AEROSPACE
MATERIAL SPECIFICATIONS

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AMS 3628A
Superseding AMS 3628
Issued 1-31-64
Revised 9-30-66

PLASTIC EXTRUSIONS AND MOLDINGS
Polycarbonate

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter 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 (-54 C to +135 C), clarity, high strength, and dimensional stability.

4. MATERIAL: Shall be a 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 water-white or light straw, transparent product shall be Ø 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 ASTM methods listed in the latest issue of Ø 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, Speed C
	Ultimate Strength	8,000	
	Yield Strength	7,000	
Ø 5.2.2	Elongation at Rupture, %, min	60	ASTM D638, Speed C
5.2.3	Flexural Modulus of Elasticity (tangent), psi, min	330,000	ASTM D790
5.2.4	Flexural Strength, psi, min	11,000	ASTM D790
5.2.5	Impact Strength		ASTM D256, Method A
	Notched, ft-lb per in., min	12	(Specimen size
	Unnotched, ft-lb per in., min	60	0.500 in. x 0.125 in.)
5.2.6 Ø	Deflection Temperature, 264 psi fiber stress, min	262 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 at 73.4 F ± 2 (23 C ± 1.1), %, max	0.35	ASTM D570
5.2.9 Specific Gravity, 73.4 F/73.4 F (23 C/23 C)	1.19 - 1.21	ASTM D792
5.2.10 Deformation Under Load, % max		ASTM D621
4000 psi at 77 F ± 2 (25 C ± 1.1)	0.3	
4000 psi at 158 F ± 2 (70 C ± 1.1)	1.1	

6. QUALITY: The product shall be uniform in quality and condition, clean, smooth, and free 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.

8. IDENTIFICATION:

8.1 Unless otherwise specified, all molded parts of suitable size shall have the part number molded or permanently impressed therein. Extrusions shall be marked near one end or, if coiled, near the outside end, with the manufacturer's designation and AMS 3628A.

8.2 Each package shall be permanently and legibly marked to give the following information:

SIZE OR PART NUMBER _____
COLOR _____
QUANTITY _____
AMS 3628A _____
PURCHASE ORDER NUMBER _____
MANUFACTURER'S IDENTIFICATION _____
COMPOUND NUMBER _____

9. PACKAGING: Shall be accomplished in such a manner as to ensure that the product, during shipment and storage, will not be permanently distorted and will be protected against damage from exposure to weather or any normal hazard.

10. APPROVAL:

10.1 To assure adequate performance characteristics, compounds shall be approved by purchaser before material for production use is supplied, unless such approval be waived. Results of tests on production material shall be essentially equivalent to those on the approved sample.