



AEROSPACE STANDARD	AS7949™	REV. C
	Issued	1998-04
	Revised	2019-09
Superseding AS7949B		
(R) Bearings, Ball, Airframe, Antifriction, General Standard for		

RATIONALE

AS7949C is a Five-Year Review. Updating standard to current requirements which are found on applicable drawing standards.

1. SCOPE

This standard covers ball bearings in the -65 to +350 °F temperature range or as specified on the applicable drawing standards.

2. APPLICABLE DOCUMENTS

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS2417	Plating, Zinc-Nickel Alloy
AMS2700	Passivation of Corrosion Resistant Steels
AMS3652	Polytetrafluoroethylene (PTFE) Film Non-Critical Grade
AMS3666	Polytetrafluoroethylene (PTFE) Sheet, Glass Cloth Reinforced
AMS5618	Steel, Corrosion-Resistant, Bars, Wire, and Forgings, 17Cr - 0.52Mo (0.95 - 1.20C) (440C), Consumable Electrode Vacuum Melted
AMS5630	Steel, Corrosion-Resistant, Bars, Wire, and Forgings, 17Cr - 0.52Mo (0.95 - 1.20C) (440C)
AMS5655	Steel, Corrosion and Heat Resistant, Bars, Wire, and Forgings 12.5Cr - 0.75Ni - 1.0Mo - 1.0W - 0.24V (0.20-0.25C) Hardened and Tempered

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2019 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
<http://www.sae.org>

SAE WEB ADDRESS:

**SAE values your input. To provide feedback
on this Technical Report, please visit
<http://standards.sae.org/AS7949C>**

AMS5880	Steel, Corrosion-Resistant, Bars, Wire, and Forgings, 17Cr - 0.52Mo (0.95 - 1.20C) (SAE 51440C), for Bearing Applications
AMS5925	Steel, Corrosion Resistant, Bars, Wire, and Forgings, 15.5Cr – 1.8Mo – 0.20N (0.37 – 0.45C), Electroslag Remelted
AMS5898	Steel, Corrosion Resistant, Bars, Wire, and Forgings, 15.2Cr – 1.0Mo – 0.40N – (0.28 – 0.34C), Consumable Electrode Melted Under Pressure
AMS6440	Steel, Bars, Forgings, and Tubing, 1.45Cr (0.93 - 1.05C) (SAE 52100) For Bearing Applications
AMS6444	Steel, Bars, Forgings, and Tubing 1.45Cr (0.93 - 1.05C) (SAE 52100) Premium Aircraft-Quality, Consumable Electrode Vacuum Remelted
AMS-QQ-P-416	Plating, Cadmium (Electrodeposited)
AS21428	Bearing, Ball, Airframe, Anti-Friction, Extra Light Duty, Precision
AS21428/1	Bearing, Ball, Airframe, Anti-Friction, Extra Light Duty, Precision, Corrosion Resistant Nitrogen Steel (CREN)
AS21443	Bearing, Ball, Airframe, Anti-Friction, Pulley
AS21443/1	Bearing, Ball, Airframe, Anti-Friction, Pulley, Corrosion Resistant Nitrogen Steel (CREN)
AS27640	Bearing, Ball, Airframe, Anti-Friction, Heavy Duty
AS27640/1	Bearing, Ball, Airframe, Anti-Friction, Heavy Duty, Corrosion Resistant Nitrogen Steel (CREN)
AS27641	Bearing, Ball, Airframe, Anti-Friction, Intermediate Duty
AS27641/1	Bearing, Ball, Airframe, Anti-Friction, Intermediate Duty, Corrosion Resistant Nitrogen Steel (CREN)
AS27642	Bearing, Ball, Airframe, Extra Light Duty
AS27642/1	Bearing, Ball, Airframe Anti-Friction, Extra Light Duty, Corrosion Resistant Nitrogen Steel (CREN)
AS27643	Bearing, Ball, Airframe, Anti-Friction, Self-Aligning, Double Row, Heavy Duty
AS27643/1	Bearing, Ball, Airframe, Anti-Friction, Self-Aligning, Double Row, Heavy Duty, Corrosion Resistant Nitrogen Steel (CREN)
AS27644	Bearing, Ball, Airframe, Anti-Friction, Double Row, Heavy Duty
AS27644/1	Bearing, Ball, Airframe, Anti-Friction, Double Row, Heavy Duty, Corrosion Resistant Nitrogen Steel (CREN)
AS27645	Bearing, Ball, Airframe, Anti-Friction, Self-Aligning, Light and Heavy Duty
AS27645/1	Bearing, Ball, Airframe, Anti-Friction, Self-Aligning, Light and Heavy Duty, Corrosion Resistant Nitrogen Steel (CREN)
AS27646	Bearing, Ball, Airframe, Anti-Friction, Extra Light Duty
AS27646/1	Bearing, Ball, Airframe, Anti-Friction, Extra Light Duty, Corrosion Resistant Nitrogen Steel (CREN)
AS27647	Bearing, Ball, Airframe, Anti-Friction, Extra Wide, Double Row, Intermediate Duty

AS27647/1	Bearing, Ball, Airframe, Anti-Friction, Extra Wide, Double Row, Intermediate Duty, Corrosion Resistant Nitrogen Steel (CREN)
AS27648	Bearing, Ball, Airframe, Anti-Friction, External Self Aligning, Extra Light Duty
AS27648/1	Bearing, Ball, Airframe, Anti-Friction, External Self Aligning, Extra Light Duty, Corrosion Resistant Nitrogen Steel (CREN)
AS27649	Bearing, Ball, Airframe, Antifriction, Intermediate Duty
AS27649/1	Bearing, Ball, Airframe, Antifriction, Intermediate Duty, Corrosion Resistant Nitrogen Steel (CREN)

2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM A967/A967M	Standard specification for Chemical Passivation Treatments for Stainless Steel Parts
ASTM E1444	Standard Practice for Magnetic Particle Inspection
ASTM F2215	Standard Specification for Balls, Bearings, Ferrous and Nonferrous for Use in Bearings, Valves, and Bearing Applications
ASTM F2094	Standard Specification for Silicon Nitride Bearing Balls

2.3 ASME Publications

Available from ASME, P.O. Box 2900, 22 Law Drive, Fairfield, NJ 07007-2900, Tel: 800-843-2763 (U.S./Canada), 001-800-843-2763 (Mexico), 973-882-1170 (outside North America), www.asme.org.

ASME B46.1	Surface Texture (Surface Roughness, Waviness and Lay)
ANSI/ABMA STD 4	Gauging/Tolerancing Practices

2.4 ISO Publications

Copies of these documents are available online at www.webstore.ansi.org/.

ISO 12103-1	Road Vehicles – Test Contaminants for Filter Evaluation – Part 1: Arizona Test Dust
-------------	-------------------------------------------------------------------------------------

2.5 U.S. Government Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

MIL-DTL-197	Packaging of Bearings, Antifriction, Associated Parts and Subassemblies
MIL-PRF-23827	Grease, Aircraft and Instrument, Gear and Actuator Screw
MIL-PRF-81322	Grease, Aircraft, General Purpose, Wide Temperature Range
MIL-STD-129	Standard Practice for Military Marking
MIL-STD-130	Identification Marking of U.S. Military Property
MIL-STD-2073-1	DoD Standard Practice for Military Packaging