

FILTER FOAM, FLEXIBLE POLYURETHANE
Open Pore, Polyvinylchloride Coated

1. SCOPE:

1.1 Form: This specification covers a reticulated, flexible polyurethane foam in the form of sheet coated with polyvinylchloride (PVC).

1.2 Application: Primarily for fresh air intake and exhaust filters requiring hydrolytic stability of the foam sheet resultant from the PVC coating.

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications (AMS) shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

AMS 2350 - Standard and Test Methods

2.2 ASTM Publications: Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

ASTM D635 - Rate of Burning and/or Extent and Time of Burning of
Self-Supporting Plastics in a Horizontal Position

ASTM D3574 - Testing Flexible Cellular Materials - Slab, Bonded, and Molded
Urethane Foam

2.3 U.S. Government Publications: Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

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2.3.1 Military Standards:

MIL-STD-794 - Parts and Equipment, Procedures for Packaging and Packing of
MIL-STD-810 - Environmental Test Methods

3. TECHNICAL REQUIREMENTS:

3.1 Material: Shall be a polyvinylchloride (PVC) coated, flexible polyurethane foam with controlled pore sizes of 20 and 45 pores per in. (ppi) (0.85 and 1.8 pores/mm).

3.1.1 Color: Shall be green, unless otherwise specified (See 8.1).

3.1.2 Fungus Resistance: The PVC coated foam shall be treated with a fungicide additive to prevent growth of fungus.

3.1.3 Non-Toxicity: The product shall be non-toxic and shall not cause any harmful effects when in prolonged contact with the skin.

3.2 Properties: The product shall conform to the following requirements; tests shall be performed on the product supplied and, except as otherwise specified, in accordance with ASTM D3574 insofar as practicable:

3.2.1 As Received:

3.2.1.1 Density	0.8 to 1 lb per cu ft (12.8 to 16 kg/m ³)
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3.2.1.2 Resiliency, time for recovery to 95% original thickness, max	5 sec	4.5.1
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3.2.1.3 Tensile Strength, min	10 psi (0.07 MPa)
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3.2.1.4 Tear Strength, min	2 lb per in. (350 N/m)
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3.2.2 Hydrolytic Stability:

ASTM D3574,
Procedure J₂

3.2.2.1 Change in Tensile Strength % max	10
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3.2.2.2 Evidence of Surface Deterioration	No tackiness, exudation, or cracking
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3.2.3 Flammability (See 8.2):

ASTM D635

3.2.3.1 Average Time of Burning, max 5 sec

3.2.3.2 Average Extent of Burning, max 0.1 in. (3 mm)

3.2.4 Fungus Resistance:

Non Nutrient

MIL-STD-810,
Method 5083.2.5 Low-Temperature Compression Set:

4.5.2

3.2.5.1 Percent of Original Thickness, max 25

3.2.6 Pore Size and Thickness: The foam shall be available in various pore sizes and thicknesses as follows:

<u>Pore Size (4.5.3)</u>		<u>Nominal Thickness</u>	
(ppi)	(pores/mm)	(Inch)	(Millimetres)
20	0.8	1/8 to 1	3.2 to 25
45	1.8	1/8 to 1/2	3.2 to 12

3.3 Quality: Foam, as received by purchaser, shall be uniform in quality and condition, homogeneous, and free from foreign materials and from internal and external imperfections detrimental to usage of the foam.

3.4 Tolerances: Unless otherwise specified, tolerances shall conform to the following:

3.4.1 Thickness: Shall not vary from the nominal by more than $\pm 1/32$ in. (± 0.8 mm).

3.4.2 Pore Size: Shall not vary from the nominal by more than ± 5 ppi (0.2 pores/mm).

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of foam shall supply all samples for vendor's tests and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.6. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the foam conforms to the requirements of this specification.