SLOVENSKI STANDARD
SIST EN 1772:2001

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Nadomeġļa:
SIST EN 1772:1997

Povrġinsko aktivne snovi - Doloļevanje sposobnosti omakanja s potapljanjem (ISO 8022:1990, spremenjen)

Surface active agents - Determination of wetting power by immersion (ISO 8022:1990 modified)

Grenzflächenaktive Stoffe - Bestimmung des Tauchnetzvermögens (ISO 8022:1990 modifiziert)

Agents de surface - Détermination du pouvoir mouillant par immersion (ISO 8022:1990 modifié)

Ta slovenski standard je istoveten z: **EN 1772:2000**

ICS:

71.100.40 Površinsko aktivna sredstva Surface active agents

SIST EN 1772:2001 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1772

March 2000

ICS 71.100.40

Supersedes EN 1772:1995

English version

Surface active agents - Determination of wetting power by immersion (ISO 8022:1990 modified)

Agents de surface - Détermination du pouvoir mouillant par immersion (ISO 8022:1990 modifié)

Grenzflächenaktive Stoffe - Bestimmung des Tauchnetzvermögens (ISO 8022:1990 modifiziert)

This European Standard was approved by CEN on 18 February 2000.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 1772:2000 E

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Foreword

The text of the International Standard from Technical Committee ISO/TC 91 "Surface active agents" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 276 "Surface active agents", the secretariat of which is held by AFNOR.

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 September 2000, and conflicting national standards shall be withdrawn at the latest by September 2000.

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.

This European Standard replaces EN 1772:1995.

Annex A is informative.

Endorsement notice

The text of the International Standard ISO 8022:1990 has been approved by CEN as a European Standard with the following modifications as given below.

Punch of diameter 30 mm, carefully degreased using a volatile solvent.

NOTE The following solvents may be used :

— acetone ;

— hexane ;

— hexane/acetone mixture, 50 % (*V/V*) ;

— ethanol ;

— acetone/ethanol mixture, 50 % (*V/V*) ;

— distilled water (in some cases).

The standard product has been modified : sodium di-*n*-hexylsulfosuccinate and sodium di-*n*-heptylsulfosuccinate have been replaced by sodium bis (2-ethylhexyl) sulfosuccinate.

Introduction

In many textile operations, for example softening or washing textiles, as well as in the rinsing or the cleaning of hard surfaces - in short in all processes in which a phase (air, oil or soil) has to be replaced by a liquid phase (aqueous or organic) - it is useful to know the wetting agents used. It is also important to know after how long complete wetting is obtained.

1 Scope

This European standard specifies a method for determining the wetting power of a surface active agent in solution by immersion of a disc of raw cotton cloth in the solution. The method is applicable to all surface active agents, whatever their ionic character, used as wetting agents in neutral, slightly acid or slightly basic baths for textile applications. The method is not applicable to mercerizing assistants (baths highly basic) or to carbonising assistants (baths highly acid).

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.

EN 20139, *Textiles - Standard atmospheres for conditioning and testing (ISO 139:1973).*

ISO 607, *Surface active agents and detergents - Methods of sample division.*

ISO 2456, *Surface active agents - Water used as a solvent for tests - Specification and test methods.*

ISO 3819, *Laboratory glassware - Beakers.*

3 Term and definition

For the purposes of this standard, the following term and definition apply :

3.1
wetting power (by immersion)
degree of ability of a solution of surface active agent to displace the air trapped in a cloth when the cloth is steeped in the solution

NOTE The wetting power of a surface active agent can be evaluated by examination of plots of wetting time of discs of raw cotton cloth immersed in solutions of surface active agents or solutions of standard wetting agents of known concentration, against concentration.

4 Principle

Immersion, while held in a gripper, of a cotton disc of known nature and characteristics, in a solution of surface active agent of known concentration ; maintenance of complete submersion in the solution, by means of the specially designed gripper, of the cotton disc, which tends to float to the surface due to air trapped in the cloth. After displacement of air and penetration of the solution into the cloth, the cotton disc starts to sink. Determination of the wetting time by measuring the interval between the moment of immersion of the cotton disc and the moment when it begins to sink.

Determination of the wetting time using a standard solution at five concentrations, and then using the surface active agent solution under test, also at five different concentrations.

After plotting the two "wetting time/concentration" curves, determination of the wetting power of the surface active agent under test by comparison of the position of its curve with the standard curve.

5 Reagents and products

5.1 Distilled water, or water of equivalent purity, complying with the specifications of ISO 2456.

NOTE Other grades of water can be used provided details are noted in the test report.

5.2 Sodium bis (2-ethylhexyl) sulfosuccinate, of recognised analytical grade (purity ≥ 98 %).

5.3 Raw cotton control cloth, of known nature and characteristics, conditioned in the standard temperate atmosphere specified in EN 20139, i.e. a relative humidity of 65 % and a temperature of 20 °C. (Various types of commercially available control cloths are described in annex A).

