SAE Aerospace
An SAE International Group

AEROSPACE MATERIAL SPECIFICATION

SAE AMS-W-6858B

Issued 1999-07
Revised 2000-04
Reaffirmed 2005-10
Cancelled 2007-11

Superseded by AWS D.17.2

Welding, Resistance: Spot and Seam

RATIONALE

AMS-W-6858A has been cancelled and superseded because equivalent technical requirements are provided by AWS D.17.2.

CANCELLATION NOTICE

This specification has been declared “CANCELLED” by the Aerospace Materials Division, SAE, as of November, 2007, and has been superseded by AWS D17.2. The requirements of the latest issue of AWS D17.2 shall be fulfilled whenever reference is made to the cancelled AMS-W-6858A. 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will remain listed in the Numerical Section of the Index of Aerospace Material Specifications, noting that it has been superseded by AWS D17.2, Resistance Welding for Aerospace Applications.

Cancelled specifications are available from SAE.

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NOTICE

This document has been taken directly from U.S. Military Specification MIL-W-6858D, Notice 1, Amendment 1 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-W-6858D, Notice 1, Amendment 1. 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 SAE technical document.

1. SCOPE:

1.1 Scope:

This specification covers requirements for resistance spot and seam welding of the following metals and their alloys.

Group 1 - Aluminum and magnesium
Group 2 - Iron, nickel, and cobalt
Group 3 - Titanium

1.2 Classification:

Classification is based on function and use of the welded joint, rather than certain average levels of strength. Therefore, reliability is the key underlying quality distinguishing the work for each class. The criteria described herein are intended to prevent larger variations in weld strength and quality than are compatible with the intended use.

Class A — A welded joint, whose failure during any operating condition would cause loss of the equipment or system or one or its major components, loss of control, unintentional release or inability to release any armament score, failure of gun installation components; or which may cause significant injury to occupants of manned systems.

Class B — A welded joint whose failure would reduce the overall strength of the equipment or system or preclude the intended functioning or use of equipment.

Class C — A welded joint which is considered non-critical and for which no stress analysis is considered.

1.2.1 The classification of welds in foil thickness is limited to Class A and Class C.

2. APPLICABLE DOCUMENTS:

The following documents of the issue in effect on date of invitation for bids, or request for proposal, form a part of this specification.

2.1 American Welding Society (AWS) Publications:

Available from American Welding Society Inc., 2501 N.W. 7th Street, Miami, Florida 33125)

AWS A3.0 Terms and Definitions
AWS C1.1 Recommended Practices for Resistance Welding