

**AWS B2.1-8-005:2002**  
**An American National Standard**

**Standard Welding Procedure  
Specification (SWPS) for**

**Gas Metal Arc Welding  
(Short Circuiting  
Transfer Mode) of  
Austenitic Stainless  
Steel (M-8, P-8, or S-8),  
18 through 10 Gauge,  
in the As-Welded  
Condition, with or  
without Backing**

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**Key Words**— Welding procedure specification, WPS, standard welding procedure specification, SWPS, base metal, allowable joint designs, filler metal, stainless steel, semiautomatic, gas metal arc welding, short circuiting transfer mode

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**Approved by**  
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in the As-Welded Condition,  
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**Supersedes ANSI/AWS B2.1.005-90**

Prepared by  
AWS B2 Committee on Welding Qualification

Under the Direction of  
AWS Technical Activities Committee

Approved by  
AWS Board of Directors

## **Abstract**

This standard contains the essential welding variables for welding austenitic stainless steel in the thickness range of 18 through 10 gauge, using semiautomatic gas metal arc welding (short circuiting transfer mode). It cites the base metals and operating conditions necessary to make the weldment, the filler metal specifications, and the allowable joint designs for fillet welds and groove welds.



**American Welding Society**

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# Standard Welding Procedure Specification (SWPS)

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## Gas Metal Arc Welding (Short Circuiting Transfer Mode) of Austenitic Stainless Steel (M-8, P-8, or S-8), 18 through 10 Gauge, in the As-Welded Condition, with or without Backing

Welding Research Council<sup>1</sup>—Supporting PQR Numbers: 068A, 070A, 071B, 072B, 073A, 074A, 075A, 076A, 077A, 078A, and 079A

### Requirements for Application of SWPSs

**Scope.** The data to support this Standard Welding Procedure Specification (SWPS) have been derived from the above listed Procedure Qualification Records (PQRs) which were reviewed and validated under the auspices of the Welding Research Council. This SWPS is not valid using conditions and variables outside the ranges listed. The American Welding Society considers that this SWPS presents information for producing an acceptable weld using the conditions and variables listed. The user needs a significant knowledge of welding and accepts full responsibility for the performance of the weld and for providing the engineering capability, qualified personnel, and proper equipment to implement this SWPS.

**Application.** This SWPS is to be used only as permitted by the applicable fabrication document(s) [such as code, specification, or contract document(s)]. The fabrication document(s) should specify the engineering requirements such as design, need for heat treatment, fabricating tolerances, quality control, and examination and tests applicable to the end product.

**User's Responsibility.** A SWPS does not replace or substitute for fabrication codes, specifications,

contract requirements, or capability and judgment on the part of the user. A SWPS is to be used only as permitted by the applicable fabrication code, specification, or contract document.

The ability to produce production welds having properties suitable for the application depends upon supplementing the SWPS with appropriate performance qualification tests and sound engineering judgment. The user is responsible for the quality and performance of the final product in accordance with the provisions of the fabrication document(s).

**Supplementary Instructions.** To adapt this SWPS to a specific application, a user may issue supplementary instructions. Such instructions may consist of tighter fit-up tolerances, higher minimum preheat temperature or any other instructions necessary to produce a weldment that meets the requirements of the fabrication document(s). These instructions shall not be less restrictive than provided in the SWPS.

**Safety.** Safety precautions shall conform to the latest edition of ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society.

This specification may involve hazardous materials, operations, and equipment. The specification does not purport to address all of the safety problems associated with its use. It is the responsibility of the user to establish appropriate safety and health practices. The user should determine the applicability of any regulatory limitations prior to use.

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