



AEROSPACE MATERIAL SPECIFICATION	AMS2521™	REV. D
	Issued 1967-11 Revised 2001-04 Reaffirmed 2013-11 Stabilized 2019-02	
	Superseding AMS2521C	
Coating, Reflection-Reducing for Instrument Glasses		

RATIONALE

AMS2521D stabilizes this document because this document contains mature technology that is not expected to change and thus no further revisions are anticipated.

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1. SCOPE:

1.1 Form:

This specification covers optical-quality coatings applied to instrument glasses.

1.2 Application:

This coating has been used typically to reduce the intensity of reflection from the surfaces of instrument glasses and to increase light transmission through the glasses, but usage is not limited to such applications.

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 canceled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications:

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

ARP924 Specification and Inspection of Glass for Integrally Lighted Aerospace Instruments

2.2 ASTM Publications:

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

ASTM B 117 Operating Salt Spray (Fog) Testing Apparatus
ASTM D 1003 Haze and Luminous Transmittance of Transparent Plastics
ASTM E 11 Wire-Cloth Sieves for Testing Purposes
ASTM G 21 Determining Resistance of Synthetic Polymeric Materials to Fungi

2.3 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-E-12397 Eraser, Rubber-Pumice (for Testing Coated Optical Elements)
MIL-STD-1241 Optical Terms and Definitions

2.4 U.S. Army Drawings:

Available from Commander, U.S. Army, TACOM-ARDEC, Attn: AMSTA-AR-QAW-E, Picatinny Arsenal, NJ 07806-5000.

D7680606 Coating, Eraser Abrasion Tester

3. TECHNICAL REQUIREMENTS:

3.1 Material:

The composition of the coating material shall be optional with the coating vendor.

3.2 Properties of the Applied Coatings:

The coating, applied to substrate materials having indices of refraction within the range 1.47 to 1.55, shall conform to the following requirements. Tests shall be performed on the coated parts or on coated glass witness specimens of the same index of refraction and surface finish as the substrate for the coated parts, coated in the same evaporation run as the parts, and positioned in the chamber so as to represent the optical and durability characteristics of the parts.

3.2.1 Spectral Properties:

- 3.2.1.1 Specular Reflectance: The specular reflectance from each coated surface, measured with a calibrated spectrophotometer as defined in ASTM D 1003, shall not exceed the following limits for energy incident on the surface at the angles shown in Table 1.