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400 COMMONWEALTH DRIVE WARRENDALE PA 15096

AEROSPACE MATERIAL SPECIFICATION

AMS 7811A

Issued 1-15-62
Revised 10-1-82

MOLYBDENUM ALLOY SHEET, STRIP, AND PLATE

0.5Ti

Arc Cast, Stress Relieved

This specification has been declared "NONCURRENT" by the Aerospace Materials Division, SAE, as of 3-28-73. It is recommended, therefore, that this specification not be specified for new designs.

This cover sheet should be attached to the "A" revision of the subject specification.

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This specification has been declared "~~CANCELLED~~" by the Aerospace Materials Division, SAE, as of 10-1-82. By this action, subject specification number and title will be deleted from the active specification index of Aerospace Material Specifications.

This specification is under the jurisdiction of AMS Committee "G".

SAE Technical Board rules provide that: "All technical reports, including standards approved and practices recommended, are advisory only. Their use by anyone engaged in industry or trade or their use by governmental agencies is entirely voluntary. There is no agreement to adhere to any SAE standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."



AEROSPACE MATERIAL

Society of Automotive Engineers, Inc.
400 COMMONWEALTH DRIVE, WARRENDALE, PA 15096

SPECIFICATION

AMS 7811A

Issued 1-15-62

Revised 1-31-64

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1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** Primarily for parts requiring high modulus and uniform strength characteristics up to at least 2000 F. Because of its excessive oxidation rate, this material is not recommended for use in oxidizing atmospheres at 1000 F and above unless protected by a suitable coating.
3. **COMPOSITION:**

	min	max	Check Analysis	
			Under	Min or Over Max
Molybdenum	99.35 (1)	--	--	--
Titanium	0.40	0.55	0.05	0.05
Carbon	0.010	0.040	0.005	0.005
Iron	--	0.020	--	0.002
Silicon	--	0.010	--	0.002
Nickel	--	0.010	--	0.001
Oxygen	--	0.0030 (30 ppm) (2)	--	--
Nitrogen	--	0.0010 (10 ppm) (2)	--	0.0005 (5 ppm)

- (1) Determination not required for routine acceptance.
- (2) Pending establishment of approved methods of analysis, deviation from these limits alone shall not be cause for rejection.

4. **CONDITION:** Unless otherwise specified, material shall be hot-cold rolled, leveled, and fully stress relieved, having a surface appearance as close as possible to a commercial corrosion resistant steel No. 2D finish; standards for acceptance and rejection shall be as agreed upon by purchaser and vendor.
5. **TECHNICAL REQUIREMENTS:**
 - 5.1 The product shall conform to the following requirements as applicable to the orientation of specimen axis with respect to direction of rolling and shall be capable of meeting these requirements after being heated to $2000\text{ F} \pm 25$, ($1093.3\text{ C} \pm 14$), held at heat for 30 min. in a suitable controlled atmosphere, and cooled rapidly. Specimens shall be tested with axes both parallel and perpendicular to the direction of rolling, using strain rates of 0.003 - 0.007 in. per in. per min. through the yield strength and 0.010 - 0.030 in. per min. between yield and ultimate.

Section 8.3 of the SAE Technical B and rules provides that: "All technical reports, including standards approved and practices recommended, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. There is no agreement to adhere to any SAE standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the B and its Committees will not investigate or consider patents which may apply to the subject matter. Protective users of the report are responsible for protecting themselves against infringement of patents."