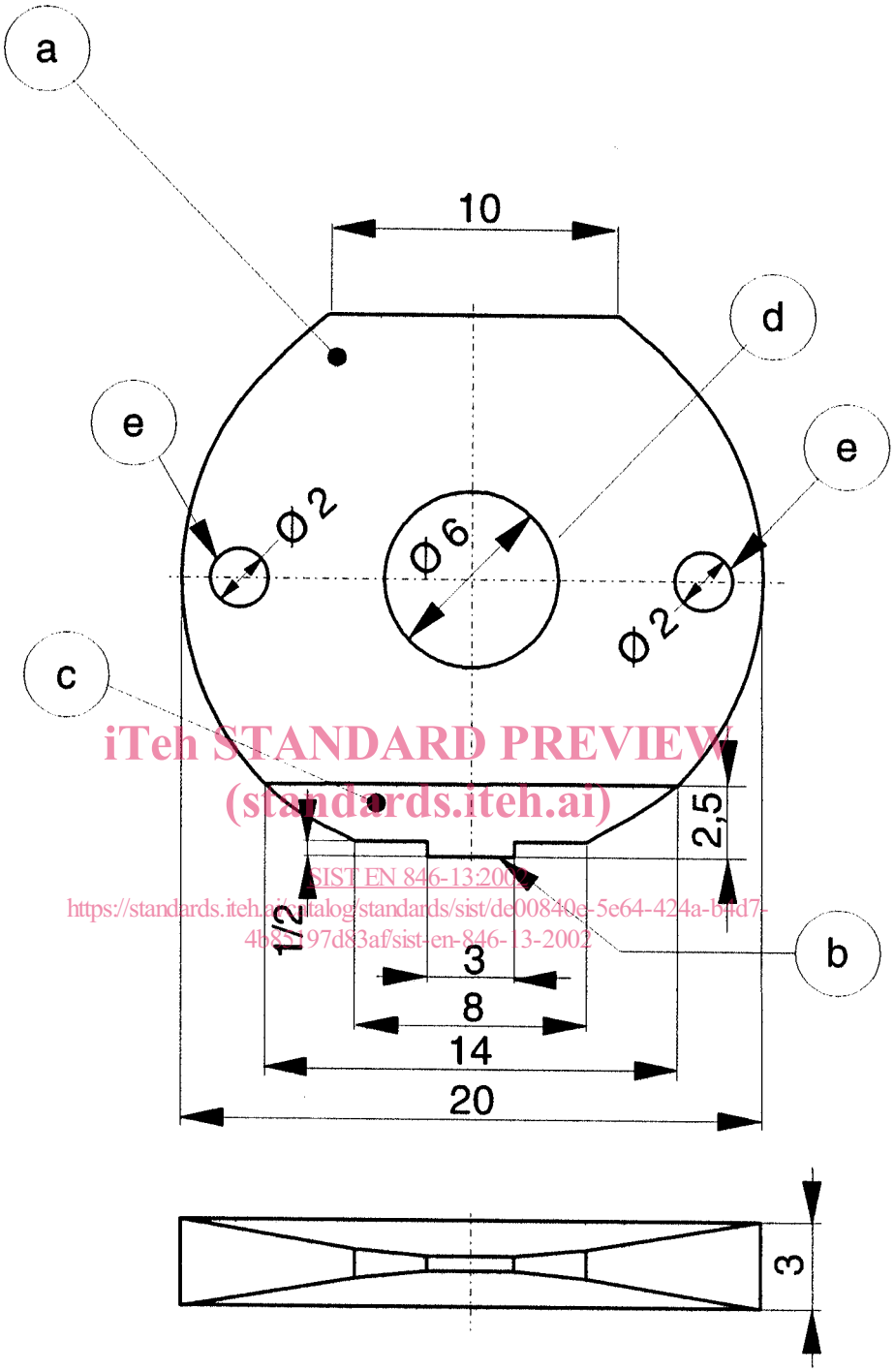


Key

a Centre of action at 475 mm radius
d Distance of point of impact from centre line of apparatus
E_i Tangent angle of impact
h Drop height = 150 mm for impact tests and 815 mm for abrasion tests
L Length of pendulum
P_n Release catch position
α Test specimen
β Base plate
χ Pendulum = 54 mm diameter steel bar
δ Adjustable height pivot point
ε Spring loaded tip (spring rate = 0,5 mm/kg)

Figure 1 - Steel pendulum impact/abrasion test apparatus

Dimensions in millimetres



Key

a Main disc
b Contact tip
c Ground bevel
d Fixing screw hole
e Locating pin hole

Figure 2 - Tip for use in impact tests