6 Apparatus

Ordinary laboratory apparatus and, in particular :

6.1 Beaker, low form, of capacity 1 000 ml, complying with the specifications of ISO 3819.

6.2 Cloth-immersion gripper, made of stainless-steel wire of about 2 mm diameter and whose dimensions are given in figure 1 (see also the photo, figure 2, which shows an example of a gripper constructed in accordance with figure 1, with three support arms projecting at right angles from the gripper body). These arms can be mounted on a sliding collar as shown in figure 1. It is important that the design of the gripper is such that, when a raw cotton disc held in the gripper is immersed in 700 ml of test solution in the 1 000 ml beaker (6.1), the cotton disc is held about 40 mm below the surface of the solution. It is also important that the gripper tips only open about 6 mm so that the cotton disc remains nearly vertical in the solution.

6.3 Punch, of diameter 30 mm, carefully degreased using a volatile solvent.

NOTE The following solvents can be used :

- acetone ;
- hexane ;
- hexane/acetone mixture, 50 % (V/V) ;
- ethanol ;
- acetone/ethanol mixture, 50 % (V/V) ;
- distilled water (in some cases).

6.4 Stopwatch, accurate to 0,1 s.

Dimensions in millimetres

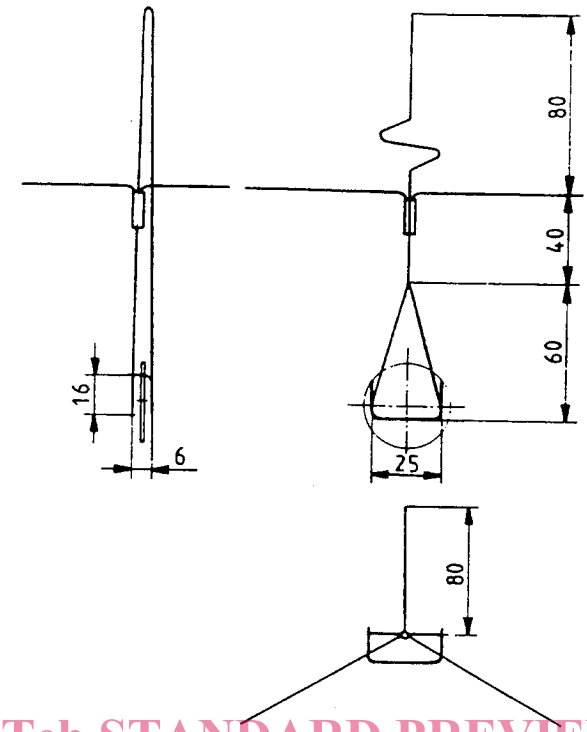

Figure 1 – Cloth-immersion gripper

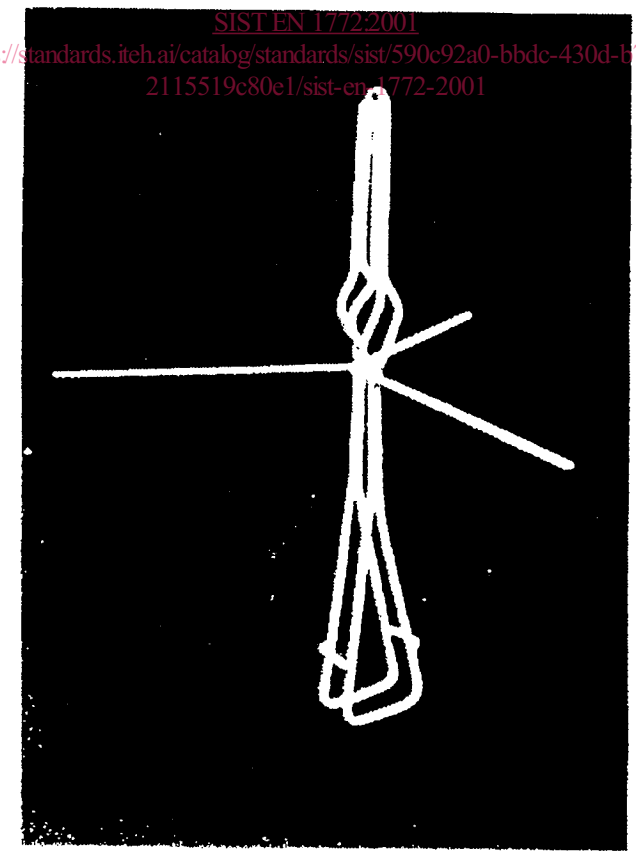

Figure 2 – Photo showing example of gripper constructed in accordance with the requirements specified in 6.2