

# ISO 24234:2021 (E)

## Dentistry — Dental amalgam

---

### Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Requirements
4.1	Chemical composition and purity of the dental amalgam alloy
4.2	Purity of the dental mercury
4.3	Foreign material and large particles in the dental amalgam alloy powder
4.4	Accuracy and variability of pre-proportioned masses
4.4.1	For dental mercury sachets
4.4.2	For dental amalgam alloy tablets
4.5	Properties of the dental amalgam
4.5.1	General
4.5.2	Creep
4.5.3	Dimensional changes during hardening
4.5.4	Compressive fracture stress at 2 h
4.5.5	Compressive fracture stress at 24 h
4.6	Appearance of the mixed dental amalgam before setting
4.7	Corrosion resistance of the dental amalgam
5	Sampling
6	Test methods
6.1	Chemical composition and purity of the dental amalgam alloy
6.1.1	Principle
6.1.2	Test sample
6.1.3	Apparatus
6.1.4	Procedure
6.1.5	Expression of results
6.1.6	Report
6.1.6.1	Test report
6.1.6.2	Conformity
6.2	Purity of the dental mercury
6.2.1	Principle
6.2.2	Sample
6.2.3	Apparatus
6.2.3.1	Recognized, instrumented analytical instrument, with sensitivity adequate to determine elements present as impurities in dental mercury, in compliance with 4.2.
6.2.3.2	Surgical scalpel.
6.2.3.3	Watch glass.
6.2.4	Procedure
6.2.5	Expression of results
6.2.6	Report
6.2.6.1	Test report
6.2.6.2	Conformity
6.3	Foreign material and large particles in the dental amalgam alloy powder
6.3.1	Principle
6.3.2	Test sample
6.3.3	Apparatus

- 6.3.4 Test procedure
- 6.3.5 Expression of the results
- 6.3.6 Report
  - 6.3.6.1 Test report
  - 6.3.6.2 Conformity
- 6.4 Determination of the accuracy and variability of pre-proportioned masses
  - 6.4.1 Principle
  - 6.4.2 Test sample
  - 6.4.3 Apparatus
  - 6.4.4 Test procedure
    - 6.4.4.1 Dental mercury sachets
    - 6.4.4.2 Dental amalgam alloy tablets
  - 6.4.5 Treatment of data
  - 6.4.6 Report
    - 6.4.6.1 Test report
    - 6.4.6.2 Conformity
- 6.5 Properties of the dental amalgam
  - 6.5.1 Principle
  - 6.5.2 Mould for the preparation of test-pieces for determining creep, dimensional change during hardening and compressive fracture stress
    - 6.5.2.1 General
    - 6.5.2.2 Materials and working surface finishing for construction of the apparatus
    - 6.5.2.3 Assembly of the apparatus
  - 6.5.3 Sample
  - 6.5.4 Test-piece production
    - 6.5.4.1 Temperature
    - 6.5.4.2 Apparatus
    - 6.5.4.3 Mixing
    - 6.5.4.4 Packing
  - 6.5.5 Procedure for the determination of creep
    - 6.5.5.1 Apparatus
    - 6.5.5.2 Test-pieces
    - 6.5.5.3 Test procedure
    - 6.5.5.4 Expression of the results
    - 6.5.5.5 Report
      - 6.5.5.5.1 Test report
      - 6.5.5.5.2 Conformity
  - 6.5.6 Procedure for the determination of dimensional change during hardening
    - 6.5.6.1 Apparatus
    - 6.5.6.2 Test-pieces
    - 6.5.6.3 Test procedure
    - 6.5.6.4 Expression of the results
    - 6.5.6.5 Report
      - 6.5.6.5.1 Test report
      - 6.5.6.5.2 Conformity
  - 6.5.7 Procedure for the determination of compressive fracture stress
    - 6.5.7.1 Apparatus
    - 6.5.7.2 Test-pieces
    - 6.5.7.3 Test procedure
      - 6.5.7.3.1 General
      - 6.5.7.3.2 Compressive fracture stress at 2 h
      - 6.5.7.3.3 Compressive fracture stress at 24 h
    - 6.5.7.4 Expression of the results
    - 6.5.7.5 Report
      - 6.5.7.5.1 Test report
      - 6.5.7.5.2 Conformity
- 6.6 Appearance of the mixed dental amalgam before setting
  - 6.6.1 Principle
  - 6.6.2 Apparatus
  - 6.6.3 Test procedure
  - 6.6.4 Expression of the results
  - 6.6.5 Report
    - 6.6.5.1 Test report
    - 6.6.5.2 Conformity

- 6.7 Corrosion resistance of the dental amalgam
  - 6.7.1 Principle
  - 6.7.2 Sampling
  - 6.7.3 Test procedure
  - 6.7.4 Treatment of results
  - 6.7.5 Report
    - 6.7.5.1 Test report
    - 6.7.5.2 Conformity
- 7 Report
- 8 Marking and labelling
  - 8.1 Information
    - 8.1.1 General
    - 8.1.2 Dental amalgam alloy products
    - 8.1.3 Dental mercury
  - 8.2 Labelling for a package containing dental mercury
  - 8.3 Labelling of the outer surface of package or container used for shipping dental mercury
  - 8.4 Manufacturer's instructions
  - 8.5 Precautionary notes

Page count: 27