

Institut luxembourgeois de la normalisation de l'accréditation, de la sécurité et qualité des produits et services

**ILNAS-EN ISO 20749:2023** 

Dentistry - Pre-capsulated dental amalgam (ISO 20749:2023)

Médecine bucco-dentaire - Amalgame dentaire en capsules prédosées (ISO 20749:2023)

07/2023

Zahnheilkunde - Dentalamalgam in Kapseln (ISO 20749:2023)

#### **National Foreword**

This European Standard EN ISO 20749:2023 was adopted as Luxembourgish Standard ILNAS-EN ISO 20749:2023.

Every interested party, which is member of an organization based in Luxembourg, can participate for FREE in the development of Luxembourgish (ILNAS), European (CEN, CENELEC) and International (ISO, IEC) standards:

- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

https://portail-qualite.public.lu/fr/normes-normalisation/participer-normalisation.html

#### THIS PUBLICATION IS COPYRIGHT PROTECTED

Nothing from this publication may be reproduced or utilized in any form or by any mean - electronic, mechanical, photocopying or any other data carries without prior permission!

### EUROPEAN STANDARD ILNAS-EN ISO 20749:20 EN ISO 20749

### NORME EUROPÉENNE

#### **EUROPÄISCHE NORM**

July 2023

ICS 11.060.10

Supersedes EN ISO 20749:2018

**English Version** 

## Dentistry - Pre-capsulated dental amalgam (ISO 20749:2023)

Médecine bucco-dentaire - Amalgame dentaire en capsules prédosées (ISO 20749:2023)

Zahnheilkunde - Dentalamalgam in Kapseln (ISO 20749:2023)

This European Standard was approved by CEN on 13 March 2023.

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

Contents	Page
European foreword	3

#### **European foreword**

This document (EN ISO 20749:2023) 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 January 2024, and conflicting national standards shall be withdrawn at the latest by January 2024.

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 20749:2018.

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 20749:2023 has been approved by CEN as EN ISO 20749:2023 without any modification.

# IINTERNATIONAL STANDARD

ISO 20749

Second edition 2023-06

## Dentistry — Pre-capsulated dental amalgam

Médecine bucco-dentaire — Amalgame dentaire en capsules prédosées





#### **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2023

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

<b>Contents</b> Pag			Page	
Fore	word		v	
Intro	oductio	011	vii	
_		De		
1	-			
2	Norr	native references	1	
3	Tern	Terms and definitions		
4	Rea	uirements	3	
	4.1	Package and capsule contamination		
	4.2	Chemical composition and purity of the dental amalgam alloyallow	3	
	4.3	Large particles in the dental amalgam alloy powder	3	
	4.4	Loss of mass from the capsule during mixing	3	
	4.5	Yield of dental amalgam from the capsule		
	4.6 4.7	Consistency of the dental amalgam from capsule to capsule		
	4.7	4.7.1 General		
		4.7.2 Creep		
		4.7.3 Dimensional changes during hardening		
		4.7.4 Compressive fracture stress at 2 h		
		4.7.5 Compressive fracture stress at 24 h		
	4.8	Appearance of mixed dental amalgam before setting		
	4.9	Corrosion resistance of the dental amalgam		
	4.10	Length tolerance for the capsule		
5	Sam	pling	5	
6	Test	methods	5	
•	6.1	Package and capsule contamination		
		6.1.1 Principle		
		6.1.2 Test sample		
		6.1.3 Apparatus		
		6.1.4 Procedure		
		6.1.5 Treatment of the results		
	6.2	6.1.6 Report Chemical composition and purity of the dental amalgam alloyallow		
	0.2	6.2.1 Principle		
		6.2.2 Test sample		
		6.2.3 Apparatus		
		6.2.4 Procedure		
		6.2.5 Treatment of the results	7	
		6.2.6 Report		
	6.3	Large particles in the dental amalgam alloy powder		
		6.3.1 Principle		
		6.3.2 Test sample 6.3.3 Apparatus		
		6.3.4 Procedure		
		6.3.5 Treatment of the results		
		6.3.6 Report		
	6.4	Loss of mass from the capsule during mixing		
		6.4.1 Principle		
		6.4.2 Test sample		
		6.4.3 Apparatus		
		6.4.4 Test procedure		
		6.4.5 Treatment of the results 6.4.6 Report		
	6.5	Yield of amalgam from the capsule		
	0.5	ricia or amaigam irom the captaic	+ I	