

ISO 20749:2017-03 (E)

Dentistry - Pre-capsulated dental amalgam

Contents		Page
Foreword	v	
Introduction	vi	
1 Scope	1	
2 Normative references	1	
3 Terms and definitions	2	
4 Requirements	3	
4.1 Package and capsule contamination	3	
4.2 Chemical composition and purity of the dental amalgam alloy	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 The yield of amalgam from the capsule	3	
4.6 Consistency of the dental amalgam from capsule to capsule	4	
4.7 Properties of the dental amalgam	4	
4.7.1 Creep	4	
4.7.2 Dimensional changes during hardening	4	
4.7.3 Compressive strength at 1 h	4	
4.7.4 Compressive strength at 24 h	4	
4.8 Appearance of the mixed dental amalgam before setting	4	
4.9 Length tolerance for the capsule	4	
5 Sampling	5	
6 Test methods	5	
6.1 Package and capsule contamination	5	
6.1.1 Principle	5	
6.1.2 Test sample	5	
6.1.3 Apparatus	5	
6.1.4 Procedure	5	
6.1.5 Expression of the results	5	
6.1.6 Report	5	
6.2 Chemical composition and purity of the dental amalgam alloy	5	
6.2.1 Principle	5	
6.2.2 Test sample	6	
6.2.3 Apparatus	6	
6.2.4 Procedure	6	
6.2.5 Expression of results	6	
6.2.6 Report	6	
6.3 Large particles in the dental amalgam alloy powder	6	
6.3.1 Principle	6	
6.3.2 Test sample	7	
6.3.3 Apparatus	7	
6.3.4 Test procedure	7	
6.3.5 Expression of the results	7	
6.3.6 Report	7	
6.4 Loss of mass from the capsule during mixing	8	
6.4.1 Principle	8	
6.4.2 Test sample	8	

6.4.3	Apparatus	8
6.4.4	Test procedure	8
6.4.5	Expression of the results	9
6.4.6	Report	9
6.5	Yield of amalgam from the capsule	9
6.5.1	Principle	9
6.5.2	Test sample	9
6.5.3	Apparatus	9
6.5.4	Test procedure	10
6.5.5	Expression of the results	10
6.5.6	Report	10
6.6	Consistency of the dental amalgam from capsule to capsule	10
6.6.1	Principle	10
6.6.2	Test sample	11
6.6.3	Apparatus	11
6.6.4	Test-piece production	12
6.6.5	Microhardness measurement	13
6.6.6	Expression of the results	13
6.6.7	Report	14
6.7	Properties of the dental amalgam	14
6.7.1	Principle	14
6.7.2	Sample	14
6.7.3	Mould for the preparation of cylindrical test-pieces for determining creep, dimensional change during hardening and compressive strength	14
6.7.4	Preparation of cylindrical test-pieces to determine compliance with the requirements for creep, dimensional change during hardening and compressive strength	18
6.7.5	Determination of creep	20
6.7.6	Determination of dimensional change during hardening	21
6.7.7	Determination of compressive strength	22
6.8	Appearance of the mixed dental amalgam before setting	23
6.8.1	Principle	23
6.8.2	Apparatus	24
6.8.3	Test procedure	24
6.8.4	Expression of the results	24
6.8.5	Report	25
6.9	Length tolerance for the capsule	25
6.9.1	Principle	25
6.9.2	Test sample	25
6.9.3	Apparatus	25
6.9.4	Test procedure	25
6.9.5	Expression of the results	25
6.9.6	Report	25
7	Marking, labelling and packaging	26
7.1	Packaging	26
7.2	Marking and labelling	26
7.2.1	Information	26
7.2.2	Labelling of a package for dental mercury	26
7.2.3	Labelling of the outer surface of package or container used for shipping	27
7.3	Manufacturer's instructions	27
7.3.1	General instructions	27
7.3.2	Precautionary notes	27
	Bibliography	28