

Passivation Treatments for Corrosion-Resistant Steel

CANCELLATION NOTICE

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of February, 2005, and has been superseded by AMS 2700. The requirements of the latest issue of AMS 2700 shall be fulfilled whenever reference is made to the cancelled AMS-QQ-P-35, utilizing the "Type" designation noted in the following table. By this action, AMS-QQ-P-35 will remain listed in the Numerical Section of the Index of Aerospace Material Specifications, noting that it has been superseded by AMS 2700.

Cancelled specifications are available from SAE.

AMS-QQ-P-35 Type	Superseding AMS 2700 Type
II	2
VI	6
VII	7
VIII	8
Not Specified	Use Type appropriate for alloy, subject to purchaser acceptance.

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 2005 Society of Automotive Engineers, Inc.

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 QQ-P-35C 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 QQ-P-35C. 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 AND CLASSIFICATION:

1.1 Scope:

This specification covers the different types of passivation treatments as well as recommendations, guidance and precautions for cleaning and descaling corrosion-resistant parts, components, equipment and systems.

1.2 Purpose:

This specification covers the method for cleaning and descaling of stainless steel parts and outlines the final cleaning stage or passivation treatments for use on austenitic, ferritic, martensitic and precipitation hardening corrosion resistant steels. Engineering drawings and specifications should specify classification type (passivation treatment) which should be used in accordance with 1.2.1.

1.2.1 Types: Passivation treatments shall be of the following types, as specified (see 6.2).

Type II - Medium temperature nitric acid solution with sodium dichromate additive

Type VI - Low temperature nitric acid solution

Type VII - Medium temperature nitric acid solution

Type VIII - Medium temperature high concentration nitric acid solution

2. APPLICABLE DOCUMENTS:

The following publications, of the issues 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-5002 Surface Treatments and Inorganic Coatings for Metal Surfaces of Weapons Systems

MIL-C-13924 Coating, Oxide, Black, for Ferrous Metals

MIL-STD-105 Sampling Procedures and Tables for Inspection by Attributes

MIL-STD-753 Corrosion-Resistant Steel Parts: Sampling, Inspection and Testing for Surface Passivation

O-N-350 Nitric Acid, Technical

O-S-595 Sodium Dichromate, Dihydrate, Technical

FED-STD-313 Material Safety Data Sheets, Preparation and Submission of

2.2 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM A380 Cleaning and Descaling Stainless Steel Parts, Equipment, and Systems

ASTM B117 Operating Salt Spray (Fog) Apparatus

ASTM B254 Preparation of and Electroplating on Stainless Steel

3. REQUIREMENTS:

3.1 Material:

The chemicals and reagents used for passivation of corrosion-resistant steel parts shall produce passivated surfaces which meet the requirements of this specification.

3.2 Pretreatment:

The pretreatment methods and procedures used prior to the passivation treatment shall be either in accordance with ASTM A380 or MIL-S-5002. The surface of the parts shall be free of oil, grease, rust, scale and other foreign matter and shall have no deleterious effect on material properties. Particular attention shall be given to the pretreatment cleaning of 400 series steels to be certain that all surface oxidation, including rust and heat treat scale, is completely removed. Unless otherwise specified, clean and descale in accordance with ASTM A380. When electrochemical cleaning is required, it shall be performed in accordance with ASTM B254.