

Specification for the Qualification of Welder Test Facilities



American Welding Society



Documents

Document Sharing Hub

Key Words—Test facility, qualification, laboratory,
welders, assessor, assessment

AWS B5.4:2005
An American National Standard

Approved by
American National Standards Institute
March 11, 2005

Specification for the Qualification of Welder Test Facilities

Supersedes in part QC4-89

Prepared by
AWS B5J Subcommittee on Test Facilities

Under the Direction of
AWS Personnel and Facility Qualification Committee

Approved by
AWS Board of Directors

Abstract

This specification defines the requirements to qualify welder test facilities. It details the methods of qualification, test facility requirements, and the assessment requirements.



American Welding Society

550 N.W. LeJeune Road, Miami, Florida 33126



Documents

Document Sharing Hub

Statement on Use of AWS American National Standards

All standards (codes, specifications, recommended practices, methods, classifications, and guides) of the American Welding Society (AWS) are voluntary consensus standards that have been developed in accordance with the rules of the American National Standards Institute (ANSI). When AWS standards are either incorporated in, or made part of, documents that are included in federal or state laws and regulations, or the regulations of other governmental bodies, their provisions carry the full legal authority of the statute. In such cases, any changes in those AWS standards must be approved by the governmental body having statutory jurisdiction before they can become a part of those laws and regulations. In all cases, these standards carry the full legal authority of the contract or other document that invokes the AWS standards. Where this contractual relationship exists, changes in or deviations from requirements of an AWS standard must be by agreement between the contracting parties.

International Standard Book Number: 0-87171-606-2

American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126

© 2005 by American Welding Society. All rights reserved

Printed in the United States of America

AWS American National Standards are developed through a consensus standards development process that brings together volunteers representing varied viewpoints and interests to achieve consensus. While AWS administers the process and establishes rules to promote fairness in the development of consensus, it does not independently test, evaluate, or verify the accuracy of any information or the soundness of any judgments contained in its standards.

AWS disclaims liability for any injury to persons or to property, or other damages of any nature whatsoever, whether special, indirect, consequential or compensatory, directly or indirectly resulting from the publication, use of, or reliance on this standard. AWS also makes no guaranty or warranty as to the accuracy or completeness of any information published herein.

In issuing and making this standard available, AWS is not undertaking to render professional or other services for or on behalf of any person or entity. Nor is AWS undertaking to perform any duty owed by any person or entity to someone else. Anyone using these documents should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances.

This standard may be superseded by the issuance of new editions. Users should ensure that they have the latest edition.

Publication of this standard does not authorize infringement of any patent or trade name. Users of this standard accept any and all liabilities for infringement of any patent or trade name items. AWS disclaims liability for the infringement of any patent or product trade name resulting from the use of this standard.

Finally, AWS does not monitor, police, or enforce compliance with this standard, nor does it have the power to do so.

On occasion, text, tables, or figures are printed incorrectly, constituting errata. Such errata, when discovered, are posted on the AWS web page (www.aws.org).

Official interpretations of any of the technical requirements of this standard may only be obtained by sending a request, in writing, to the Managing Director, Technical Services Division, American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126 (see Annex D). With regard to technical inquiries made concerning AWS standards, oral opinions on AWS standards may be rendered. However, such opinions represent only the personal opinions of the particular individuals giving them. These individuals do not speak on behalf of AWS, nor do these oral opinions constitute official or unofficial opinions or interpretations of AWS. In addition, oral opinions are informal and should not be used as a substitute for an official interpretation.

This standard is subject to revision at any time by the AWS Personnel and Facilities Qualification Committee. It must be reviewed every five years, and if not revised, it must be either reaffirmed or withdrawn. Comments (recommendations, additions, or deletions) and any pertinent data that may be of use in improving this standard are required and should be addressed to AWS Headquarters. Such comments will receive careful consideration by the AWS Personnel and Facilities Qualification Committee and the author of the comments will be informed of the Committee's response to the comments. Guests are invited to attend all meetings of the AWS Personnel and Facilities Qualification Committee to express their comments verbally. Procedures for appeal of an adverse decision concerning all such comments are provided in the Rules of Operation of the Technical Activities Committee. A copy of these Rules can be obtained from the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

Photocopy Rights

Authorization to photocopy items for internal, personal, or educational classroom use only, or the internal, personal, or educational classroom use only of specific clients, is granted by the American Welding Society (AWS) provided that the appropriate fee is paid to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, Tel: 978-750-8400; online: <http://www.copyright.com>.

