

**Steel Plate, Sheet and Strip, Alloy 8630,
Aircraft Quality**

CANCELLATION NOTICE

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of June, 2006 and has been superseded by the applicable AMS specification listed in Figure 1 below. The requirements of the latest issue of the AMS listed in Figure 1 shall be fulfilled whenever reference is made to the cancelled AMS-S-18728 for those materials. By this action, this document will remain listed in the Numerical Section of the Index of Aerospace Material Specifications, noting that it has been superseded by the applicable AMS.

Figure 1

AMS-S-18728 Condition	Superseding AMS Specification
Condition "A"	AMS 6350, Steel Sheet, Strip, and Plate 0.95Cr 0.20Mo (0.28-0.33C) (SAE 4130)
or Condition "MA"	AMS 6351, Steel, Sheet, Strip, and Plate 0.95Cr 0.20Mo (0.28 0.33C) (SAE 4130) Spheroidized
Condition "N"	AMS 6345, Steel, Sheet, Strip, and Plate 0.95Cr 0.20Mo (0.28 - 0.33C) Normalized or Otherwise Heat Treated

Cancelled specifications are available from SAE.

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NOTICE

This document has been taken directly from U.S. Military Specification MIL-S-18728D and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. The initial release of this document is intended to replace MIL-S-18728D. Any part numbers established by the original specification remain unchanged.

The original Military Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, and (b) the use of the existing government specification or standard format.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DOD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this technical report.

1. SCOPE:

1.1 Scope:

This specification covers chrome-nickel-molybdenum steel, 8620, plate, sheet, and strip of thicknesses to and including 1.50 inches.

1.2 Classification:

Materials covered by this specification shall be of the following physical conditions, as specified (see 6.2)

A	Annealed.
MA	Modified annealed.
NORM	Normalized or otherwise heat-treated by the producer.

2. APPLICABLE DOCUMENTS:

The following publications, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 2252	Tolerances, Low-Alloy Steel Sheet, Strip, and Plate
AMS 2301	Magnetic Particle Inspection Procedure, Aircraft Quality Steel Cleanliness
AMS 2806	Identification, Bars, Wire, Mechanical Tubing, and Extrusions, Carbon and Alloy Steels and Heat and Corrosion Resistant Steels and Alloys

2.2 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM E 8	Tension Testing of Metallic Materials
ASTM E 18	Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials
ASTM E 112	Estimating the Average Grain Size of Metals
ASTM E 290	Semi-Guided Bend Tests for Ductility of Metallic Materials

2.3 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-I-6868	Inspection Process, Magnetic Particle
FED-STD-151	Metals, Test Method
FED-STD-183	Continuous Identification Marking of Iron and Steel Products
MIL-STD-163	Steel Mill Products, Preparation for Shipment and Storage

3. REQUIREMENTS:

3.1 Material:

The steel shall be manufactured by the electric furnace process. Sufficient discard shall be taken from each ingot to insure freedom from injurious piping and undue segregation.

3.2 Quality:

The Steel shall be of aircraft quality, suitable for the fabrication by appropriate commercial procedures of reliable parts which may be inspected by magnetic methods. Materials may be inspected by magnetic particle methods conforming to MIL-I-6868 with maximum frequency and severity ratings, computed as specified by AMS 2301, not greater than 0.80 and 0.67, respectively.

3.3 Chemical composition:

The chemical composition shall be as specified in table I.

3.4 Mechanical properties:

The transverse mechanical properties shall be as specified in table II.

3.5 Transverse bending requirements, materials under 0.75 inch in thickness:

Materials shall withstand bending, without cracking, at room temperature, with the axes of bending transverse to the direction of rolling, through an angle as indicated by table III. Condition A material shall be bent around a diameter equal to the thickness of the sample. Conditions MA and NORM material shall be bent around a diameter equal to three times the thickness of the material.

3.6 Grain size:

The grain size of the steel shall be predominantly No. 5 or finer, with grains as large as No. 3 permissible in small, isolated areas.