AERONAUTICAL MATERIAL SPECIFICATIONS

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

AMS 3870

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Revised

CERAMIC MOLDINGS AND EXTRUSIONS
Dense Ultra-High Alumina (99% Al_2O_3)

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

2. FORM: Moldings and extrusions.

3. APPLICATION: Primarily for high temperature, low electrical loss radomes, microwave windows, and spacers.

4. TECHNICAL REQUIREMENTS:

4.1 Color: Shall be predominantly white, unless otherwise specified.

4.2 Metallizing: When specified, the material shall be capable of being metallized in accordance with procedures and requirements agreed upon by purchaser and vendor.

4.3 Properties: The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with listed ASTM methods, insofar as practicable. Tests shall be performed at 70 - 85 F unless otherwise specified.

4.3.1	Compressive Strength, psi, min	250,000	ASTM D667-44
4.3.2	Flexural Strength, psi, min	40,000	ASTM D667-44
4.3.3	Impact Strength, (1/2 in. diameter rod), in.-lb, min	7.0	ASTM D256-56
4.3.4	Specific Gravity, min	3.8	ASTM C373-56
4.3.5	Water Absorption, %, max	0.015	ASTM D116-59T
4.3.6	Dielectric Strength, 1/4 in. thick electrodes, v per mil, average, min	260	ASTM D116-59T
4.3.7	Dielectric Constant at 1 MC, max	9.5	ASTM D150-59T
4.3.8	Loss Factor, max		ASTM D150-59T
	1 MC	0.005	
	10,000 MC	0.002	
	10,000 MC at 932 F ± 10	0.003	

5. QUALITY: The product shall be uniform in quality and condition, and free from foreign materials and from internal and external imperfections detrimental to performance of parts.

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