



AEROSPACE MATERIAL SPECIFICATION

AMS79-017™

Issued 2017-12
Reaffirmed 2026-05

Compound, Cleaning, Foaming,
for Aircraft Surfaces

RATIONALE

This Standard is a direct replacement for DEF STAN 79-17, Issue 2 and has been reproduced by SAE International under D/IPR Agreement D/IPR/04/CR-0239-17-0008. The technical content remains unchanged from Issue 2 of the Defence Standard it supersedes. Any queries should be referred via the link shown in the feedback box at the bottom of this page.

AMS79-017 has been reaffirmed to comply with the SAE Five-Year Review policy.

A reaffirmed status is given to technical reports that have been reviewed by the technical committee and deemed to be current with no need for immediate revision. No changes have been made to this document as a result of this review.

LICENSING AGREEMENT

Ministry of Defence © Crown Copyright 2017. Data is reproduced with permission of the Controller, Her Majesty's Stationery Office.

The phrases "DStan" and "Def Stan", and the DStan logo, are registered trademarks of the Ministry of Defence.

FOREWORD

REVISION NOTE

This Defence Standard was raised to Issue 2 to update its content and incorporate the latest MoD/DStan policy in place at the time.

HISTORICAL RECORD

This Standard supersedes the following:

TS 10281A dated 2 December 1988

Interim Def Stan 79-17 Issue 1 dated 14 June 1994

AMENDMENT ISSUED SINCE PUBLICATION

Amendment 1, 6 February 2004, Clause 4, page 5

Revision Note: Test methods have been updated to reflect current procedures and terminology.

SAE Executive Standards Committee 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 © 2026 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, or used for text and data mining, AI training, or similar technologies, without the prior written permission of SAE.

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

SAE WEB ADDRESS:

Full document details: SAE AMS79_017

For more information on this standard, visit
https://www.sae.org/standards/content/AMS79_017/

Documents

Standard Sharing Hub

TABLE OF CONTENTS

1.	SCOPE.....	3
2.	WARNING	3
3.	RELATED DOCUMENTS	3
4.	DESCRIPTION.....	4
5.	STORAGE LIFE	4
6.	TEST METHODS	4
6.1	Test Conditions	4
6.2	Composition	4
6.3	Condition	4
6.4	Test Requirements.....	4
7.	CONTAINERS AND MARKING OF CONTAINERS	6
8.	NOTES	6
8.1	Revision Indicator.....	6
ANNEX A	STABILITY AND FOAMING.....	7
ANNEX B	FREEDOM FROM CRAZING ACTION.....	8
ANNEX C	DETERMINATION OF EASE OF RINSING.....	11
ANNEX D	DETERMINATION OF CLEANING POWER	12
ANNEX E	FREEDOM FROM CORROSIVE ACTION	15
ANNEX F	REMOVAL OF RESIDUE AFTER DRYING.....	17
ANNEX G	FREEDOM FROM DAMAGE	18
ANNEX H	EFFECT OF REPEATED CLEANING	19
ANNEX J	STRESS CORROSION CRACKING	20
ANNEX K	REMOVAL OF TEMPORARY CAMOUFLAGE ALKALI-REMOVABLE PAINT.....	21
Table 1	Test requirements	5

1. SCOPE

This SAE Standard specifies requirements for a foaming liquid cleaning compound which, when diluted with water 1:9 v/v, is suitable for cleaning the soiled exterior of Service aircraft. The cleaning compound may be applied by spraying, either as foam or liquid, by brushing or by swabbing. The surfaces to be cleaned may be unpainted metal or surfaces painted with glossy or matt schemes, including strippable acrylic paint complying with DTD 5599. This Standard includes tests to limit specific forms of corrosion that affect aircraft structural materials.

2. WARNING

This section which appeared in DEF STAN 79-17 Issue 2 has been deliberately deleted.

