



**AMERICAN  
NATIONAL  
STANDARD**  

---

**ABMA Standard  
ISO Standard**

**Aerospace –  
Airframe needle track  
roller, stud type,  
single-row, sealed –  
Metric series**

Secretariat  
American Bearing Manufacturers Association

Approved July 20, 1999



1200 19th Street, NW  
Suite 300  
Washington, DC 20036-2422  
202-429-5155  
202-223-4579 fax  
E-mail: [abma@dc.sba.com](mailto:abma@dc.sba.com)  
Web site: [www.abma-dc.org](http://www.abma-dc.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**CAUTION NOTICE:** This American National Standard may be revised or withdrawn at any time.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 Bearing Manufacturers Association  
1200 19th Street, NW, Washington, DC 20036-2422

Copyright © 1999 by American Bearing Manufacturers Association  
All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without prior written permission of the publisher.

Printed in the United States of America

## FOREWORD

(This foreword is not part of ANSI/ABMA/ISO 13417:1997.)

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committee are circulated to member bodies for voting. Publication as an International Standard requires approval of at least 75% of the member bodies casting a vote.

International Standard 13417 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee 15, *Airframe bearings*.

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

Suggestions for the improvement of this standard gained through experience with its use will be welcomed. These should be sent to: American Bearing Manufacturers Association Secretariat, ANSI ASC B3, 1200 19th Street, NW, Suite 300, Washington DC 20036-2422.

Aerospace –  
Airframe needle track  
roller, stud type,  
single-row, sealed –  
Metric series

Secretariat  
**American Bearing Manufacturers Association**

Approved July 20, 1999  
**American National Standards Institute, Inc.**

# Aerospace — Airframe needle track roller, stud type, single-row, sealed — Metric series

## 1 Scope

This International Standard specifies the characteristics, boundary dimensions, tolerances, internal clearances and permissible static loads of metric series, single-row, stud type needle track rollers used in airframe applications.

The airframe needle roller bearings covered by this International Standard are designed to operate in the temperature range  $-54\text{ }^{\circ}\text{C}$  to  $+121\text{ }^{\circ}\text{C}$ .

## 2 Normative references

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

ISO 286-2:1988, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts.*

ISO 683-17:—<sup>1)</sup>, *Heat-treated steels, alloy steels and free-cutting steels — Part 17: Ball and roller bearing steels.*

ISO 1132:1980, *Rolling bearings — Tolerances — Definitions.*

ISO 2082:1986, *Metallic coatings — Electroplated coatings of cadmium on iron or steel.*

ISO 3353:1976, *Aerospace — Rolled threads for bolts — Lead and runout requirements.*

ISO 4520:1981, *Chromate conversion coatings on electroplated zinc and cadmium coatings.*

ISO 5593:1997, *Rolling bearings — Vocabulary.*

ISO 5855-1:1988, *Aerospace — MJ threads — Part 1: General requirements.*

ISO 5855-2:1988, *Aerospace — MJ threads — Part 2: Limit dimensions for bolts and nuts.*

ISO 6158:1984, *Metallic coatings — Electroplated coatings of chromium for engineering purposes.*

ISO 13411:1997, *Aerospace — Airframe needle roller, cylindrical roller and track roller bearings — Technical specification.*

AMS 2417E:1993, *Plating, zinc-nickel alloy<sup>2)</sup>.*

<sup>1)</sup> To be published. (Revision of ISO 683-17:1976)

<sup>2)</sup> Available from: SAE International  
400 Commonwealth Drive  
Warrendale, PA 15096-0001 USA