



American National Standard/  
American Dental Association  
Specification No. 78

# Dental Obturating Cones

Modified adoption of ISO 6877-1:1995 Dental  
obturating points



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**AMERICAN NATIONAL STANDARD/AMERICAN DENTAL ASSOCIATION  
SPECIFICATION NO. 78 FOR ENDODONTIC OBTURATING CONES**

American Dental Association Specification No. 78 for Endodontic Obturating Cones has been approved by the Council on Scientific Affairs of the American Dental Association. This and other specifications for dental materials, instruments and equipment are being formulated by working groups of the Accredited Standards Committee MD156 for Dental Materials, Instruments and Equipment. The Council acts as administrative sponsor of that committee, which 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. 78 as an American National Standard on March 23, 2000. This standard becomes effective March 23, 2001.

The Council thanks the working group members and the organizations with which they were affiliated at the time the specification was developed: Mr. Frank Lentine (Chairman), Lentine Enterprises, Ltd., Taylor, MI; Neill H. Luebke (Secretary) Brookfield, WI; Preston Blann, Defense Personnel Support Center, Philadelphia, PA; T. Chang, Block Drug Co., Jersey City, NJ; Richard Geary, American Dental Association, Chicago, IL; Max Gibbs, Sybron Corp., Leander, TX; Gerald Glickman, University of Texas, Houston, TX; Lonnie Graybill, Union Broach, York, PA; John Ingle, San Diego, CA; Max Lenz, Endodont Inc., Monrovia, CA; Lorie Linn, Dentsply Endodontics, Vancouver, WA; Herbert Schilder, Boston University Medical Center, Boston, MA; Brahma Sharma, Biotrol, Louisville, CO; Michael Sobotka, Charles B. Schwed Co., Kew Gardens, NY; Lars Spangberg, University of Connecticut, Farmington, CT; Timothy Svec, University of Texas, Houston, TX; and Harmeet Walia, University of Florida, Gainesville, FL.

## **AMERICAN NATIONAL STANDARD/AMERICAN DENTAL ASSOCIATION SPECIFICATION NO. 78 FOR ENDODONTIC OBTURATING CONES**

### **FOREWORD**

(This foreword does not form a part of the ANSI/ADA Specification 78 for Endodontic Obturating Cones)

A minor, but important, change found with this revision is the use of "cone" in the place of "point" when referring to the product identified in the document. The Contemporary Terminology for Endodontics published by the American Association of Endodontists identifies both gutta-percha point and gutta-percha cone in the listing of definitions. The working group ASC MD 156 concluded that the change to "cone" would resolve possible confusion between the product and the tip portion of the product.

This revision includes harmonization with the action of the ISO working group for Endodontic Materials by moving reference of biological aspects from the body of the document to the Introduction and elimination of the Type and Class distinctions. ANSI/ADA Specification No. 78, as revised, is in harmony with ISO 6877 except for the designation utilized for the various diameters. The ISO document specifies  $d_1$ ,  $d_2$ , and  $d_3$  while this specification specifies  $D_0$ ,  $D_3$ , and  $D_{16}$ . These subscripts represent the locations along the taper where the diameters are located and measured.

### **INTRODUCTION**

Specific qualitative and quantitative requirements for freedom from biological hazard are not included in this Specification but it is recommended that, in assessing possible biological or toxicological hazards, reference should be made to the relevant sections of American National Standards/American Dental Association Document No. 41 for Recommended Standard Practices for the Biological Evaluation of Dental Materials.

## AMERICAN NATIONAL STANDARD/AMERICAN DENTAL ASSOCIATION SPECIFICATION NO. 78 FOR ENDODONTIC OBTURATING CONES

### 1 SCOPE AND CLASSIFICATION

#### 1.1 Scope

This regional/national standard specifies the dimensions and requirements for prefabricated metallic or polymeric-based cones suitable for use in the obturation of a root canal system restoration. It also specifies numerical systems and color-coding system for designating sizes.

### 2 NORMATIVE REFERENCES

The following documents form a part of this specification.

#### 2.1 ISO 3665: 1976, Photography—Intra-oral Dental Radiographic Film—Specification

(Copies of ANSI and ISO specifications and documents may be obtained from the American National Standards Institute, 11 West 42nd St., New York, NY 10036).

#### 2.2 American Society for Testing and Material. ASTM Designation B209 Standard Specification for Aluminum-Alloy Sheet and Plate

### 3 DEFINITIONS

For the purposes of this specification, the following terms and definitions apply.

#### 3.1 Standardized Cone

Cones having uniform standardization taper of 0.02 throughout all the range of sizes available

#### 3.2 Taper Size Cone

Cones whose sizes are determined by the tip sizes and the tapers

#### 3.3 Cone

Complete prefabricated metallic or polymeric dental root canal obturating cone

#### 3.4 Tip

The narrow end of the cone

#### 3.5 Unit Pack

The smallest pack that is distributed and that may contain one or more sizes of cones

### 4 REQUIREMENTS

#### 4.1 Materials

**Metal cones.** Throughout their tapered length, the cones shall be smooth, uniform in composition, without surface pitting and free from inclusions or extraneous matter. Testing shall be carried out in accordance with Clause 5.2.

**Polymeric-based cones.** Throughout their tapered length, the cones shall appear uniform in composition and color, smooth, with a non-cracked surface and free from inclusions and extraneous matter. Testing shall be carried out in accordance with Clause 5.2.