



Base Metal Grouping for Welding Procedure and Performance Qualification



American Welding Society®

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Base Metal Grouping for Welding Procedure and Performance Qualification

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

Under the Direction of the
AWS Technical Activities Committee

Approved by the
AWS Board of Directors

Abstract

This document provides the AWS base metal grouping for welding procedure and performance qualification and is identical to Annex D of AWS B2.1/B2.1M:2009-ADD1, *Specification for Welding Procedure and Performance Qualification*.



American Welding Society®

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K. Y. Lee	<i>U.S. Department of Transportation</i>
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A. S. Olivares	<i>HSB Global Standards</i>
J. F. Pike	<i>NASA Langley Research Center</i>
W. M. Ruof	<i>Bechtel Plant Machinery, Incorporated</i>
J. J. Sekely	<i>Welding Services, Incorporated</i>
M. R. Stone	<i>Canadian Welding Bureau</i>
M. L. Thomas	<i>Rocky Mountain Testing, LLC</i>
G. M. Wisbrock, Jr.	<i>Consultant</i>
R. K. Wiswesser	<i>Welder Training & Testing Institute</i>

Advisors to the AWS B2 Committee on Procedure and Performance Qualification

W. L. Ballis	<i>Consultant</i>
J. D. Duncan	<i>Consultant</i>
N. K. Kanaya	<i>BEAR Testing Laboratory</i>
B. B. MacDonald	<i>Consultant</i>
A. W. Sindel	<i>Alstom Power Steam</i>
C. E. Spaeder	<i>Consultant</i>
W. J. Sperko	<i>Sperko Engineering Service</i>
R. F. Waite	<i>Consultant</i>

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G. S. Michels	<i>Summit Consulting</i>
A. S. Olivares	<i>HSB Global Standards</i>
J. F. Pike	<i>NASA Langley Research Center</i>
J. J. Sekely	<i>Welding Services, Incorporated</i>
G. E. Wisbrock, Jr.	<i>Consultant</i>
R. K. Wiswesser	<i>Welder Training & Testing Institute</i>

Advisors to the AWS B2B Subcommittee on Welding Qualifications

W. L. Ballis	<i>Consultant</i>
J. D. Duncan	<i>Consultant</i>
J. G. Feldstein	<i>Foster Wheeler North America</i>
N. K. Kanaya	<i>BEAR Testing Laboratory</i>
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C. E. Spaeder	<i>Consultant</i>
L. T. Vernam	<i>AlcoTec Wire Corporation</i>
G. E. Wisbrock, Jr.	<i>Consultant</i>

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J. J. Sekely	<i>Welding Services, Incorporated</i>
M. R. Stone	<i>Canadian Welding Bureau</i>
G. M. Wisbrock, Jr.	<i>Lockheed Martin Missiles and Fire Control (Retired)</i>
R. K. Wiswesser	<i>Welder Training and Testing Institute</i>

Advisors to the AWS B2 Committee on Procedure and Performance Qualification

W. L. Ballis	<i>Consultant</i>
J. D. Duncan	<i>Consultant</i>
N. K. Kanaya	<i>BEAR Testing Laboratory</i>
B. B. MacDonald	<i>Consultant</i>
A. W. Sindel	<i>Alstom Power—USA</i>
C. E. Speader, Jr.	<i>Aristech Chemical Corporation</i>
W. J. Sperko	<i>Sperko Engineering Services</i>
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R. K. Wiswesser	<i>Welder Training and Testing Institute</i>

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W. L. Ballis	<i>Consultant</i>
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Advisor to the AWS B2D Subcommittee on Standard Welding Procedure Specifications

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A. Lopez	<i>Dow Chemical</i>
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Base Metal Grouping for Welding Procedure and Performance Qualification

1. Scope

This publication is an extract of AWS B2.1/B2.1M:2009-ADD1, *Specification for Welding Procedure and Performance Qualification*, and is identical to Annex D, Base Metal Grouping, in the 2009 Addenda edition of that standard. This publication supersedes AWS B2.1-BMG:2005. Underlined text or a vertical line in the margin indicates a revision from the 2005 edition.

This publication may be referred to by other codes and standards that have welding procedure and performance requirements in order to avoid duplication of materials tables in those publications.

Base metals and filler metals have been grouped into categories that will minimize the number of qualification tests required. Substitution of one base metal or filler metal for another, even when within the allowable rules, should only be made after an evaluation of the factors involved. For some materials, additional tests may be required. Materials not listed require separate qualification.

Addenda

The following Addenda have been identified and are incorporated in this reprint.

Page 3—**D1. Base Metal Specifications**—*Remove “AISI”*

Page 3—**D1. Base Metal Specifications**—*Add “Table D.3 lists base metal specifications for iron castings in accordance with AWS D11.2 groups.”*

Pages 4–67—**Table D.1, List of Base Metal Specifications**—*New base metals have been added and corrections have been made to Table D.1*

Pages 68–192—**Table D.2, M-Number Listing of Base Metals**—*New base metals have been added and corrections have been made to Table D.2*

Annex D (Normative)

Base Metal Grouping

This annex is part of AWS B2.1/B2.1M-BMG-ADD1:2009, *Base Metal Grouping for Welding Procedure and Performance Qualification*, and includes mandatory elements for use with this standard.

D1. Base Metal Specifications

Table D.1 indexes ASTM, ABS, API, AS, AS/NZS, CSA, AMS, ISO, NACE, and MSS base metals in numerical order to provide ease of reference when determining into what grouping a particular base metal specification falls.

Table D.2 groups base metals for welding procedure and performance qualification on the basis of mechanical properties, chemical composition, and metallurgical compatibility to minimize the number of welding qualification where this can logically be done.

Table D.3 lists base metal specifications for iron castings in accordance with AWS D11.2 groups.

D2. Material Number (M-Number) Groupings

Base metal has been divided into general categories, e.g., Material Numbers (M-Numbers) 1, 1A, 3, 3A, 4, 4A, etc., and further divided into groups within each general category.

The category grouping does not imply that base metals may be substituted for other base metals within the same Material Number (M-Number) without consideration for weldability.

D3. Iron Castings Specifications

Base metal specifications for iron castings are divided into D11.2 groups.