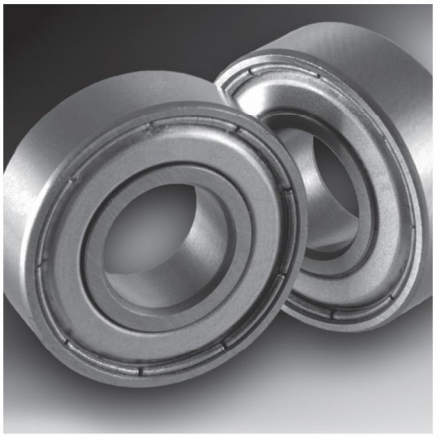
ANSI B3.2 1992 (Reaffirmed 2008)

AMERICAN NATIONAL STANDARD

Accredited Standards Committee B3



Rolling Element Bearings - Aircraft Engine, Engine Gearbox, and Accessory Applications - Surface Visual Inspection

Secretariat

American Bearing Manufacturers Association

Reaffirmed December 17, 2008

American Bearing Manufacturers Association ABMA

ABMA
2025 M Street, NW
Suite 800
Washington, DC 20036
Ph: 202-367-1155
Fax: 202-367-2155
E-mail: info@americanbearings.org
www.americanbearings.org

American National Standard

Approval of an American National Standard requires verification by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution.

The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he has approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

The American National Standards Institute does not develop standards and will in no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretations should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this standard. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

Published by

American National Standards Institute
11 West 42nd Street, New York, New York 10036

Printed in the United States of America

APS2C592/18

Contents

Foreword (This foreword is not part of American National Standard B3.2-1992.)

This American National Standard was prepared by a task force consisting of representatives of companies which manufacture rolling element bearings and aircraft, or aircraft engines, or both, in the United States. This standard is issued by the Accredited Standards Committee B3 of the American National Standards Institute as an industrial standard that is intended to be used by aircraft manufacturers, or aircraft engine manufacturers, or both, for the procurement of rolling element bearings for aircraft engine and accessory applications.

Suggestions for improvement of this standard will be welcome. They should be sent to the Anti-Friction Bearing Manufacturers Association, Inc., 1101 Connecticut Avenue, NW, Suite 700, Washington, DC 20036.

This standard was processed and approved for submittal to ANSI by the Accredited Standards Committee on Ball and Roller Bearings, B3. Committee approval of this standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, the B3 Committee had the following members:

Gene Looft, Chairman
Robert H. Feest, Vice-Chairman
Gary T. Satterfield, Secretary

Organization Represented	*Name of Representative*
Anti-Friction Bearing Manufacturers Association, Inc.	Robert H. Feest
	Cameron Gardella
	P.S. Given
	C.A. Griffiths
	W.G. Looft
	P.S. Orvos
	B. Pratt
	S.J. Puckett
Defense Industrial Supply	Leon Silverman
Hydraulic Institute	R. Barry Erickson
	Allen P. Wherry (Alt.)
National Machine Tool Builders Association	L.E. Remillard
Society of Tribologists and Lubrication Engineers	E.E. Pfaffenberger
U.S. Department of the Navy	Adelbert J. Durig

Individual Members

W.J. Anderson
G.W. Argadine
Arthur L. Butterworth
J.C. Clark
W.J. Derner
Joseph W. Lenski, Jr.
Quoc Nguyen
William E. Poole
John E. Sague
E. Zaretsky

American National Standard for Rolling Element Bearings – Aircraft Engine, Engine Gearbox, and Accessory Applications – Surface Visual Inspection

1 Scope

This standard establishes a system for uniform visual acceptance criteria for aircraft engine, gearbox and accessory anti-friction bearings in continuous rotation applications made of the material listed in table 1. The standard requirements are in a flow chart format; the written text is supplementary and is used as support for the flow charts.

2 Normative references

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

MIL-STD-130 G-1988, *Identification marking of US military property*[1)]

3 Definitions

3.1 Surfaces

3.1.1 functional surface: All active surfaces of a bearing, specifically the following:

– *rolling elements:* All surfaces (except roller corners for class *C*);

– *rings:* Raceway surfaces; guide rib adjacent to raceway (roller bearings);

– *cage (retainer):* Entire pocket (except retention features); piloting (land riding) surface.

3.1.2 nonfunctional surface: All surfaces other than those defined as functional including, but not limited to, faces, outside diameters, inside diameters, slots, corners, flanges, etc.

3.2 Limits on spacing and number of imperfections

3.2.1 individual limits: Individual limits on the size of imperfections of the same type, without regard to their number or spacing. (A lower size limit may apply if there is a cluster of imperfections of the same type.)

3.2.2 cluster limits: Cluster limits on size and number applying to two or more imperfections of the same type, clearly separated, which can be contained within a circle of the maximum diameter allowed by the assigned standard. (Imperfections lying outside the circle are treated as individual when they lie at least the distance of the circle apart from each other.)

3.3 Imperfections

3.3.1 bulge: A swelling or protuberance caused by deformation of the part. This does not include intentional deformation required for rolling element retention.

3.3.2 burrs: Flakes of metal or roughness (feather-edge) found attached at intersecting surfaces such as corners, drilled holes, milled slots, grooves, and identification stamps.

[1)] Available from the Naval Publications and Forms Center, Attention NPFC-3064, 5801 Tabor Avenue, Philadelphia, PA 19120.