



## Essentials Welding QA/QC Plan Sample

Good for smaller projects and bid qualifications

*Has All the Essential Elements of a well-founded  
Quality Control Plan*

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## Quality Control Plan

[ProjectName]

[ProjectNumber]

# Quality Control Plan

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## B. KEY ELEMENTS OF THE QUALITY CONTROL PLAN

Key elements of the [CompanyName] Quality Control Plan include:

**Quality Management and Responsibilities.** [CompanyName] fully integrates its quality management system into the organizational structure and performance management systems for each project. We:

- Maintain a documented quality system.
- Establish a quality control plan for every steel fabrication project.
- Tightly control exceptions to the quality system so company standards are applied uniformly to every project
- Systematically maintains quality system documents and records.

**Quality Control Personnel.** [CompanyName] fully integrates its quality management system into the organizational structure and performance management systems for each project. We:

- Appoint a QC Manager, Operations Manager, and Project Manager to each project, each with well-defined quality responsibilities and the authority to carry them out.
- Have well-defined quality responsibilities for every employee with specific quality responsibilities for key job positions.
- Plan project quality records and documentation that will be maintained.
- Tightly control exceptions to the quality system so company standards are applied uniformly to every project
- Enforce policies that monitor work conditions before and during work so that quality results are assured.

**Employee and Welder Qualifications.** [CompanyName] ensures that only knowledgeable, capable employees carry out the planning, execution, and control of our projects. We:

- Identify employee qualification requirements, including licensing requirements, training qualifications, responsibilities, and authority for each job position.
- All welding is performed by ASME certified welders.
- All welding inspections are performed by ASME certified welding inspectors.
- Train field employees on quality standards and procedures for their job position.
- Validate employee capabilities before they are assigned to carry out quality job responsibilities.
- Review ongoing employee qualifications and evaluate quality practices and performance as part of the employee performance management process.

**Qualification of Subcontractors and Suppliers.** [CompanyName] purchases only from subcontractors and suppliers that consistently meet [CompanyName] standards for quality. We:

## D. EMPLOYEE AND WELDER QUALIFICATIONS

[CompanyName] ensures that only knowledgeable, capable employees carry out the planning, execution, and control of the project.

### PERSONNEL QUALIFICATIONS

The QC Manager qualifies employee capabilities to ensure that they are capable of completely carrying out their assigned quality responsibilities including the following capabilities:

- Knowledge of Company quality standards
- Knowledge of job responsibilities and authority
- Demonstrated skills and knowledge
- Demonstrated ability
- Demonstrated results

The QC Manager also evaluates independent contractor personnel on the same standards that apply to employees.

[CompanyName] requires the following personal certifications:

Certification or License Title	Reference Standard No.	Reference Standard Title
Welders of structural steel	AWS D1.1/D1.1M	Structural Welding Code – Steel
Inspectors of structural steel welds	AWS D1.1/D1.1M	Structural Welding Code – Steel
Ultrasonic Inspectors	ASNT SNT-TC-1A	Personnel Qualification and Certification in Nondestructive Testing

### CERTIFIED WELDER QUALIFICATION REQUIREMENTS

Only certified welders may perform welding activities. Certified welders must meet the requirements of AWS Q97-93 American Welding Society Standard for AWS Certified Welders. Only a Certified Welding Inspector can conduct welding tests for the purposes of welder certification.

The Quality Manager approves the qualification of all welders. Work steps for maintaining personnel qualification records are specified in Standard Operating Procedure 2.3.3 Personnel Qualifications.

### CERTIFIED WELDING INSPECTOR QUALIFICATION REQUIREMENTS

Certified welding inspectors must be certified by the American Welding Society to AWS QC1-2007 American Welding Society Standard for AWS Certification of Welding Inspectors.

The Quality Manager approves the qualification of all certified welding inspectors.

## F. PROJECT QUALITY SPECIFICATIONS

Fulfilling customer contract expectations is a primary objective of the [CompanyName] Quality System. To ensure that customer expectations will be fulfilled, [CompanyName] clearly defines the requirements for each contract before it is approved.

The Project Manager ensures that the information in customer contracts clearly defines customer expectations and that the necessary details are provided to set requirements for Steel Fabrication.

