


AWS D8.6:2005
An American National Standard



Specification for Automotive Resistance Spot Welding Electrodes



American Welding Society



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An American National Standard**

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Specification for Automotive Resistance Spot Welding Electrodes

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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 specification outlines the requirements for resistance welding electrodes relating to the automotive welding industry.



American Welding Society

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Specification for Automotive Resistance Spot Welding Electrodes

1. Scope

This specification outlines the requirements for resistance spot welding electrodes, hereafter referred to as AWS RSW electrodes or simply RSW electrodes.

RSW electrodes shall comply with Resistance Welder Manufacturers' Association (RWMA) standards in addition to the specifications and requirements of this specification. In case of any conflict between RWMA standards and AWS standards, the AWS specification shall govern. Examples of several widely used commercially available standard automotive industrial type caps and shanks are shown in the informative annexes.

This specification makes sole use of U.S. Customary Units. Approximate mathematical equivalents in the International System of Units (SI) are provided for comparison in parentheses or in appropriate columns in tables and figures.

Safety and health issues and concerns are beyond the scope of this specification, and therefore are not fully addressed herein. Safety and health information is available from other sources, including, but not limited to, ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*, and applicable federal and state regulations.

2. Normative References

The following standard contains provisions which, through reference in this text, constitute provisions of this AWS standard. For undated references, the latest edition of the referenced standard shall apply. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply.

1. RWMA Bulletin 16, *Resistance Welding Equipment Standards*, Section 1¹; and

¹RWMA standards are published by the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

2. AWS A3.0, *Standard Welding Terms and Definitions Including Terms for Adhesive Bonding, Brazing, Soldering, Thermal Cutting, and Thermal Spraying*.²

3. Terms and Definitions

The definitions given here are the names and descriptions of the various types, shapes, and configurations used to identify resistance spot welding electrodes. All other terms used herein are defined by AWS A3.0, *Standard Welding Terms and Definitions*.

For the purposes of this document, the following terms and definitions apply:

resistance spot welding (RSW) electrodes. The component of a resistance welding machine through which the welding current and, in most cases, pressure are applied directly to the work.

electrode shapes. The various forms of RSW electrodes covered by this standard are as follows:

1. Straight electrodes with tapered shanks
2. Straight electrodes with straight shanks
3. Electrode caps and cap-adaptor shanks
4. Single-bend electrodes
5. Double-bend electrodes
6. Special-faced electrodes

The RSW **electrode tapers** and **straight shanks** are shown and defined in Figure 12 (see Clause 7) of this specification.

nose configurations. The following nose styles are shown and defined in Figure 13 (see 7.2) of this specification.

1. Type A—Pointed

²AWS standards are published by the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.