



AWS Structural Welding Fabrication Quality Manual Sample

Selected pages (not a complete manual)

Sample includes:

- ✓ **Quality Manual Pages**
- ✓ **Forms Examples**

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Fabrication Quality Manual

Operating Policies of the [CompanyName] Quality System

	notes
[Date]	Initial issue

Approval Signature and Date: _____

President/ Date

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QUALITY MANUAL

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1. MANAGEMENT SUPPORT AND RESPONSIBILITY

STATEMENT OF AUTHORITY AND RESPONSIBILITY

1.1. STATEMENT OF AUTHORITY AND RESPONSIBILITY

Responsibilities for quality are specified not only for compliance with policies and procedures but also so that decisions are based on principles that ensure quality.

Documented responsibilities ensure that expected behaviors are communicated throughout the company rather than left to discretionary interpretation.

1.2. QUALITY MANUAL CONFORMANCE

For this Quality Manual, the following codes determine the rules for controlling welding process including weld acceptance at the [CompanyName] facility.

Reference Standard No.	Reference Standard Title
AWS D1.1/D1.1M	Structural Welding Code – Steel
AWS D1.2	Structural Welding – Aluminum
AWS D1.3	Structural Welding – Sheet Metal
AWS D1.4	Structural Welding – Reinforcing Steel
AWS D1.6	Structural Welding – Stainless Steel
AWS D1.7	Structural Welding – Strengthening and Repair

1.3. [COMPANYNAME] QUALITY PROGRAM SUPPORT

Quality is everyone's responsibility. The President holds everyone in the organization personally accountable for adhering to the [CompanyName] Quality Program policies and procedures.

The [CompanyName] Quality Policy describes the [CompanyName] commitment to quality and reinforces compliance with the Quality Program.

The President communicates the Quality Policy message throughout the company so that all employees understand their respective quality responsibilities.

The President reviews the [CompanyName] Quality Policy with all employees at least annually.

The President ensures that a copy of the [CompanyName] Quality Policy is distributed to all employees and is posted in all offices.

1.4. QUALITY DUTIES, RESPONSIBILITIES, AND AUTHORITY

While all personnel assigned to quality have the duties, responsibilities and authority defined by their job position, all QC personnel have the authority to identify quality problems, verify implementation of

7. WELDING PROCEDURE SPECIFICATIONS AND PROCEDURES FOR QUALIFICATION RECORDS

7.1. WELDING PROCEDURE SPECIFICATIONS (WPS)

Welding procedure specifications shall be qualified and approved in accordance with the applicable AWS Welding Code(s) or Specification(s) (i.e., D1.1., D1.5) or AWS B2.1, *Specification for Welding Procedure and Performance Qualification*.

When the governing AWS Welding Code(s) mandates that welding procedures be qualified by test, the [CompanyName] shall have PQRs that support the applicable WPSs. When prequalified WPSs or Standard Welding Procedure Specifications (SWPSs) published by the AWS are permitted, PQRs are not required.

The Quality Manager or a Certified Welding Inspector (CWI) reviews and approves the welding procedure before being used in production welding operations.

Revisions to the WPSs and PQRs are controlled by the Quality Manager according by the document and record control procedures specified in the relevant section of this Quality Manual.

The applicable WPSs shall be available to welders or welding operators during testing and production welding.

The Quality Manager is responsible for selecting and assigning welding procedures. The Quality Manager or qualified designee shall ensure that welding procedures are listed on applicable shop fabrication drawings.

7.2. WELDER PERFORMANCE QUALIFICATIONS

For each project, the Quality Manager will determine welder certification requirements for codes and welding procedures.

7.2.1. CERTIFIED WELDER QUALIFICATION REQUIREMENTS

Only certified welders may perform welding activities. Welders must be certified and maintain a valid certification in accordance with the AWS Welder Certification Program and have completed the necessary tests in accordance with QC7, *Standard for AWS Certified Welders*.

The Quality Manager or a Certified Welding Inspector (CWI) will review and approve the welder and welding operator's qualification record for compliance with the necessary code(s) before they begin welding on a specific job.

7.2.2. RETESTING BASED ON QUALITY OF WORK

In addition to welder certification, welding personnel may be required to be retested based on the following criteria:

- An interview of the welder
- Increased visual inspection for a limited time period
- Observation of the welding, or a simplified weld test developed to evaluate the issue of concern
- Requalification in compliance the applicable code(s)

7.2.3. RETESTING BASED ON QUALIFICATION EXPIRATION

If evidence cannot be supplied that shows a welder, welding operator, or tack welder has used the welding process within the last six months, he or she is not considered qualified to weld using that process without new qualification testing.

7.2.4. WELDER ID

Welders must stamp their welds with their unique welder ID stamp, which may be a number, letter or symbol.

7.3. WELD INSPECTOR QUALIFICATIONS

[CompanyName] uses only qualified weld inspectors. If an AWS Certified Welding Inspector is not used, the Quality Manager will ensure that the weld inspector is qualified and certified in accordance with [CompanyName]'s written practice based on current ASNT (American Society for Nondestructive Testing) SNT-TC-1A (VT). The certification process will include the educational, training, experience and testing provisions described in SNT-TC-1A (VT).

The Quality Manager will ensure that inspectors are knowledgeable with the code(s) which applies to the fabrication work being performed.

