

Liimid. Märgavus. Tahke aluspinna kontaktnurga mõõtmine ja kriitilise pindpinevuse määramine

Adhesives - Wettability - Determination by
measurement of contact angle and critical surface
tension of solid surface

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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| <p>Käesolev Eesti standard EVS-EN 828:2000 sisaldab Euroopa standardi EN 828:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p> | <p>This Estonian standard EVS-EN 828:2000 consists of the English text of the European standard EN 828:1997.</p> <p>This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p> |
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| <p>Käsitlusala:</p> <p>See standard määrab kontaktnurga mõõtmise ja märgavuse kriitilise pindpinevuse määramise kaudu kindlaks liimi võime 'märjata' tahket aluspinda. See standard lubab ette öelda, mis liim mis substraati märgab.</p> | <p>Scope:</p> |
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Võtmesõnad: alad, katsed, liimid, mõõtmed, märgamine, nurgamõõtmine, pindpinevus, tahked ained

ICS 83.180

Descriptors: Adhesives, wettability of solid surfaces.

English version

Adhesives – Wettability

Determination by measurement of contact angle and critical surface tension of solid surfaces

Adhésifs – Mouillabilité – Détermination par mesurage de l'angle de contact et de la tension superficielle critique de la surface solide

Klebstoffe – Benetzbarkeit – Bestimmung durch Messung des Kontaktwinkels und der kritischen Oberflächenspannung fester Oberflächen

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CEN

European Committee for Standardization
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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 193 "Adhesives", the secretariat of which is held by AENOR.

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of an identical text or by endorsement, at the latest by April 1998, and conflicting national standards shall be withdrawn at the latest by April 1998.

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 the determination of the ability of an adhesive to "wet" a solid surface by measuring the contact angle and determining the critical surface tension of wettability. It allows the prediction of what adhesive will wet which adherend. It may be used to characterize surfaces after priming, coating and bonding.

NOTE 1: In general the contact angle takes, in dependence on the proceeding motion of the borderline of the liquid (i.e. on the mode of application), a value between two borderline values, the advancing angle (e.g. after an extension of a drop) and the receding angle (e.g. after a reduction of a drop). Only if this difference between both, termed hysteresis of contact angle, is negligible, the contact angle expresses the critical surface tension defined in thermodynamics as a substrate-specific characteristic value. Normally, the hysteresis will not be negligible when the rugosities are above $0,5\text{ }\mu\text{m}$ and when the heterogeneous phase is not smaller than $0,1\text{ }\mu\text{m}$. The shape of the rugosity is essential for the hysteresis.

NOTE 2: For a comparison of wetting behaviour, the advancing angle should always be measured here.

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 923 Adhesives - Terms and definitions

3 Definitions

For the purposes of this European Standard, the definitions in accordance with EN 923 and the following definitions apply:

3.1 wettability: Interface tensions of the components assuming a thermodynamic equilibrium and a negligible hysteresis of the contact angle. This is based on the adsorption theory.

3.2 surface tension: The numeric value of **surface tension** is equal to the specific energy of the interfaces or surfaces, respectively.

3.3 contact angle: When a liquid comes into contact with a solid surface, the liquid shows a typical drop shape. This characteristic feature of the drop is the angle the edge makes as it meets the surface. This angle is known as "**contact angle**".