

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS3624

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Revised

PLASTIC MOLDINGS AND EXTRUSIONS Cellulose Acetate Butyrate

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- 1. ACKNOWLEDGMENT:** A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
- 2. FORM:** Extrusions, compression or injection moldings.
- 3. APPLICATION:** This thermoplastic product with good dimensional stability and good strength at moderate temperature ranges is primarily intended for general purpose applications requiring such properties. The product will not necessarily be suitable for exposure to aromatic fuels or excessive amounts of hydraulic fluid or engine oil.
- 4. TECHNICAL REQUIREMENTS:** (a) General.-

(1) **Color and Condition.-** Unless otherwise specified, a colorless, transparent product shall be furnished. Material shall be furnished transparent, translucent, or opaque as specified, and in the color as specified when so stipulated.

(2) **Weathering.-** When specified, a weathering test shall be conducted as agreed between the purchaser and the vendor.

(3) **Corrosion.-** The product shall not have a corrosive or other deleterious effect on other materials when exposed to conditions normally encountered in the operation of aircraft. Discoloration of metals shall not be considered objectionable.

(b) **Physical Properties.-** The product shall conform to the following requirements:

	<u>Value</u>	<u>Test Method</u>
Tensile Strength, psi, min		ASTM D638-44T
77 F	4500	
160 F ^a	2800	
Hardness, Rockwell R, min	107	ASTM D785-44T
Impact Resistance (Notched Izod), ft-lb per in. of notch, min		ASTM D256-43T, Method A
77 F	1.0	
-40 F	0.4	
Specific Gravity, 77 F/77 F, max	1.23	ASTM D792-44T
Water Absorption (24-hr immersion), % Gain, max	2.2	ASTM D570-42
% Soluble Loss, max	0.3	
Distortion Under Heat (264 psi Fiber Stress), F, min	148	ASTM D648-45T
Flammability, in. per min. max	1.0	ASTM D635-44B

^aSpecimens tested at 160 F shall be conditioned for 48 hr and tested at 160 F \pm 2 and relative humidity of 3.0% minimum.

^bSpecimens shall be 1/8 in. thick.

(c) Loss in Weight and Shrinkage on Heating.- Specimens shall be of the same dimensions as prescribed for the water absorption test and shall be similarly finished. Test specimens shall be conditioned in a forced circulation type air oven for 24 hr at 150 F \pm 4 and 6.2 \pm 0.2% relative humidity. Three conditioned specimens are to be weighed and measured and placed in the oven for 168 hr at 150 F \pm 4 and 6.2 \pm 0.2% relative humidity. The specimens are to be cooled in a desiccator, then weighed and measured. The average loss in weight on heating for three samples expressed as percentage of conditioned weight, shall be not more than 0.8%. The average lengthwise shrinkage for the same three samples expressed as percentage of conditioned length, shall be not more than 0.8%.

5. QUALITY: The product shall be uniform in quality and condition, clean, smooth, and free from foreign materials and from defects detrimental to fabrication, appearance, or performance of parts.
6. TOLERANCES: Shall be as specified on the drawing.
7. SAMPLES: When specified, the vendor of the product shall furnish molded test specimens which have been molded at the plant of the molder and represent each batch of molding compound. The vendor shall state that the molded specimens are made from the compound used on the production run and are equal in quality to the product supplied on the order.
8. REPORTS: Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report stating that the product conforms to the requirements of this specification. This report shall include the purchase order number, material specification number, vendor's compound number, percentages and specific types of plastic used, form, size or part number, and quantity.
9. IDENTIFICATION: Unless otherwise specified, all molded parts of suitable size shall have the part number molded or permanently impressed thereon. Extrusions require no identification.
10. PACKAGING: (a) Packaging shall be accomplished in such a manner as to ensure that the material or parts, during shipment and storage, will not be permanently distorted, and will be protected against exposure to undue weathering or harmful agents of any kind.

(b) Each package shall be permanently and legibly marked to give the following information:

PART NUMBER _____
 COLOR _____
 QUANTITY _____
 PURCHASE ORDER NUMBER _____
 MATERIAL SPECIFICATION NUMBER AMS 3624 _____
 MANUFACTURER'S IDENTIFICATION _____