7.4. NDE INSPECTOR QUALIFICATIONS

[CompanyName] uses only qualified NDE Inspectors. The Quality Manager will ensure that Radiographic Interpreters are certified in accordance with AWS B5.15, *Specification for the Qualification of Radiographic Interpreters*. Alternatively, Radiographic Interpreters may be qualified and certified in accordance with [CompanyName]'s written practice based on ASNT SNT-TC-1A. The certification process will include the educational, training, experience, and testing provisions described in SNT-TC-1A. These requirements will also apply to personnel performing other NDE methods, (e.g. MT, PT, and UT).

7.5. NDE PROCEDURES

The Quality Manager ensures that NDE shall be performed in accordance written NDE procedures by a certified NDE inspector.

The NDE procedures shall be approved by a Level III in the NDE method(s) that the procedure is based on. The Level III shall be qualified and certified in accordance with the [CompanyName]'s written practice based on ASNT SNT-TC-1A: *Personnel Qualification and Certification in Nondestructive Testing*. The certification process shall include the educational, training, experience, and testing provisions described in SNT-TC-1A.

The Quality Manager ensures that NDE test procedures will be issued, revised and distributed according the Documents and Record control procedures described in the Document Controls section of this Quality Manual.

7.5.1. NDE SUBCONTRACTOR

If subcontractors are used, The Quality Manager ensures that NDE Subcontractor personnel meet the same qualification requirements as [CompanyName] personnel. The Quality Manager will review and approve all NDE Subcontractor personnel.

8. PURCHASING

8.1. OVERVIEW

[CompanyName] verifies the qualifications of suppliers to ensure that they are capable of completely carrying out their assigned responsibilities. Quality requirements are defined, verified, and documented before they are approved for a job.

8.2. PURCHASE ORDER REQUIREMENTS

The Operations Manager ensures that materials, equipment, and services are purchased only from qualified suppliers

The Operations Manager holds outside organizations to the same quality requirements that must be met by [CompanyName]. The Operations Manager ensures that purchase orders clearly specify quality requirement expectations including:

- Conformance to contract specifications
- Conformance to quality standards
- Quality Management practices including
 - Performance of self-inspections.
 - Control of quality non-conformances and responsive corrections
 - Prevention of non-conformances
 - Controls that ensure completion of post-Welding and Fabrication service work
 - Participation in quality training
- Preparation of submittals
- Handling, storage, packaging, and delivery, as applicable
- Product or material identification for traceability

8.3. MATERIAL PURCHASE ORDER APPROVALS

Only approved materials are used in the fabrication process. Only approved materials are specified in purchase and/or subcontracts. Specifications for procurement will vary depending on material and will be in conformance with this code.

The Operations Manager ensures that contracts and purchase orders are issued only to qualified outside organizations. The Operations Manager reviews, approves, and signs each purchase order to ensure the correct equipment and materials are purchased.

8.3.1.1. WELD FILLER MATERIAL PURCHASE ORDERS

For all weld filler material purchase orders, the relevant specifications will be included in the Terms and Conditions of procurement. Specifications for procurement will vary depending on material and will be in conformance with ANSI/AWS A.5, *Filler Metal Procurement Guidelines*. If AWS filler metals are not used, then procedure qualification testing is required.

The supplier must agree to the purchase order terms and specifications, and then sign the contract or purchase order.

10. MEASURING DEVICE CONTROL AND CALIBRATION

10.1. CALIBRATION

[CompanyName] uses measuring and testing equipment in its fabrication process to measure dimensions and perform flaw detection on sheet, tube, or pipe.

Prior to the start of every job, the Quality Manager evaluates the job requirements and determines if there are measuring devices that require controls to assure quality results.

For each type of device, the Quality Manager identifies:

- Restrictions for selection
- Limitations on use.
- National measurement standard
- Calibration procedure requirements including the calibration technique, frequency of calibration or conditions when recalibration is required.

The Quality Manager ensures that measuring and test equipment is controlled, calibrated, and maintained. Calibration will be performed by qualified welding personnel using a written calibration procedure.

The Quality Manager ensures that all calibration procedures are traceable to national measurement standards.

10.2. VERIFICATION AND VALIDATION OF WELDING MACHINES

At least annually, The Quality Manager ensures that welding machines are verified as specified by the manufacturer. At a minimum, the following will be checked:

- Condition of volt meters, amp meters and gas flow meters (if equipped)
- Condition of cables
- Condition of hoses (if equipped)
- Condition of wire feeders (if equipped)

10.3. CALIBRATION IDENTIFICATION

The Quality Manager ensures that a calibration identification label or tag is securely fixed to each piece of measuring and test equipment that will be controlled, calibrated and maintained. The label or tag will indicate the date of the last calibration and the due date of the next calibration.

The Quality Manager ensures that the information on the calibration identification label or tag matches the information on the Test Equipment Calibration Plan and Log form.

A sample Test Equipment Calibration Plan and Log form is included in the Forms section at the end of this Manual.

10.4. CALIBRATION RECORDS

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[CompanyName] Metals Material Receiving Inspection Report				
Job ID	Job Name	P.O.#	Supplier	Receipt Date
[JobNumber]	[JobName]			
Type of Material (i.e., steel plate)	Material Description (nominal dimensions)	Heat Number/ Serial Number/Markings	Condition / Damage	Color Code Marking
Receiving Inspector Approval Signature / Date		Government Representative Name/Approval Date		
			<input type="checkbox"/> Material Receiving Inspection Passed	

[CompanyName] Weld Filler Material Issue Log							
Job Number	Heat	AWS Class	Welder Name	Welder ID	Date	Quantity	WPS

[CompanyName] Visual Weld Inspection Report

[illegible]



For More Information:

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