[CompanyName] personnel and subcontractors are accountable for compliance to standards-based on written specifications.

To achieve expectations reliably and consistently, specifications are clearly spelled out, not only for results but also for processes. Specifications apply to materials, work steps, qualified personnel and subcontractors, safe work rules, and environmental work conditions.

Standards ensure that materials, methods, and results are specified rather than left to discretionary practices.

All [CompanyName] Steel Fabrication activities comply with generally accepted good workmanship practices and industry standards.

### WELDING QUALITY STANDARDS

All [CompanyName] Steel Fabrication activities comply with generally accepted good workmanship practices and industry standards.

The QC Manager identifies supplemental requirements for industry standards that apply to a specific project on the Project Quality Control Plan when it is not otherwise specified by the contract, contract technical specifications, or approved drawings.

[CompanyName] complies with the following industry standard(s) included on the Applicable Regulatory Codes and Industry Standards Form included in this section.

<div style="text-align: center;"> <b>[CompanyName]</b>  <b>Applicable Regulatory Codes and Industry Standards</b>  <small>Version April 11, 2012</small> </div>							
Project ID		Project Name					
[ProjectNumber]		[ProjectName]					
Contract Specification Reference #	Schedule Activity #	Description	Reference Standard Number	Reference Standard Title	Remarks	Tested By	Date Completed
		Beveling, alignment, heat treatment, and inspection of weld	ASME B31.1	Power Piping			
		Requirements for piping of fluids	ASME B31.3	Process Piping			
		Workmanship and techniques for welded construction	AWS D1.1/D1.1M	Structural Welding Code – Steel			
		Welding standards	AWS B2.1/B2.1M	Specification for Welding Procedure and Performance Qualification			

## G. MATERIAL AND HEAT TRACEABILITY

Products and materials are controlled to assure the use of only correct and acceptable items. Controls include identification of the inspection status. Materials that require lot control traceability and the method of traceability are listed on the Controlled Materials form included as an exhibit in this subsection.

### IDENTIFICATION OF LOT CONTROLLED MATERIALS

The Quality Manager determines types of project materials that require quality controls. For each type of quality-controlled material, the Quality Manager determines lot control traceability requirements, if any, and specifies the means of lot identification. Identification methods may include physical labels, tags, markings and/or attached certification documents.

The Operations Manager maintains lot identification at all production phases from receipt, through production, installation, or assembly, to final completion. Acceptable methods for preserving lot identification include physically preserving observable lot identifications, recording the lot identification on a work task quality inspection form or other work record, or collecting the physical lot identifier as a record along with supplemented with location.

If lot controlled materials are without lot identification, the Operations Manager deems the materials as nonconforming and segregates them and/or clearly marks them to prevent inadvertent use. Only the Quality Manager can re-identify or re-certify the materials.

Types of metals controlled materials include:

- Carbon steel
- Galvanized steel
- Aluminum
- Stainless steel

Lot identification of metals includes:

- Color code is painted on all four corners of each piece of material.
- Material supplier heat number is either marked by the material supplier or reproduced by the Supervisor. As an alternative an adhesive label or tag on the bundle is an acceptable method.

### MATERIAL RECEIVING AND INSPECTION

When lot controlled materials are received, the Superintendent inspects the materials and verifies that materials have the specified lot identifications. Received materials are listed on the Material Receiving and Inspection Report form or Metals Materials Receiving and Inspection form included as an exhibit in this subsection.



**[CompanyName]**  
**Metals Material Receiving Inspection Report**

Version March 13, 2012

Project ID	Project Name	P.O.#	Supplier	Receipt Date
[ProjectNumber]	[ProjectName]			
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

## **LIST OF INCLUDED INSPECTION FORMS FOR WELDING**

### **METALS**

- Metal Decking
- Metal Railings
- Metal Stairs
- Structural Steel Framing

### **PLUMBING**

- Electric Domestic Water Heaters
- Facility Potable-Water Storage Tanks
- Facility Sanitary Sewerage
- Facility Storm Drainage
- Facility Water Distribution
- Fuel-Fired Domestic Water Heaters
- Plumbing Fixtures
- Plumbing Insulation

