Dentistry - Elastomeric auxiliaries for use in orthodontics (ISO 21606:2022)



EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 21606:2022 sisaldab Euroopa standardi EN ISO 21606:2022 ingliskeelset teksti.

This Estonian standard EVS-EN ISO 21606:2022 consists of the English text of the European standard EN ISO 21606:2022.

Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.

This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.

Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 31.08.2022.

Date of Availability of the European standard is 31.08.2022.

Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.

The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile <u>standardiosakond@evs.ee</u>.

ICS 11.060.10

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis-ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis-ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN ISO 21606

NORME EUROPÉENNE EUROPÄISCHE NORM

August 2022

ICS 11.060.10

Supersedes EN ISO 21606:2007

English Version

Dentistry - Elastomeric auxiliaries for use in orthodontics (ISO 21606:2022)

Médecine bucco-dentaire - Auxiliaires élastomériques utilisés en orthodontie (ISO 21606:2022)

Zahnheilkunde - Elastomeres Zubehör für die Kieferorthopädie (ISO 21606:2022)

This European Standard was approved by CEN on 30 July 2022.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN ISO 21606:2022) 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 February 2023, and conflicting national standards shall be withdrawn at the latest by February 2023.

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

This document supersedes EN ISO 21606:2007

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 21606:2022 has been approved by CEN as EN ISO 21606:2022 without any modification.

Co	ntent	ts	Page
Fore	eword		iv
Intr	oductio	ion	v
1	Scor	pe	1
2	Nori	mative references	1
3		ms and definitions	
4		juirements	
	4.1	General	
	4.2		
	4.3	Mechanical properties	
		4.3.1 Initial extension force	
		4.3.2 24 h residual force	
_	Т4		
5	5.1	t methods Sampling	
	5.2	Ambient conditions	
	5.3	Dimensions	4
		5.3.1 Apparatus	
		5.3.2 Procedure	
	5.4	Initial extension force, F_0	
		5.4.1 Apparatus 5.4.2 Procedure	
	5.5	24 h residual force, F_{24}	
	0.0	5.5.1 Apparatus	
		5.5.2 Procedure	
	5.6	Ultimate extension, A	6
		5.6.1 Apparatus 5.6.2 Procedure	6
		5.6.2 Procedure	
	5.7	Treatment of results	
6	Mar	rking, labelling and packaging	7
	6.1	General requirements	
	6.2	Packaging and labelling	7
Bibl	iograp	ohy	8
		(A)	
			(),

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 1, *Filling and restorative materials*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 55, *Dentistry*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 21606:2007), which has been technically revised.

The main changes compared to the previous edition are as follows:

- subclause <u>5.1</u> has been clarified to type test with specification of specimen test quantity;
- subclause <u>5.5.2</u> has been clarified with the addition of the word "quickly" to the transfer of specimens from support plate to tensile tester adapters.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document has been developed as a result of the difficulty often encountered by clinicians in making meaningful comparisons between elastomeric auxiliaries using the information currently available from manufacturers and suppliers.

NOTE Auxiliaries include orthodontic elastics, orthodontic elastomeric chains, orthodontic thread, orthodontic elastomeric ligatures and orthodontic elastomeric separators.

Specific qualitative and quantitative requirements for freedom from biological hazards are not included is 1 and 100 months of the control o in this document, but it is recommended that in assessing possible biological hazards reference should be made to ISO 10993-1 and ISO 7405.

Dentistry — Elastomeric auxiliaries for use in orthodontics

1 Scope

This document specifies the requirements and their test methods applicable to all elastomeric auxiliaries used for orthodontics both inside and outside the mouth, in conjunction with fixed and removable appliances.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3696:1987, Water for analytical laboratory use — Specification and test methods

ISO 1942, Dentistry — Vocabulary

ISO 8601-1, Date and time — Representations for information interchange — Part 1: Basic rules

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at https://www.iso.org/obp
- IEC Electropedia: available at https://www.electropedia.org/

3.1

elastomeric auxiliary

device with elastomeric properties used for transmission of forces including orthodontic *elastics* (3.2), orthodontic *elastomeric chains* (3.4), orthodontic threads, orthodontic *elastomeric ligatures* (3.5) and orthodontic *elastomeric separators* (3.6)

3.2

elastic

intra-oral and extra-oral elastomeric ring used to apply forces to orthodontic devices

3.3

elastomeric thread

elastomeric strand (that can be hollow) of constant cross-section used to apply forces to orthodontic devices

3.4

elastomeric chain

interconnected elastomeric rings or a multi-perforated elastomeric band used to apply forces to orthodontic devices

3.5

elastomeric ligature

elastomeric ring used to retain wires to orthodontic attachments