

AEROSPACE MATERIAL SPECIFICATION

Issued MAY 1948
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Reaffirmed OCT 2005

Superseding AMS 3170E

THINNER Alcohol-Ester

1. SCOPE:

1.1 Type

This specification covers a blend of alcohols and esters in the form of a liquid.

1.2 Applications:

This thinner has been used typically as the principal portion of the volatile fraction of organic coatings such as AMS 3132, 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 involved.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 2825 Material Safety Data Sheets

AMS 3132 Varnish, Phenolic Resin, Corrosion-Preventive

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2.2 ASTM Publications:

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

ASTM D 891 Specific Gravity, Apparent, of Liquid Industrial Chemicals

ASTM D 1078 Distillation Range of Volatile Organic Liquids

ASTM E 300 Sampling Industrial Chemicals

3. TECHNICAL REQUIREMENTS:

3.1 Composition:

(R)

Thinner shall be a thoroughly blended mixture conforming to the percentages by weight shown in Table 1.

TABLE 1 - Thinner Composition

Ingredients	min	max
Amyl Alcohol	58	82
Denatured Ethyl Alcohol (See 3.1.1)	13	17
Amyl or Butyl Acetate	23	27

3.1.1 The denatured ethyl alcohol shall be of such composition that the ethyl alcohol cannot be separated by distillation and shall be compatible with the other thinner components.

3.2 Properties:

Thinner shall conform to the following requirements:

3.2.1 Specific Gravity: Shall be 0.822 to 0.832 at 15/15 °C (59/59 °F), determined in accordance with ASTM D 891.

3.2.2 Distillation Range: Shall be 73 to 144 °C (163 to 291 °F), determined in accordance with ASTM D 1078.

3.3 Quality:

Thinner, as received by purchaser, shall be clear, colorless, and free from suspended matter and shall be compatible with AMS 3132 varnish. Impurities shall not be present in amounts detrimental to usage of the thinner.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection:

(R)

The vendor of thinner shall supply all samples for vendor's tests and shall be responsible for the performance of all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the thinner conforms to specified requirements.

4.2 Classification of Tests:

All technical requirements are acceptance tests and shall be performed on each lot.

4.3 Sampling and Testing:

(R)

Shall be in accordance with ASTM E 300 or other procedure acceptable to purchaser; a lot shall be all thinner produced from the same batches of solvents and presented for manufacturer's inspection at one time.

4.4 Reports:

(R)

The vendor of thinner shall furnish with each shipment a report showing composition and the results of tests to determine conformance to the other technical requirements. This report shall include the purchase order number, lot number, AMS 3170F, manufacturers identification, and quantity.

- 4.4.1 A material safety data sheet conforming to AMS 2825, or equivalent, shall be supplied with the first shipment of thinner for production use. Each request for modification of thinner formulation shall be accompanied by a revised data sheet for the proposed formulation.

4.5 Resampling and Retesting:

(R)

If any sample used in above tests fails to meet specified requirements, disposition of the thinner may be based on the results of testing three additional samples for each original nonconforming sample. Failure of any retest sample to meet specified requirements shall be cause for rejection of the thinner represented. Results of all tests shall be reported.

5. PREPARATION FOR DELIVERY:

5.1 Packaging and Identification:

- 5.1.1 A lot of thinner may be packaged in small quantities and delivered under the basic lot approval provided lot identification is maintained.

- 5.1.2 Thinner shall be supplied in 5 gallon (20 L) metal containers with sealed openings, unless otherwise specified. Interior of containers shall be free from corrosion and, if treated to prevent corrosion, shall be coated with a material unaffected by the solvent action of the contents.