



AEROSPACE MATERIAL SPECIFICATION

AMS-P-22968™

REV. A

Issued 1999-06

Stabilized 2016-07

Superseding AMS-P-22968

Paper, Recording, Heat Sensitive

FSC 7530

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

STABILIZED NOTICE

This document has been declared "Stabilized" by the SAE AMS P Polymeric Materials Committee and will no longer be subjected to periodic reviews for currency. Users are responsible for verifying references and continued suitability of technical requirements. Newer technology may exist.

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 © 2016 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:

Full document details: SAE AMSP22968A

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/AMSP22968A>

NOTICE

This document has been taken directly from U.S. Military Specification MIL-P-22968B(AS) 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-P-22968B(AS). 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.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DOD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this SAE technical document.

1. SCOPE:

1.1 Scope:

This specification presents the requirements for one type of a heat-sensitive recording paper, in roll form, that furnishes permanent marking or tracing on one side.

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.

UU-P-31	Paper; General Specifications and Methods of Testing
WW-T-700/2	Tube, Aluminum and Aluminum Alloy, Drawn, Seamless, General Specification for
PPP-B-601	Boxes, Wood, Cleated Plywood
PPP-B-621	Boxes, Wood, Nailed and Lock-Corner
PPP-B-636	Boxes, Shipping, Fiberboard
PPP-B-640	Box, Fiberboard, Corrugated, Triple-wall
PPP-T-60	Tape, Pressure Sensitive, Packaging, Waterproof
PPP-T-76	Tape, Packaging, Paper (For Carton Sealing)
MIL-P-116	Preservation, Methods of
MIL-B-117	Bags, Sleeves and Tubing-Interior Packaging
MIL-B-121	Barrier Material; Greaseproofed, Waterproofed, Flexible
MIL-STD-105	Sampling Procedures and Tables for Inspections by Attributes
MIL-STD-129	Marking for Shipment and Storage

2.2 ASTM Publications:

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

ASTM D 985 45 Deg, 0-Deg Directional Reflectance For Blue Light (Brightness) of Paper
ASTM D 3951 Commercial Packaging

2.3 Order of precedence:

In the event of conflict between the text in this specification and references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS:

3.1 Materials and components:

Materials shall consist of a suitably compounded, heat sensitive, coated paper containing no ground wood and free from any creases, splices or blemishes that will interfere with recording qualities. The coated paper shall be wound on an aluminum alloy, 3003 H-18, core. (See 4.4.1.)

- 3.1.1 Rolls: A roll of paper shall be one continuous (no splices) strip 4.750 inches (maximum) in width and 115 ± 2 to -0 feet in length and wound on the core with the heat sensitive surface inside. Starting $20 \text{ feet} \pm 6 \text{ inches}$ from the inside end of the roll, a black line $1/8$ inch wide and 10 to 12 inches long shall be printed on one edge only of the heat sensitive surface. Starting $9 \text{ feet} \pm 6 \text{ inches}$ from the inside end of the roll, a black line $1/8$ inch wide and 10 to 12 inches long shall be printed on each edge of the heat sensitive surface. The national stock number shall be printed on the beginning edge of the outside of the roll. (See figure 1 for the markings on the roll.) (See 4.4.1.)
- 3.1.2 Core: The aluminum core shall be free from burrs, loose metal, sharp edges and shall conform to the dimensions shown in figure 2.
- 3.1.3 Coating: The coated side of the paper shall have a carbon black base coat evenly covered by a heat sensitive, waterproof, opaque-white coating with a whiteness equal to or greater than 68.4% reflectance. The coating may be of a cellulose nitrate derivative applied as a thin layer over the black substrate and so constituted that the heated stylus will produce a dark consistent line when the paper is used in Recorder RO-114/ASA-26 with the stylus in the center position of its travel. (See 4.6.1 and 6.1.)
- 3.1.4 Uniformity of spooling: The paper shall be wound in accordance with figure 1 at an even tension so as to prevent darkening of the paper due to excess tension and to prevent the aluminum core from being ejected due to insufficient tension under normal handling and running conditions. The paper shall be a continuous length free from splices, wrinkles, creases or weave which would interfere with its proper operation in the recorder. The paper shall not stick to the aluminum core so as to prevent the paper from unwinding freely. (See 4.4.1.)

3.2 Quality of recording:

The quality of the recording shall be satisfactory when used in Recorder RO-114/ASA-26 or an acceptable substitute under normal operating conditions. The darkness (see 6.1) of the line shall be equal to 4.6% reflectance or darker at the center of the line. The width of the trace shall be 0.030 to 0.040 inch using a stylus width of 0.035 inch and stylus force on the paper of 8 grams. The stylus temperature shall be $300^{\circ}\text{C} \pm 15^{\circ}\text{C}$ ($572^{\circ}\text{F} \pm 59^{\circ}\text{F}$) and the paper speed shall be 0.6 inch per second. (See 4.6.1.)

3.3 Physical Characteristics:

- 3.3.1 Flammability: The coated paper shall not burn at a rate greater than 30 inches per minute when tested as indicated in 4.6.2.
- 3.3.2 Waterproofness: The coated side shall not turn darker than 59% reflectance when tested as indicated in 4.6.3.
- 3.3.3 Fumes resistance: The coated side shall not turn darker than 59% reflectance when tested as indicated in 4.6.4.
- 3.3.4 Heat resistance: The paper shall be capable of storage for 16 hours at 85°C (185°F) and 90% relative humidity and not turn darker than 59% reflectance and the coated side not become sticky. In addition the coated side shall not turn darker than 12% reflectance when exposed to an air temperature of 180°C (356°F). (See 4.6.5.)
- 3.3.5 Cold resistance: The coated side of the paper shall not delaminate or show crazing, cracking or flaking when exposed and tested as indicated in 4.6.6.
- 3.3.6 Finished paper:
 - 3.3.6.1 Basis weight: The basis weight shall be $56\text{g/m}^2 \pm 3\text{g}$ when weighed as indicated in 4.6.7.
 - 3.3.6.2 Thickness: The thickness of the coated paper shall be .0020 to .0025 inch when measured as directed in 4.6.7.
 - 3.3.6.3 Tensile strength: The tensile strength of the paper in the machine direction shall be 14 pounds minimum and in the cross machine direction shall be 7 pounds minimum when tested as indicated in 4.6.7.
 - 3.3.6.4 Tear resistance: The tear resistance of the paper in the machine direction shall be 10 grams/cm minimum and in the cross machine direction 16 grams/cm minimum when tested as indicated in 4.6.7.