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NSAI Standards

Irish Standard
I.S. EN ISO 29022:2013

Dentistry - Adhesion - Notched-edge shear bond strength test (ISO 29022:2013)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 29022

June 2013

ICS 11.060.10

English Version

Dentistry - Adhesion - Notched-edge shear bond strength test (ISO 29022:2013)

Médecine bucco-dentaire - Adhérence - Essai de résistance au cisaillement sur échantillons à bord entaillé (ISO 29022:2013)

Zahnheilkunde - Adhäsion - Verbundprüfung der Abscherfestigkeit mit ausgesparter Klinge (ISO 29022:2013)

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Foreword

This document (EN ISO 29022:2013) has been prepared by Technical Committee ISO/TC 106 “Dentistry” in collaboration with Technical Committee CEN/TC 55 “Dentistry” the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by December 2013, and conflicting national standards shall be withdrawn at the latest by December 2013.

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INTERNATIONAL STANDARD

ISO 29022

First edition
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Dentistry — Adhesion — Notched-edge shear bond strength test

Médecine bucco-dentaire — Adhérence — Essai de résistance au cisaillement sur échantillons à bord entaillé

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Foreword

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The main task of technical committees is to prepare International Standards. 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.

ISO 29022 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 1, *Filling and restorative materials*.

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Introduction

The International Organization for Standardization (ISO) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning testing shear bond strength.

ISO takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has ensured ISO that he/she is willing to negotiate licenses under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with ISO. Information may be obtained from:

Neil T. Jessop, Ultradent Products, Inc., 505 West 10200 South, South Jordan, Utah 84095-3942, USA.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. ISO shall not be held responsible for identifying any or all such patent rights.

The purpose of this International Standard is to establish a simple and easy to use method for documenting a claim that a material adheres to tooth substance. While the method described in this International Standard has been used for comparing dental adhesive materials, users of this International Standard should evaluate usefulness of this method for their particular application(s). There is a variety of other dental adhesion test methods that may also be suitable or preferable, depending on the objective (e.g. academic research).

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Dentistry — Adhesion — Notched-edge shear bond strength test

1 Scope

This International Standard specifies a shear test method used to determine the adhesive bond strength between direct dental restorative materials and tooth structure, e.g. dentine or enamel. The method as described is principally intended for dental adhesives. The method includes substrate selection, storage and handling of tooth structure, as well as the procedure for testing.

NOTE 1 Testing adhesion to tooth structure is technique sensitive and experience with the test method is required.

NOTE 2 With modification, it may be possible to use this method for adhesive restorative materials (e.g. glass-ionomer materials).

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.

ISO 1942, *Dentistry — Vocabulary*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 6344–1, *Coated abrasives — Grain size analysis — Part 1: Grain size distribution test*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1942 and the following apply.

3.1
bond strength
force per unit area required to break a bonded assembly with failure occurring in or near the adhesive/adherend interface

3.2
direct dental restorative material
material used to restore a tooth that is placed in the plastic or unset state and sets intraorally when used clinically

3.3
substrate
material upon the surface of which an adhesive is spread for any purpose, such as bonding or coating

4 Tooth substrate and storage

4.1 General

Use bovine incisors or human erupted permanent third molars for the measurement of bond strength. Record the type of substrate used.

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