

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

**Argon Plus 25% Carbon  
Dioxide Shielded Gas Metal  
Arc Welding (Short Circuiting  
Transfer Mode) followed by  
Argon Plus 2% Oxygen  
Shielded Gas Metal Arc  
Welding (Spray Transfer  
Mode) of Carbon Steel  
(M-1/P-1/S-1, Groups 1 and 2),  
1/8 through 1-1/2 inch Thick,  
ER70S-3, As-Welded or  
PWHT Condition, Primarily  
Pipe Applications**

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**Approved by the**  
**American National Standards Institute**  
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Argon Plus 25% Carbon Dioxide Shielded Gas Metal Arc  
Welding (Short Circuiting Transfer Mode) followed by  
Argon Plus 2% Oxygen Shielded Gas Metal Arc Welding  
(Spray Transfer Mode) of Carbon Steel (M-1/P-1/S-1,  
Groups 1 and 2), 1/8 through 1-1/2 inch Thick,  
ER70S-3, As-Welded or PWHT Condition,  
Primarily Pipe Applications**

Prepared by the  
American Welding Society (AWS) B2 Committee on Welding Procedure and Performance Qualification

Under the Direction of the  
AWS Technical Activities Committee

Approved by the  
AWS Board of Directors

## **Abstract**

This standard contains the essential welding variables for carbon steel in the thickness range of 1/8 through 1-1/2 inch, using Argon plus 25% Carbon Dioxide shielded gas metal arc welding (short circuiting transfer mode) for the root followed by Argon plus 2% Oxygen shielded gas metal arc welding (spray transfer mode) for the balance. It cites the base metals and operating conditions necessary to make the weldment, the filler metal specifications, and the allowable joint designs for groove welds. This WPS was developed primarily for pipe applications.



**American Welding Society**

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