American National Standard/American Dental Association
Specification No. 108

Amalgam Separators

FOR AMALGAM SEPARATORS

The Council on Scientific Affairs of the American Dental Association has approved American Dental Association Specification No. 108 for Amalgam Separators. This and other specifications for dental materials, instruments and equipment are being formulated by working groups of the ADA Standards Committee on Dental Products (formerly Accredited Standards Committee MD156 for Dental Materials, Instruments and Equipment). The Committee has representation from all interests in the United States in the standardization of materials, instruments and equipment in dentistry. The Council has adopted the specifications, showing professional recognition of their usefulness in dentistry, and has forwarded them to the American National Standards Institute with a recommendation that the specifications be approved as American National Standards. The American National Standards Institute granted approval of ADA Specification No. 108 as an American National Standard on February 27, 2009.

The Council thanks the members of ADA SCDP Working Group No. 6.57 on Amalgam Separators. The chairman of SCDP Working Group 6.57 is Frederick Eichmiller, Stevens Point, WI.
SEPARATORS

FOREWORD
(This Foreword does not form a part ANSI/ADA Specification No. 108 for Amalgam Separators).

This specification is an identical adoption of ISO 11143:2008, Dentistry – Amalgam separators. ADA SCDP Working Group No. 6.57 on Amalgam Separators examined the specification and found it acceptable for identical adoption as ANSI/ADA Specification No. 108.

Amalgam separators are items of dental equipment designed to retain amalgam particles carried by the waste water from the dental treatment center, so as to reduce the number of amalgam particles and therefore the mass of amalgam entering the sewage system.

Separation of the amalgam particles may be effected by the use of a centrifuge, sedimentation, filtration, or a combination of any of these methods.

It is recognized that the test sample used to assess the efficiency of an amalgam separator should have a particle size distribution which reflects the actual situation in dental treatment centers. The test sample used in this specification is based on investigations that have been carried out to determine the particle size distribution of amalgam particles in waste water from dental treatment centers (see Annex D).

The principle of the test is that the effluent water from the amalgam separator is collected in a vessel. The collected effluent water, containing amalgam particles not retained by the amalgam separator, is filtered through a series of preweighed filters. The filters, with the amalgam particles collected on them, are dried to a constant weight in a desiccator at room temperature and the total mass of collected particles is measured to determine the collection efficiency.
1 SCOPE

This specification specifies requirements and test methods for amalgam separators used in connection with dental equipment in the dental treatment center. It specifies the efficiency of the amalgam separators in terms of the level of retention of amalgam based on a laboratory test and the test procedure for determining this efficiency. It also includes requirements for the safe functioning of the amalgam separator, for marking, and for instructions for use, operation and maintenance.

All tests described in this specification are type tests.

2 NORMATIVE REFERENCES

The following referenced documents are indispensable for the application 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 1942, Dentistry — Vocabulary

ISO 3585, Borosilicate glass 3.3 — Properties

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

ISO 9687, Dental equipment — Graphical symbols

ISO 24234:2004, Dentistry — Mercury and alloys for dental amalgam

IEC 60601-1:2005, Medical electrical equipment — Part 1: General requirements for basic safety and essential performance

IEC 61010-1:2001, Safety requirements for electrical equipment for measurement, control and laboratory use — Part 1: General requirements

(ISO standards for dentistry are available from the American Dental Association, Department of Standards, 211 E. Chicago Ave., Chicago, IL 60611 or www.adacatalog.org. Other ISO and IEC standards are available from the American National Standards Institute, 25 W. 43rd St., New York, NY 10036 or www.ansi.org).

3 TERMS AND DEFINITIONS

For the purposes of this document, the terms and definitions given in ISO 1942 and ISO 24234 and the following apply.

3.1 Amalgam separator — item of dental equipment designed to remove amalgam particles from the waste water from the dental treatment center, so as to reduce the number of amalgam particles and therefore the mass (amount) of amalgam entering the sewage system.

3.2 Collecting container — integrated part of the amalgam separator for retention of separated amalgam waste for the purpose of recovery.

3.3 Dental treatment center — combination of units consisting, as a minimum, of the dental unit and the dental chair combination, which enable the dentist to perform patient therapy.

3.4 Efficiency of amalgam separator — mass percentage of the specified test sample retained by the amalgam separator.