



BSI Standards Publication

Adhesives - Wettability - Determination by measurement of contact angle and surface free energy of solid surface

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The UK participation in its preparation was entrusted to Technical Committee PRI/52, Adhesives.

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

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English Version

Adhesives - Wettability - Determination by measurement of contact angle and surface free energy of solid surface

Adhésifs - Mouillabilité - Détermination par mesurage de l'angle de contact et de l'énergie superficielle libre de la surface solide

Klebstoffe - Benetzbarkeit - Bestimmung durch Messung des Kontaktwinkels und der freien Oberflächenenergie fester Oberflächen

This European Standard was approved by CEN on 24 November 2012.

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Foreword

This document (EN 828:2013) 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of an identical text or by endorsement, at the latest by July 2013, and conflicting national standards shall be withdrawn at the latest by July 2013.

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 828:1997.

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1 Scope

This European Standard specifies a method for the determination of the surface free energy of a solid surface by measuring the contact angle of a liquid wetting the solid surface. It allows the prediction of the ability of a particular adhesive to wet a particular adherend. It can be used to characterise surfaces intended for pre-treatment, coating or bonding.

NOTE 1 In order to determine the surface free energy, the method of measuring the static contact angle is used in combination with a statistical interpretation.

NOTE 2 The measurement results are influenced by mechanical surface roughness and chemical homogeneity.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 923:2005+A1:2008, *Adhesives — Terms and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 923:2005+A1:2008 and the following apply.

3.1 triple point

point where the solid, the liquid and the gas phases coincide with each other

Note 1 to entry: The triple point can be identified in the silhouette of a liquid drop situated on a test piece, at the intersection of the drop's contour line with the test piece surface.

3.2 baseline

in the case of plane test pieces, a straight line going through the two triple points

3.3 contact angle θ

angle to the baseline, formed by a tangent to the drop contour going through one of the triple points (see Figure 1)