AEROSPACE MATERIAL SPECIFICATION

AMS3043™	REV. F

Issued 1974-03
Reaffirmed 2014-08
Revised 2023-05

Superseding AMS3043E

Magnetic Particles, Nonfluorescent, Wet Method, Oil Vehicle, Aerosol Packaged

RATIONALE

AMS3043F is the result of a Five-Year Review and update of the specification. The revision updates use of the product in line with general industry practice (1.2), updates warnings (1.3), deletes reference to a dated specification (3.1, 3.4, and 5.1.1), eliminates preproduction approval (4.2), and updates testing protocols (3.4, 3.4.1.2, 3.4.2, and 3.4.3).

1. SCOPE

1.1 Form

This specification covers nonfluorescent magnetic particles in the form of a mixed, ready-to-use suspension in an odorless oil vehicle and packaged in aerosol cans.

1.2 Application

These particles have been used typically as the inspection medium in a wet magnetic particle inspection system in accordance with ASTM E3024/E3024M, but usage is not limited to such application.

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.

1.3.1 Material Hazards

The hazard characteristics of each material shall be properly identified, and the manufacturer shall provide an SDS (safety data sheet) which contains all relevant safety information for the product.

1.3.2 Physical Hazards

Aerosol cans may have physical hazards, e.g., gas under pressure, flammability, that should be taken into consideration during storage and use. The user should learn of these hazards and take the necessary precautions.

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SAE WEB ADDRESS: **http://www.sae.org**

For more information on this standard, visit
https://www.sae.org/standards/content/AMS3043F/

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.

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.

AMS2641 Vehicle, Magnetic Particle Inspection, Petroleum Base

AMS3042 Magnetic Particles, Nonfluorescent, Wet Method, Dry Powder

AS5282 Tool Steel Ring for Magnetic Particle Inspection

AS7766 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 D3094 Standard Test Method for Seepage Rate of Aerosol Products

ASTM E709 Standard Guide for Magnetic Particle Testing

ASTM E3024/E3024M Standard Practice for Magnetic Particle Testing for General Industry

2.3 Definitions

Terms used in AMS are defined in AS7766.

3. TECHNICAL REQUIREMENTS

3.1 Material

The product shall be composed of durable nonfluorescent magnetic particles conforming to AMS3042 which may have been treated to attain the color specified. The particles shall be mixed in the proper proportion with an inspection vehicle conforming to AMS2641 and packaged in aerosol cans.

3.2 Storage Life

The product shall meet the requirements specified in 3.3 when tested at any time up to 12 months from date of manufacture.

3.3 Properties

The product shall conform to the following requirements: tests shall be performed on the product supplied and in accordance with specified test procedures, using a test suspension prepared by spraying the complete contents of several aerosol cans into a clean container to produce at least 1 quart (1 L) of suspension, agitating the aerosol cans frequently to exhaust all particulate material.