AEROSPACE
MATERIAL SPECIFICATIONS
SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 3628

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Revised

PLASTIC EXTRUSIONS AND MOLDINGS
Polycarbonate

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. FORM: Extrusions and injection moldings.

3. APPLICATION: Primarily for mechanical parts requiring high impact strengths from -65 F to 275 F (-55 C to 135 C), clarity, high strength, and dimensional stability.

4. MATERIAL: Shall be a virgin polycarbonate resin with any necessary fillers, modifiers, and plasticizers to meet the requirements of this specification.

5. TECHNICAL REQUIREMENTS:

5.1 General:

5.1.1 Appearance: Unless otherwise specified, a light straw, transparent product shall be supplied.

5.1.2 Weathering: When specified, the product shall have weather resistance acceptable to the purchaser as determined by a procedure agreed upon by purchaser and vendor.

5.1.3 Corrosion: The product shall not have a corrosive effect on other materials when exposed to conditions normally encountered in service.

5.2 Properties: The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with the issue of listed ASTM methods specified in the latest issue of AMS 2350, insofar as practicable. When the product is of such size or shape that suitable specimens cannot be obtained, tests may be performed on specimens injection molded from the same batch of material and under conditions representative of those used in molding parts.

5.2.1	Tensile Strength, psi, min		ASTM D638
	Yield Strength	7,000	
	Ultimate Strength	8,000	
5.2.2	Elongation at Yield, %, min	40	ASTM D638
5.2.3	Flexural Modulus of Elasticity (tangent), psi, min	330,000	ASTM D790

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5.2.4 Flexural Strength, psi, min	11,000	ASTM D790
5.2.5 Impact Resistance, 0.125 in. specimen		ASTM D256, Method A
Notched, ft-lb per in., min	12	
Unnotched, ft-lb per in., min	60	
5.2.6 Deflection Temperature 264 psi fiber stress, min	264 F (128 C)	ASTM D648
5.2.7 Flammability	Self-extinguishing	ASTM D635 (0.125 in. thick specimens)
5.2.8 Water Absorption, 24 hr Immersion, %, max	0.35	ASTM D570
5.2.9 Specific Gravity, 73.4/73.4 F (23/23 C)	1.19 - 1.20	ASTM D792
5.2.10 Deformation Under Load, %, max		ASTM D621
4000 psi at 77 F ± 2 (25 C ± 1.1)	0.2	
4000 psi at 158 F ± 2 (70 C ± 1.1)	0.3	

6. QUALITY: The product shall be uniform in quality and condition, clean, smooth, and free from foreign materials and from internal and external imperfections detrimental to fabrication, appearance, or performance of parts.

7. REPORTS:

7.1 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, form, size or part number, and quantity.

7.2 Unless otherwise specified, the vendor of finished or semi-finished parts shall furnish with each shipment three copies of a report showing the purchase order number, material specification number, contractor or other direct supplier of material, supplier's compound number, part number, and quantity. When material for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of material to determine conformance to the requirements of this specification, and shall include in the report a statement that the material conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.