



AEROSPACE MATERIAL SPECIFICATION

AMS-F-24610™

REV. A

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Superseding AMS-F-24610

Fixant, Hold Down

RATIONALE

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

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1. SCOPE:

1.1 Scope:

This specification covers the requirements for a film-forming liquid hold down fixant. The hold down fixant solution shall consist of compounds as required, to conform to the requirements specified herein.

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.

NN-P-71	Pallets, Material Handling Wood Stringer Construction 2-Way and 4-Way (Partial)
RR-S-366	Sieve, Test
TT-E-489	Enamel, Alkyd, Gloss (For Exterior and Interior Surfaces)
VV-G-1690	Gasoline; Automotive, Leaded or Unleaded
PPP-P-704	Pails-Metal: (Shipping, Steel, 1 through 12 Gallons)
MIL-F-24385	Fire Extinguishing Agent, Aqueous Film-Forming Foam, (AFFF) Liquid Concentrate, for Fresh and Sea Water
FED-STD-595	Colors
MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-130	Identification Marking of US Military Property
MIL-STD-147	Palletized Unit Loads

2.2 Department of Transportation Publications:

Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Code of Federal Regulations, Title 49, Part 178.19

2.3 ASTM Publications:

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

ASTM D 445	Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity), Test for
ASTM D 522	Elongation of Attached Organic Coatings with Conical Mandrel Apparatus, Test Method for (DoD adopted)
ASTM D 609	Preparation of Steel Panels for Testing Paint, Varnish, Lacquer, and Related Products
ASTM D 1141	Substitute Ocean Water, Specification for
ASTM D 1331	Surface and Interfacial Tension of Solutions of Surface-Active Agents, Tests for
ASTM E 70	pH of Aqueous Solutions with the Glass Electrode, Test for (DoD adopted)
ASTM G 21	Determining Resistance of Synthetic Polymeric Materials to Fungi, Practice for (DoD adopted)
ASTM G 22	Determining Resistance of Plastics to Bacteria, Practice for

2.4 Order of precedence:

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

3. REQUIREMENTS:

3.1 First article:

When specified (see 6.2.1), the contractor shall furnish sample units for first article inspection (see 4.3 and 6.3).

3.2 Materials:

The fixant (see 6.4.1) shall be a water-based mixture conforming to the requirements specified herein.

3.2.1 Toxicity: The fixant shall have no adverse effect on the health of personnel when used for its intended purpose. The fixant shall be certified as safe (see 4.5).

3.2.2 Identification of samples: The first article sample submitted by the contractor shall be identified for the purpose of comparing with material subsequently submitted for acceptance. Within experimental limits, first article and quality conformance inspection samples shall be identical. Any lot or lots found not to be identical with the first article sample shall be rejected.

3.2.3 Composition: The composition (see 6.4.3) shall be appropriate formulations of acrylic polymers and dilute ammonium hydroxide solution to meet the performance and physical characteristics as specified herein. The use of infra-red spectroscopy (see 4.7.1) shall be used as the criteria for compositional control. The spectra of first article and quality conformance inspection samples shall be identical with respect to the number and location of infra-red absorption peaks. The peak heights shall not vary more than plus or minus 10 percent of that value determined for the first article inspection sample.

3.3 Hold down fixant characteristics:

The hold down fixant shall conform to the chemical and physical requirements shown in table I.

TABLE I. Chemical and physical requirements for fixant

Requirement	Value	Application publication	Test paragraph
Viscosity, pascal seconds, maximum (max) at 20 ± 0.1°C	0.01	ASTM D 445	4.7.2
pH value ^{1/}	7.0 to 9.0	ASTM E 70	4.7.3
Percentage of solids, minimum (min)	6		4.7.4
Surface tension, dynes per centimeter, max	45	ASTM D 1331	4.7.5
Elongation	no cracking	ASTM D 522 D 609	4.7.6
AFFF compatibility, burnback resistance, seconds, min	320	MIL-F-24385	4.7.12

^{1/} pH shall not vary by more than plus or minus 0.5 pH units from the value determined in the first article inspection when tested, as specified (see 4.7.3).