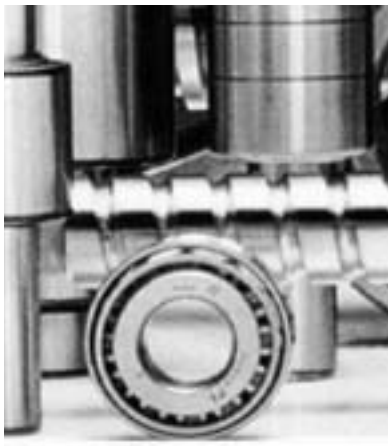

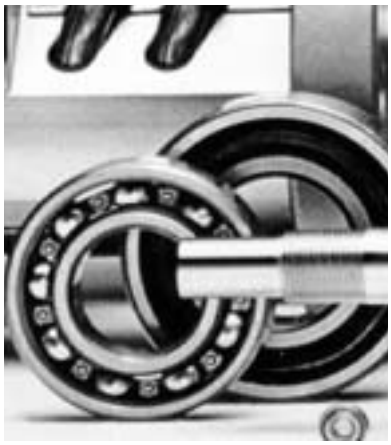

AMERICAN NATIONAL STANDARD

ABMA Standard

METAL BALLS FOR UNGROUND BEARINGS AND OTHER USES

Sponsor
The American Bearing
Manufacturers Association, Inc.

Approved March 15, 2001
American National Standards Institute

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METAL BALLS FOR UNGROUND BEARINGS AND OTHER USES

Secretariat
The American Bearing Manufacturers Association, Inc.

Approved March 15, 2001
American National Standards Institute, Inc.

FOREWORD

(This foreword is not a part of American National Standard ANSI/ABMA Std. 10A for Metal Balls, Unground Bearings and Other Uses.)

This standard is new and defines Metal Balls for Unground bearings and other uses. It covers the characteristics of nomenclature, normative references, measurement, material, and hardness.

This standard establishes dimensions and physical properties of balls for use with unground races or other uses. The sizes and properties are generally in/or used in production in the USA. All dimensions are given in both the inch system of measure and the equivalent metric value, using th4 System International (S. I.) as a convenience for users of this standard.

Suggestions for the improvement of this standard gained through experience with its use will be welcomed. These should be sent to the American National Standards Institute, Inc., 25 West 43rd Street, New York, NY 10036.

The officers of Accredited Standards Committee B3 of the American National Standards Institute and the organizations represented at the time this standard was submitted are as follows:

W. G. Looft, Chairman
James Doebereiner, Secretary

American Bearing Manufacturers Association
Hydraulic Institute
Association for Manufacturing Technology
Society of Tribologists and Lubrication Engineers
U. S. Department of Defense, DISC
U. S. Department of the Navy

Metal Balls for Unground Bearings and Other Uses

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METAL BALLS FOR UNGROUND BEARINGS AND OTHER USES

1. Scope. This standard establishes the requirements for metal balls for unground rolling contact bearings and other uses. The requirements for finished balls for rolling contact bearings are contained in ANSI/ABMA/ISO 3290.

2. Normative references. The following standards contain provisions, which through reference in this text constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards below.

ANSI B89.3.1-1972 (R1988), *Out-of Roundness, Measurement of*
ANSI/ASME B46.1-1995, *Surface Texture (Surface Roughness, Waviness and Lay)*
ANSI/ASQC Z1.4-1993, *Sampling Procedures and Tables for Inspection by Attributes*
ASTM E18-98, *Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials*
ASTM E140-97e1, *Hardness Conversion Tables for Metals (Relationship Between Brinell Hardness, Vickers Hardness, Rockwell Hardness, Rockwell Superficial Hardness, Knoop Hardness and Scleroscope Hardness)*
ASTM E384-89 (1997), *Standard Test Method for Microhardness of Materials*
Federal Specification GGG-G-15C (March 20, 1975), *Gage Blocks and Accessories (Inch and Metric)*
ISO 3290:1998, *Rolling bearings - Balls - Dimensions and Hardness*
ISO 4288:1996, *Geometrical Product Specifications (GPS) – Surface texture: Profile method – Rules and procedures for the assessment of surface texture*
ISO 4291:1985, *Methods for the assessment of departure from roundness – Measurement of variations in radius*
ISO 6508-1:1999, *Metallic materials – Hardness test – Rockwell test (scales A – B – C – D – E – F - G – H – K)*

3. Definitions and symbols. The following definitions and symbols will apply to terms used in this standard.

3.1 Nominal ball diameter, D_w. The diameter value that is used for the purpose of general identification of a ball size; e.g., ¼ inch, 6 mm, etc.