

Liimid. Meetodid konstruktsiooniliimide väsimusomaduste katsetamiseks tõmbenihkel

Adhesives - Test methods for fatigue properties of
structural adhesives in tensile shear

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 9664:2000 sisaldab Euroopa standardi EN ISO 9664:1995 ingliskeelset teksti. Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 9664:2000 consists of the English text of the European standard EN ISO 9664:1995. This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: See standard määrab kindlaks meetodi, hindamaks liimide väsimustugevust tõmbenihkel, kasutades standardseid teimikehi spetsiaalsetel tingimustel, eesmärgiga iseloomustada konstruktsiooniliimi antud metallilisel substraadil. Väsimusomadused on teimikeha geomeetria funktsioonid. Tulemused ei sõltu liimi iseloomulikest omadustest ega ole kasutatavad projekteerimisel.	Scope:
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ICS 83.180

Võtmesõnad: kindlaksmääramine, liimid, nihketugevus, plastid, teimid, väsimusteimid

ICS 83.180

Descriptors: Adhesives, testing, shear strength, fatigue.

English version

Adhesives

Test methods for fatigue properties of structural adhesives
in tensile shear
(ISO 9664:1993)

Adhésifs; méthodes d'essai de tenue à la
fatigue d'adhésifs structuraux en trac-
tion-cisaillement (ISO 9664:1993)

Klebstoffe; Verfahren zur Prüfung der
Ermüdungseigenschaften von Struktur-
klebungen bei Zugscherbeanspruchung
(ISO 9664:1993)

This European Standard was approved by CEN on 1995-05-11 and is identical to the ISO Standard as referred to.

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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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

Foreword

International Standard

ISO 9664:1993 Adhesives; test methods for fatigue properties of structural adhesives in tensile shear, which was prepared by ISO/TC 61 'Plastics' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 193 'Adhesives' as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by December 1995 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom.

Endorsement notice

The text of the International Standard ISO 9664:1993 was approved by CEN as a European Standard without any modification.

1 Scope

This International Standard specifies a method for estimating the fatigue strength of adhesives in shear by tension loading, using standardized specimens under specified conditions, with the aim of characterizing structural adhesives on a given metallic substrate.

The fatigue properties are a function of the specimen geometry. The results do not correspond to intrinsic properties of the adhesive and cannot be used for design purposes.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 291:1977, *Plastics — Standard atmospheres for conditioning and testing*.

ISO 4587:1979, *Adhesives — Determination of tensile lap-shear strength of high strength adhesive bonds*.

ISO 4588:1989, *Adhesives — Preparation of metal surfaces for adhesive bonding*.

3 Definitions and symbols

For the purposes of this International Standard, the following definitions and symbols apply.

3.1 shear stress (τ): Stress determined by dividing the force by the bonded surface area.

It is expressed in megapascals (MPa).

3.2 static shear strength (τ_R): Average static shear stress at rupture as determined by ISO 4587.

It is expressed in megapascals (MPa).

3.3 stress cycle: Smallest part of the stress/time function which is repeated at regular intervals.

It is of sinusoidal form (see figure 1) with undulating shear.

Cyclic stress may be considered to be the superposition of an alternating stress on a static stress which is the mean stress.

3.3.1 maximum stress ($\tau_{\max}$): Greatest algebraic value reached at regular intervals by the stress.

It is expressed in megapascals (MPa).

3.3.2 minimum stress ($\tau_{\min}$): Smallest algebraic value reached at regular intervals by the stress.

This stress shall always be positive and is expressed in megapascals (MPa).

3.3.3 mean stress (τ_m): Algebraic mean of the maximum and minimum stresses.

$$\tau_m = \frac{\tau_{\max} + \tau_{\min}}{2}$$

It is expressed in megapascals (MPa).