### **HVAC**

- Air Outlets and Inlets
- Air Terminal Units
- Breechings//Chimneys// and Stacks
- Central Cooling Equipment
- Commissioning of HVAC
- Cooling Towers
- Facility Fuel-Oil Piping
- Facility Fuel-Storage Tanks
- Facility Natural-Gas Piping
- Furnaces
- Heating Boilers
- HVAC Air Cleaning Devices
- HVAC Ducts and Casings
- HVAC Fans
- HVAC Insulation
- HVAC Piping and Pumps
- HVAC Water Treatment
- Indoor Central-Station Air-Handling Units
- Instrumentation and Control for HVAC
- Refrigerant Piping
- Testing// Adjusting// and Balancing for HVAC

# Metals-Structural Steel Framing 05.12.00

Feb2012

Project:	Phase:	Contract#:	Vendor: <b>9101</b> Field Operations	Crew:
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## Compliance Verification

- ☐ Compliance with initial job-ready requirements
- ☐ Compliance with material inspection and tests
- ☐ Compliance with work in process first article inspection requirements
- ☐ Compliance with work in process inspection requirements
- ☐ Compliance with Task completion inspection requirements
- ☐ Compliance with inspection and test plan
- ☐ Compliance with safety policies and procedures

Reported Nonconformances and incomplete items:

## FTQ 2TQ Heightened Awareness Checkpoints

- ☐ ☐ Shop applied primer and galvanizing intact and without blemishes **2580**
- ☐ ☐ Drainage holes installed to prevent water traps with unobstructed openings **2581**
- ☐ ☐ Bearing base plates fully and evenly supported **2582**
- ☐ ☐ Connecting bolts, washers, and nuts tight and clean of dirt/rust **2583**
- ☐ ☐ Welded connections continuous, even, clean, and free of blow holes or other irregularities **2584**
- ☐ ☐ Connecting hardware and welds primed with paint of the same quality as the shop coat **2585**
- ☐ ☐ Openings in structural members approved by ENGINEER **2586**
- ☐ ☐ Spray-on fireproofing evenly applied and without gaps **2587**
- ☐ ☐ Framing members free of twist, bow, buckle, or other directional irregularity **2588**
- ☐ ☐ Framing members installed plumb, level, and true to line **2589**

## FTQ Scores and Completion Sign-off

### Field Mgmt.-Superintendent Inspection 91.45.01

Quality 5 4 3 2 1 Notes:

On-Time 5 4 3 2 1 Notes:

Safety 5 4 3 2 1 Notes:

Sign and date\*: Cell # / ID #:: Signed: Date:

Task has been has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above.

### Field Mgmt.-QA Inspection 91.45.02

Quality 5 4 3 2 1 Notes:

Sign and date\*: Cell # / ID #:: Signed: Date:

Task has been has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above.

<u>Quality Score</u>	5 = 100% NO problems	4 = 1 minor problems	3 = Hotspot or 2-3 minor	2 = 6+ or major problems	1 = Excessive problems
<u>On-Time Score</u>	5 = On Time	4 = Late	3 = Late by 1 day	2 = Late by 2 days	1 = Late more than 2 days
<u>Safety Score</u>	5 = 100% NO problems	4 = 1 minor problem	3 = Hotspot or 2-3 minor	2 = 4+ or major problem	1 = Injury

# Plumbing-Facility Potable-Water Storage Tanks 22.12.00

Feb2012

Project:	Phase:	Contract#:	Vendor: <b>9101</b> Field Operations	Crew:
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## Compliance Verification

- ☐ Compliance with initial job-ready requirements
- ☐ Compliance with material inspection and tests
- ☐ Compliance with work in process first article inspection requirements
- ☐ Compliance with work in process inspection requirements
- ☐ Compliance with Task completion inspection requirements
- ☐ Compliance with inspection and test plan
- ☐ Compliance with safety policies and procedures

Reported Nonconformances and incomplete items:

