

Issued APR 1998
Noncurrent NOV 2002
Cancelled MAY 2006

Superseding AMS-S-6090A

Steel Carburizing and Nitriding, Processes for

CANCELLATION NOTICE

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of May, 2006 and has been superseded by the specifications listed below. The requirements of the latest issue of the specifications listed below shall be fulfilled whenever reference is made to the cancelled AMS-S-6090. By this action, this document will remain listed in the Numerical Section of the Index of Aerospace Material Specifications, noting that it has been superseded by the specifications listed below.

Cancelled specifications are available from SAE.

Specifications Superseding AMS-S-6090:

AMS 2759/6, Gas Nitriding and Heat Treatment of Low-Alloy Steel Parts
AMS 2759/7, Carburizing and Heat Treatment of Carburizing Grade Steel Parts
AMS 2759/8, Ion Nitriding

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 reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2006 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: 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: custsvc@sae.org
SAE WEB ADDRESS: <http://www.sae.org>

NOTICE

This document has been taken directly from U.S. Military Specification MIL-S-6090A, Amendment 1, and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. The initial release of this document is intended to replace MIL-S-6090A, Amendment 1. Any part numbers established by the original specification remain unchanged.

The original Military Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, and (b) the use of the existing government specification or standard format.

Any material relating to qualified product lists has not been adopted by SAE. This material was part of the original military specification and is reprinted here for historic reference only.

1. SCOPE:

1.1 Processes:

This specification presents requirements for the carburizing and nitriding of carbon and alloy steels to produce the mechanical properties specified by drawings, detail metal specifications, or other applicable specifications (see 6.3).

1.1.1 The heat treatment of parts fabricated from the steels specified shall be in general accordance with the methods described in this specification, and in addition, shall be subject to such control and regulation by competent personnel as may be necessary to produce the properties required.

1.2 Equipment:

The equipment, methods, and processes used shall comply with this specification.

2. APPLICABLE DOCUMENTS:

The following publications, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

2.1 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-S-6709 Steel, Chrome-Molybdenum Aluminum; Bars, Rods, Billets, and Forging Stock
(For Nitriding) (Aircraft Quality)

MIL-H-6875 Heat Treatment of Steels (Aircraft Practice, Process For)

2.2 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 2755 Nitriding, Molten Salt Bath

AMS 5643 Steel, Corrosion Resistant, Bars, Wire, Forgings, Tubing and Rings, 16Cr - 4.0Ni - 0.30Cb - 4.0Cu, Solution Heat Treated, Precipitation Hardenable

AMS 5659 Steel, Corrosion Resistant, Bars, Wire, Forgings, Rings, and Extrusions, 15Cr - 4.5Ni - 0.30Cb - 3.5Cu, Consumable Electrode Melted, Solution Heat Treated, Precipitation Hardenable

AMS 6475 Steel, Nitriding Grade, Bars, Forgings, and Tubing, 1.1Cr - 3.5Ni - 0.25Mo - 1.25Al (0.21 - 0.26C)

AMS 6485 Steel, Bars and Forgings, 5.0Cr - 1.3Mo - 0.50V (0.38-0.43C)