

AWS D8.2M:20XX
An American National Standard

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American National Standards Institute
XXXXXX

Specification for Automotive Weld Quality— Resistance Spot Welding of Aluminum

2nd Edition

Revises AWS D8.2M:2017

Prepared by the
American Welding Society (AWS) D8 Committee on Automotive Welding

Under the Direction of the
AWS Technical Activities Committee

Approved by the
AWS Board of Directors

Abstract

This document contains both visual and measurable acceptance criteria for resistance spot welds in aluminum. The information contained herein may be used as an aid by designers, resistance welding equipment manufacturers, welded product producers, and others involved in the automotive industry and resistance spot welding of aluminum.



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This revision of AWS D8.2M, *Specification for Automotive Weld Quality – Resistance Spot Welding of Aluminum Materials*, is respectfully dedicated to the memory of Bill Qualls, who served on the AWS D8 Committee on Automotive Welding since 2005 and as the Chairman of the AWS D8D Subcommittee on Automotive Resistance Spot Welding since 2015.

The Committee sadly misses his leadership, wisdom, and friendship. His commitment and significant contributions to the advancement of the automotive industry and resistance welding will live on through this new revision.

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Personnel

AWS D8 Committee on Automotive Welding [To be added at typesetting]

Advisors to the AWS D8 Committee on Automotive Welding

AWS D8D Subcommittee on Automotive Resistance Spot Welding

Advisors to the AWS D8D Subcommittee on Automotive Resistance Spot Welding

Foreword

This foreword is not part of this standard, but is included for informational purposes only.

This document was prepared to establish post-weld acceptance criteria for resistance spot welds in automotive structures fabricated from aluminum. As a specification, the criteria and techniques contained herein are obligatory when cited as a normative reference on a drawing or in a contract.

This specification was prepared by a Task Group of the D8D Subcommittee on Automotive Resistance Spot Welding of the AWS D8 Committee on Automotive Welding.

Editorial and technical revisions from the previous edition are indicated by underlining text. Changes in tables and figures have a single, vertical line in the margin.

Comments and inquiries concerning this standard are welcome. They should be sent to the Secretary, AWS D8 Committee on Automotive Welding, American Welding Society, 8669 NW 36 St, # 130 Miami, FL 33166.

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Specification for Automotive Weld Quality—Resistance Spot Welding of Aluminum

1. General Requirements

1.1 Scope. This specification expresses the quality characteristics and metrics pertinent to individual resistance spot welds on automotive aluminum structures. The acceptance criteria are the same for all welds regardless of the service load and intended to be applied in conditions typically encountered during manufacturing. Welds at variance from the stated weld quality criteria in this document can still have mechanical properties that satisfy product and design requirements as per agreement between customer and supplier. Any attempted application of this document or the evaluation criteria used herein to other uses, for example post-crash weld quality assessment, may lead to an erroneous result.

1.2 Units of Measurement. This standard makes sole use of the International System of Units (SI).

1.3 Safety. Safety issues and concerns are addressed in this standard, although health issues and concerns are beyond the scope of this standard. Safety and health information is available from the following sources:

American Welding Society:

- (1) ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*
- (2) AWS Safety and Health Fact Sheets
- (3) Other safety and health information on the AWS website

Material or Equipment Manufacturers:

- (1) Safety Data Sheets supplied by materials manufacturers
- (2) Operating Manuals supplied by equipment manufacturers

Applicable Regulatory Agencies

Work performed in accordance with this standard may involve the use of materials that have been deemed hazardous, and may involve operations or equipment that may cause injury or death. This standard does not purport to address all safety and health risks that may be encountered. The user of this standard should establish an appropriate safety program to address such risks as well as to meet applicable regulatory requirements. ANSI Z49.1 should be considered when developing the safety program.

2. Normative References

The documents listed below are referenced within this publication and are mandatory to the extent specified herein. For undated references, the latest edition of the referenced standard shall apply. For dated references, subsequent amendments or revisions of the publications may not apply since the relevant requirements may have changed.

American Welding Society (AWS) documents:

AWS A3.0M/A3.0, *Standard Welding Terms and Definitions Including Terms for Adhesive Bonding, Brazing, Soldering, Thermal Cutting, and Thermal Spraying.*

AWS D8.9M, *Test Methods for Evaluating the Resistance Spot Welding Behavior of Automotive Sheet Steel Materials.*