Designation: F2246 – 06$^{\varepsilon 1}$

# StandardSpecification for Bearing, Roller, Needle: Thick Outer Ring With Rollers and Cage[1]

This standard is issued under the fixed designation F2246; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

*This standard has been approved for use by agencies of the Department of Defense.*

$\varepsilon^1$ NOTE—Note 1 and footnote 5 were editorially corrected in September 2007.

## 1. Scope

1.1 This specification covers needle roller bearings having thick outer rings, with rollers and cages.

1.2 The bearings being specified are intended to be used with hardened shafts (HRC58-65; see Test Methods E18). For use with unhardened shafts, bearings should be used in conjunction with inner bearing ring MS51962 as specified in Specification F2431 and shown as MS500072 bearing assemblies in Specification F2430.

1.3 The use of recycled materials that meet the requirements of the applicable material specification without jeopardizing the intended use of the item is encouraged.

1.4 Bearings designed to this specification are intended for use in applications requiring high radial load with minimal angular shaft misalignment.

1.5 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are provided for information only.

NOTE 1—This specification contains many of the requirements of MS51961 which was originally developed by the Department of Defense and maintained by the Defense Supply Center Richmond.

## 2. Referenced Documents

2.1 *ASTM Standards:*[2]

E18 Test Methods for Rockwell Hardness of Metallic Materials

F2430 Specification for Bearing, Roller, Needle: Assembly (Thick Outer Race)

F2431 Specification for Ring Bearing, Inner: For Needle Roller Bearing with Thick Outer Ring

2.2 *ANSI Standard:*[3]

ANSI B46.1 Surface Texture (Surface Roughness, Waviness, and Lay)

2.3 *SAE Standards:*[4]

SAE J-404 Chemical Compositions of SAE Alloy Steels

SAE AMS-STD-66 Steel: Chemical Composition and Hardenability

2.4 *Military Standards:*[5]

MIL-STD-130 Identification Marking of U.S. Military Property

MS500072 Bearing, Roller, Needle: Assembly (Thick Outer Race)

MS51962 Ring Bearing, Inner: For Needle Roller Bearing with Thick Outer Ring

2.5 *American Bearing Manufacturers Association Standard:*[6]

ABMA 18.1 Needle Roller Bearings Radial, Inch Design

2.6 *International Organization for Standardization Standards:*[7]

ISO 492 Rolling Bearings—Radial Bearings—Tolerances

ISO 3096 Rolling Bearings—Needle Rollers—Dimensions and Tolerances

ISO 5593 Rolling Bearings—Vocabulary

## 3. Terminology

3.1 *Definitions*—For definitions of terms used in this specification, refer to ISO 5593, Rolling Bearings—Vocabulary.

[1] This specification is under the jurisdiction of ASTM Committee F34 on Rolling Element Bearings and is the direct responsibility of Subcommittee F34.04 on Automotive/Industrial Bearing.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

[4] Available from Society of Automotive Engineers (SAE), 400 Commonwealth Dr., Warrendale, PA 15096-0001.

[5] Available on the DoD's ASSIST internet site located at: http://assist.daps.dla.mil/online/start/.

[6] Available from Techstreet, 1327 Jones Drive, Ann Arbor, MI 48105.

[7] Available from ANSI Washington, D.C. Headquarters, 1819 L Street, NW, 6th Floor, Washington, DC, 20036

3.2 *Definitions of Terms Specific to This Standard:*