3. RELATED DOCUMENTS

3.1 Reference is made in this Standard to:

BS EN ISO 1513	Paints and Varnishes. Examination and Preparation of Samples for Testing
BS EN ISO 1519	Paints and Varnishes, Bend Test (Cylindrical Mandrel)
BS EN ISO 3696	Water for Analytical Laboratory Use. Specification and Test Methods
BS EN 605	Paints and Varnishes. Standard Panels for Testing
BS EN 2395	Aluminium Alloy AL-P2014A-T4 or T42. Sheet and Strip $0.4 \text{ mm} \leq a \leq 6 \text{ mm}$
BS 846	Specification for Burettes
BS 1449	Steel Plate, Sheet and Strip: Part 1 Carbon and Carbon-Manganese Plate, Sheet and Strip
BS 1595	Propan-2-ol (Isopropyl Alcohol) for Industrial Use
BS 3370	Specification for Wrought Magnesium Alloys for General Engineering Purposes. Plate, Sheet and Strip
BS 3900	Methods of Test for Paints Part A13: Test for Flash/no Flash (Rapid Equilibrium Method) Part D8: Determination of Colour and Colour Difference: Principles Part D9: Determination of Colour and Colour Difference: Measurement Part D10: Determination of Colour and Colour Difference: Calculation Part E2: Mechanical Tests on Paint Films: Scratch Test
BS 5690	Method for Determination of Abrasion Resistance of Fabrics
BS 2L 95	Specification for Plate of Aluminium-zinc-magnesium-copper-chromium Alloy (Solution Treated, Controlled Stretched and Precipitation Treated) (Zn 5.8, Mg 2.5, Cu 1.6, Cr 0.15)
BS 2L 500	Procedure for Inspection and Testing of Wrought Magnesium-base Alloys
BS X 33	Two Component Epoxy Primer for Aerospace Purposes

BS X 34	Air Drying, Two Component, Polyurethane Finish for Aerospace Purposes
Def Stan 03-19	Electro-deposition of Cadmium
AMS03-19	Electro-deposition of Cadmium
Def Stan 68-10	Corrosion Preventive, Water Displacing, NATO Code C-634 Joint Service Designation: PX-24
Def Stan 80-128	Paint, Finishing, Temporary Camouflage, Alkali Removable
Def Stan 91-98	Lubricating Oil, Gas Turbine Engine, Synthetic Grade 7.5 cSt NATO Code 0-149 Joint Service Designation OX-38
DTD 911	Protection of Magnesium-rich Alloys against Corrosion
DTD 5592	Acrylic Sheets for Aircraft Glazing
DTD 5599	Selectively Strippable Acrylic Finishing Schemes - Matt and Glossy - for Use on Aircraft
ASTM G47	Determining Susceptibility to Stress-corrosion Cracking of High-strength Aluminium Alloy Products

3.2 This section which appeared in DEF STAN 79-17 Issue 2 has been deliberately deleted.

3.3 This section which appeared in DEF STAN 79-17 Issue 2 has been deliberately deleted.

4. DESCRIPTION

The cleaning compound shall be a homogeneous solution, free from abrasive matter, visible impurities and objectionable odor. The residues of the material in the effluent resulting from aircraft cleaning shall not interfere with the biological treatment of sewage, assuming a final dilution of 4000:1 v/v.

5. STORAGE LIFE

The cleaning compound, when stored in its original sealed containers at a temperature between 5 °C and 35 °C, shall retain the properties described in this Standard for a period, from the date of dispatch by the manufacturer, of not less than 24 months.

6. TEST METHODS

6.1 Test Conditions

Unless otherwise specified, all tests shall be carried out at 23 °C ± 2 °C.

6.2 Composition

Samples taken from any portion of the supply shall be of the same formulation as that of the original test sample.

6.3 Condition

When the material in the original containers or in the laboratory sample containers is examined in accordance with BS EN ISO 1513, it shall conform to Section 4.