Personnel

AWS Personnel and Facility Qualification Committee

<i>J. F. Harris, Chair</i>	Ashland Chemical Company
<i>P. R. Evans, 1st Vice Chair</i>	PCI Energy Services
<i>W. F. Behnke, 2nd Vice Chair</i>	Visteon—Sterling Plant
<i>S. P. Hedrick, Secretary</i>	American Welding Society
<i>K. W. Coryell</i>	Consultant
<i>J. A. Grantham</i>	Welding & Joining Management Group
<i>P. A. Grimm</i>	Modern Welding Company
<i>V. Kuruvilla</i>	Havens Steel Company
<i>R. D. Messer</i>	Consultant
<i>P. A. Michalski</i>	Dominion East Ohio
<i>B. W. Phillips</i>	Oil States Industries, Incorporated
<i>R. Poe</i>	Stoody
<i>J. R. Reid</i>	Reid Consulting
<i>Y. Senechal</i>	Canadian Welding Bureau
<i>R. C. Stevens</i>	Stevens Engineering, LLC
<i>D. L. Twitty</i>	Dona Ana Branch Community College
<i>T. W. Wallace</i>	Metro Water District of Southern California

AWS B5J Subcommittee on Tests Facilities

<i>B. W. Phillips, Chair</i>	Oil States Industries, Incorporated
<i>S. P. Hedrick, Secretary</i>	American Welding Society
<i>D. Diaz</i>	ETMS
<i>F. J. Fascenda</i>	Ventura Inspection
<i>S. L. Raymond</i>	East Coast Welding Assessor
<i>R. C. Stevens</i>	Stevens Engineering, LLC
<i>*M. Sandvig</i>	AET

*Advisor

This page is intentionally blank.

Foreword

(This Foreword is not a part of AWS B5.4:2005, *Specification for the Qualification of Welder Test Facilities*, but is included for informational purposes only.)

Purpose

The purpose of this specification is to establish the requirements for a facility to conduct performance qualification testing of welders. These requirements include personnel, organization, procedures, equipment, capability, and commitment to conduct such testing. This specification also describes the activities and responsibilities of the test facility to achieve this purpose.

Note: It is the test facilities representative's responsibility to be sure their inspectors meet any state or local requirements for qualifications and reporting organization.

History

This specification supersedes and replaces in part AWS standard QC4-89, *Standard for the Accreditation of Test Facilities for the AWS Certified Welder Program*. This standard defines the requirements for qualification of the facility but does not address requirements for the accreditation of the facility. This approach is the result of the division of qualification from certification activities that AWS instituted in 1996. At that time, the functions of the existing AWS Qualification and Certification Committee were divided. Activities concerning qualification were assigned to a new B5 Qualification Committee under the direction of the Technical Activities Committee. Certification activities were assigned to a new standing committee, the AWS Certification Committee. The Certification Committee and the Technical Activities Committee report to the same AWS Standards Council.

In 1996, the B5J Subcommittee on Test Facilities was formed to draft a specification on the qualification of test facilities, independent of the accreditation of those facilities. Users of this standard who are interested in accreditation of welder test facilities should consult the corresponding certification standard.

Comments and suggestions for the improvement of this standard are welcome. They should be sent to the Secretary, AWS Personnel and Facility Qualification Committee, American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

Official interpretations of any of the technical requirements of this standard may only be obtained by sending a request, in writing, to the Managing Director, Technical Services Division, American Welding Society (see Annex D). A formal reply will be issued after it has been reviewed by the appropriate personnel following established procedures.

This page is intentionally blank.

Table of Contents

	Page No.
<i>Personnel</i>	iii
<i>Foreword</i>	v
1. Scope	1
1.1 Requirements	1
1.2 Procedure	1
1.3 Safety Precautions	1
1.4 Terminology Guideline	1
2. Referenced Documents	1
3. Definitions	1
4. Levels of Qualification	2
5. Test Facility Requirements	2
5.1 General Requirements	2
5.2 Quality Control Program	2
5.3 Personnel	3
5.4 Welding Equipment	3
5.5 Measuring and Testing Equipment	3
5.6 Calibration	4
5.7 Metals and Materials	4
5.8 Test Methods and Procedures	4
5.9 Environment	4
5.10 Handling of Items to be Tested	4
5.11 Records and Test Reports	5
5.12 Welder Training	5
6. Assessments	5
<i>Nonmandatory Annexes</i>	7
<i>Annex A—Recommended Reference List</i>	7
<i>Annex B—Qualification of Assessors</i>	9
<i>Annex C—Assessment Requirements</i>	11
<i>Annex D—Guidelines for Preparation of Technical Inquiries for AWS Technical Committees</i>	13