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AEROSPACE MATERIAL SPECIFICATION

AMS 7807A

Issued 7-15-63
Revised 10-1-82

MOLYBDENUM FORGINGS 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".

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AEROSPACE MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N. Y. 10017

~~CANCEL~~
AMS 7807A

Issued 7-15-63
Revised 3-15-66

MOLYBDENUM FORGINGS Arc Cast, Stress Relieved

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. FORM: Forgings and forging stock.
3. APPLICATION: Primarily for structural parts requiring high modulus and uniform strength characteristics at temperatures up to at least 1800 F (982 C) and for rocket nozzles. This material is not recommended for use in oxidizing atmosphere at 1000 F (538 C) and above unless protected by a suitable coating.

4. COMPOSITION:

	min	max
Molybdenum	99.90	--
Iron	--	0.020
Nickel	--	0.010
Silicon	--	0.010
Carbon	--	0.010
Oxygen	--	0.0030 (30 ppm)
Hydrogen	--	0.0010 (10 ppm)
Nitrogen	--	0.0010 (10 ppm)

- 4.1 Unless otherwise specified, metallic elements shall be determined spectrographically, carbon shall be determined conductometrically, and molybdenum shall be determined by difference. Pending establishment of approved methods of analysis for oxygen, nitrogen, and hydrogen, deviations from these limits alone shall not be cause for rejection.

5. CONDITION:

- 5.1 Forgings: Hot-cold forged, descaled, and stress-relieved.
- 5.2 Forging Stock: As extruded and stress-relieved, or recrystallized, as ordered.

6. TECHNICAL REQUIREMENTS:

6.1 Forgings:

- 6.1.1 Heat Treatment: Forgings shall be stress-relieved at such temperatures and for such times and cooling rates as may be necessary to meet the technical requirements of this specification.
- 6.1.2 Grain Structure: Forgings shall have a thoroughly wrought structure free of abnormal grain growth.
- 6.1.2.1 Grain Flow: Shall be in accordance with applicable drawings. Grain flow, when not specified on applicable drawings, shall be optional.
- 6.1.3 Hardness: Shall be not lower than Brinell 170 (1500 kg), or equivalent.

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