6.4 Test Requirements

A sample taken from any portion of the supply shall comply with the requirements of Table 1. If any sample is found not to conform to the requirements of this Standard, the whole batch may be rejected.

Table 1 - Test requirements

Test Number	Property	Requirement	Method of Test
1	Stability and foaming	Shall yield a solution or emulsion stable for at least 24 hours and free from insoluble precipitate matter. The volume of foam shall be at least twice the volume of the liquid both at one minute and at 2 hours.	Annex A
2	Freedom from crazing action	No crazing	Annex B
3	Ease of rinsing	Not more than 20 cm ³ of water to effect complete rinsing	Annex C
4	Cleaning power	Not inferior to the reference fluid by visual assessment	Annex D
5	Freedom from corrosive action	Increase in mass, 1 mg max Decrease in mass, 5 mg max No signs of etching, pitting or formation of adherent deposits	Annex E
6	Flashpoint	55 °C min	BS 3900: Part A13
7	Removal of residue after drying	No visible residue, change in mass not greater than the control using standard hard water	Annex F
8	Freedom from damage	a. Bend test: The paint system shall not become detached or damaged b. Scratch test: The needle shall not penetrate the topcoat	Annex G
9	Cleaning power (laboratory)	dE _d value no lower than the reference fluid	Annex D
10	Cleaning power (field trial)	To the satisfaction of the Customer	Practical aircraft cleaning trial
11	Repeated cleaning	Any damage not greater than the control using standard hard water	Annex H
12	Stress corrosion cracking	No stress corrosion cracking	Annex J
13	Removal of temporary camouflage paint	Complete removal	Annex K

7. CONTAINERS AND MARKING OF CONTAINERS

- 7.1 Unless the form of packaging is specified in the contract or order, the cleaning compound shall be supplied in sound, clean and dry containers suitable for the product. The use of contaminated containers may render the whole consignment liable to rejection. After filling, each container shall be securely closed.
- 7.2 Each container shall be legibly and durably marked according to legal and statutory requirements and with at least the following details:

Designation viz: COMPOUND CLEANING FOAMING FOR AIRCRAFT SURFACES

AMS79-017

Distinctive batch number:

Contract or order number:

Quantity of contents:

Date of manufacture:

Date of dispatch:

Manufacturer's name, initials or recognized trade mark:

Any additional markings called for in the contract or order.

8. NOTES

8.1 Revision Indicator

A change bar (l) located in the left margin is for the convenience of the user in locating areas where technical revisions, not editorial changes, have been made to the previous issue of this document. An (R) symbol to the left of the document title indicates a complete revision of the document, including technical revisions. Change bars and (R) are not used in original publications, nor in documents that contain editorial changes only.

PREPARED BY AMS COMMITTEE "J"

ANNEX A - STABILITY AND FOAMING

A.1 REAGENTS

Standard hard water:

Calcium acetate anhydrous 0.32 g ± 0.005 g

Magnesium sulfate heptahydrate 0.28 g ± 0.005 g

Dissolve the calcium acetate and magnesium sulfate in 1 dm³ of water complying with BS EN ISO 3696 Grade 3 (boiled and cooled).

A.2 PROCEDURE

A.2.1 Thoroughly clean and degrease all the glassware and dry completely before use.

A.2.2 Dilute approximately 5 cm³ of the cleaning compound 1:9 v/v with the standard hard water in a stoppered, 250 cm³ measuring cylinder.

A.2.3 Shake the cylinder vigorously for 1 minute.

A.2.4 Place the cylinder on a flat surface and allow to stand for 1 minute and then determine the volume of the foam and liquid portions.

A.2.5 Allow to stand for a further 2 hours and again determine the volume of the foam and liquid portions.

A.2.6 Allow to stand for a further 22 hours and examine the liquid portion for signs of precipitation or separation of the solution.

A.3 REPORTING

Report the volume of foam and liquid portions at 1 minute and 2 hours and any insoluble precipitate matter formed or separation of the solution at 24 hours.