



AEROSPACE MATERIAL SPECIFICATION

AMS1631™

REV. D

Issued	1978-01
Reaffirmed	1998-12
Revised	2018-11

Superseding AMS1631C

(R) Cleaner, Carpet
Water Extraction Type

RATIONALE

Changes in this revision include format/editorial changes as well update to specification revisions. CSMA test specifications are no longer available requiring modification to the specification. Additional details are required in order for the Washability and Color Fastness testing to be performed.

1. SCOPE

1.1 Form

This specification covers one type of carpet cleaner in the form of a liquid.

1.2 Application

This cleaner has been used typically with water extraction machines for in-place cleaning of aircraft carpets, but usage is not limited to such applications.

1.3 Safety - Hazardous Materials

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

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 © 2018 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/AMS1631D>**

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.

AMS4037	Aluminum Alloy, Sheet and Plate, 4.4Cu - 1.5Mg - 0.60Mn (2024; -T3 Flat Sheet, -T351 Plate), Solution Heat Treated
AMS4041	Aluminum Alloy, Sheet and Plate, Alclad 4.4Cu - 1.5Mg - 0.60Mn (2024, -T3 Sheet/-T351 Plate with 1-1/2% Alclad) Solution Heat Treated, Cold Worked and Naturally Aged
AMS4045	Aluminum Alloy Sheet and Plate, 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr 7075: (-T6 Sheet, -T651 Plate), Solution and Precipitation Heat Treated
AMS4049	Aluminum Alloy, Sheet and Plate, Alclad 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (Alclad 7075; -T6 Sheet - T651 Plate), Solution and Precipitation Heat Treated
AMS-P-83310	Plastic Sheet, Polycarbonate, Transparent
ARP1917	Clarification of Terms Used in Aerospace Metals Specifications

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 D56	Standard Test Method for Flash Point by Tag Closed Tester
ASTM D1193	Reagent Water
ASTM D1335	Tuft Bind of Pile Floor Coverings
ASTM F483	Standard Practice for Total Immersion Corrosion Test for Aircraft Maintenance Chemicals
ASTM F484	Standard Test Method for Stress Cracking of Acrylic Plastics in Contact with Liquid or Semi-Liquid Compounds
ASTM F502	Standard Test Method for Effects of Cleaning and Chemical Maintenance Materials on Painted Aircraft Surfaces
ASTM F1104	Preparing Aircraft Cleaning Compounds, Liquid Type, Water Base, for Storage Stability Testing
ASTM F1110	Standard Test Method for Sandwich Corrosion Test

2.3 U.S. Government

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

MIL-PRF-25690	Plastic, Sheets, and Formed Parts, Modified Acrylic Base, Monolithic, Crack Propagation Resistant
---------------	---

2.4 Federal Aviation Administration Regulations

Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 or www.faa.gov.

FAR Part 25 Airworthiness Standards; Transport Category Airplanes

2.5 AATCC Publications

Available from American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709-2215 or www.aatcc.org.

AATCC Test Method 138 Cleaning: Washing of Textile Floor Coverings

2.6 Other Publications

ANSI Z400.1/Z129.1 Hazardous Workplace Chemicals - Hazard Evaluation and Safety Data Sheet and Precautionary Labeling Preparation

3. TECHNICAL REQUIREMENTS

3.1 Composition

The composition of the cleaner shall be optional with the manufacturer but shall yield a product conforming to the requirements of 3.2.

3.2 Properties

Cleaner shall conform to the following requirements; tests shall be performed in accordance with specified test methods on the product supplied in concentrated form and, when specified, at use dilution recommended by the manufacturer using ASTM D1193, Type IV, water for dilution.

3.2.1 Solubility

Cleaner shall be readily miscible in both hard and soft water and shall produce no detectable precipitate, determined in accordance with 3.2.1.1.

3.2.1.1 Prepare a solution of 1 mL of cleaner in 99 mL of ASTM D1193, Type IV, water in a 100 mL glass-stoppered, graduated cylinder. Prepare a second sample of 1 mL of cleaner in 99 mL of synthetic tap water made up as in 3.2.1.1.1. Allow the two samples to stand undisturbed for not less than one hour and examine for evidence of scum or sediment.

3.2.1.1.1 Prepare a solution of synthetic tap water as shown in Table 1.

Table 1 - Synthetic tap water

Ingredient	Amount
AR Calcium Acetate, $\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 2\text{H}_2\text{O}$	0.20 gram \pm 0.005
AR Magnesium Sulfate, $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	0.15 gram \pm 0.005
AR Sodium Chloride, NaCl	0.12 gram \pm 0.005
ASTM D1193, Type III, Water	To make 1 liter

3.2.1.1.2 The pH of the reagent water shall be 6.5 to 7.5. The pH of the synthetic tap water solution shall be approximately 6.8 but within the range 6.5 to 7.5.

3.2.2 Flash Point

Shall be not lower than 60 °C (140 °F), determined in accordance with ASTM D56.