## FTQ 2TQ Heightened Awareness Checkpoints

- ☐ ☐ Tanks are UL or NSF certified **1345**
- ☐ ☐ Tanks are securely mounted to structural supports **1346**
- ☐ ☐ Level / Pressure indicator visible **1347**
- ☐ ☐ Tank protected from traffic damage **1348**
- ☐ ☐ Tank secured from floatation **1349**
- ☐ ☐ Corrosion protection coating intact **1350**
- ☐ ☐ Tank is level and plumb **1351**
- ☐ ☐ Adequate pre-charge on pressure tanks **1352**
- ☐ ☐ Venting / Pressure relief is provided **1353**
- ☐ ☐ Vent openings are screened against insect intrusion **1354**
- ☐ ☐ Tank connections tight and leak proof **1355**
- ☐ ☐ Access ways secure against unauthorized entry **1356**

## FTQ Scores and Completion Sign-off

### Field Mgmt.-Superintendent Inspection 91.45.01

Quality 5 4 3 2 1 Notes:

On-Time 5 4 3 2 1 Notes:

Safety 5 4 3 2 1 Notes:

Sign and date\*: Cell # / ID #: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Task has been has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above.

### Field Mgmt.-QA Inspection 91.45.02

Quality 5 4 3 2 1 Notes:

Sign and date\*: Cell # / ID #: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Task has been has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above.

<u>Quality Score</u>	5 = 100% NO problems	4 = 1 minor problems	3 = Hotspot or 2-3 minor	2 = 6+ or major problems	1 = Excessive problems
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<u>Safety Score</u>	5 = 100% NO problems	4 = 1 minor problem	3 = Hotspot or 2-3 minor	2 = 4+ or major problem	1 = Injury

# Heating// Ventilating// and Air Conditioning (HVAC)-Heating Boilers

## 23.52.00

Feb2012

Project:	Phase:	Contract#:	Vendor: <b>9101</b> Field Operations	Crew:
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<p><u><b>Compliance Verification</b></u></p> <p><input type="checkbox"/> Compliance with initial job-ready requirements</p> <p><input type="checkbox"/> Compliance with material inspection and tests</p> <p><input type="checkbox"/> Compliance with work in process first article inspection requirements</p> <p><input type="checkbox"/> Compliance with work in process inspection requirements</p> <p><input type="checkbox"/> Compliance with Task completion inspection requirements</p> <p><input type="checkbox"/> Compliance with inspection and test plan</p> <p><input type="checkbox"/> Compliance with safety policies and procedures</p> <p>Reported Nonconformances and incomplete items:</p>	<p><u><b>FTQ 2TQ Heightened Awareness Checkpoints</b></u></p> <p><input type="checkbox"/> <input type="checkbox"/> Relief valves discharge to approved areas <b>1572</b></p> <p><input type="checkbox"/> <input type="checkbox"/> No shutoff valves inline with safety/relief valves <b>1573</b></p> <p><input type="checkbox"/> <input type="checkbox"/> No restrictions to air flow into combustion chamber <b>1574</b></p> <p><input type="checkbox"/> <input type="checkbox"/> Boilers installed with clearance for inspection and maintenance <b>1575</b></p> <p><input type="checkbox"/> <input type="checkbox"/> Pumps balanced and free of excessive vibration/noise <b>1576</b></p> <p><input type="checkbox"/> <input type="checkbox"/> Pipe fittings tight and free of leaks <b>1577</b></p> <p><input type="checkbox"/> <input type="checkbox"/> Readouts and indicators clearly visible <b>1578</b></p> <p><input type="checkbox"/> <input type="checkbox"/> Boilers registered in accordance with local requirements <b>1579</b></p> <p><input type="checkbox"/> <input type="checkbox"/> Operational set points noted in Operation and Maintenance Manuals <b>1580</b></p> <p><input type="checkbox"/> <input type="checkbox"/> Operation and Maintenance Manuals supplied to Owner <b>1581</b></p>
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### FTQ Scores and Completion Sign-off

#### Field Mgmt.-Superintendent Inspection **91.45.01**

Quality      5   4   3   2   1   Notes:

On-Time      5   4   3   2   1   Notes:

Safety      5   4   3   2   1   Notes:

Sign and date\*: Cell # / ID #: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Task has been has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above.

#### Field Mgmt.-QA Inspection **91.45.02**

Quality      5   4   3   2   1   Notes:

Sign and date\*: Cell # / ID #: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Task has been has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above.

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