



HVAC/Mechanical Essentials Quality Plan Sample

Good for smaller projects and bid qualifications

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

Contact:
First Time Quality
410-451-8006

www.firsttimequalityplans.com

[CompanyName]
HVAC Construction
Quality Assurance/Quality Control Plan

[ProjectName]
[ProjectNumber]

Management acceptance

This Construction Quality Assurance/Quality Control Plan has been reviewed and accepted.

Endorsed By: (Name / Title)	[QualityManagerName], Quality Manager		
Signature:	<i>[QualityManagerName]</i>	Date:	[Date]
Version	1.0	Notes	Initial Issue

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PROJECT-SPECIFIC HVAC QUALITY PLAN

TABLE OF CONTENTS

A. [CompanyName] Quality Policy	3
B. Key Elements of the HVAC Quality Plan	4
C. Project Quality Coordination and Communication	7
D. Project QC Personnel.....	11
Project QC Job Position Assignments	11
Duties, Responsibilities, and Authority of QC Personnel.....	11
Quality Responsibilities	11
Project QC Organization Chart	14
E. Personnel Qualifications	15
Personnel Certification Requirements	15
Training.....	15
F. Qualification of Third Party Inspection/Testing Companies and Subcontractors and Suppliers	17
Qualification of Testing Laboratories	17
G. HVAC Project Quality Specifications	19
Compliance with Industry HVAC Standards.....	19
H. HVAC Inspection and Test Plan	20
Inspection and Testing HVAC Standards	20
Control of Inspection, Measuring, and Test Equipment.....	20
I. HVAC Work Task Quality Inspections	22
Work Tasks Series of Inspections	22
Daily Quality Control Report.....	22
J. Quality Control of Corrections, Repairs, and Nonconformances	26
K. Project Completion Inspections	28
L. Quality Assurance Surveillance.....	31
M. Control of Quality Records and Documents	33
N. Servicing and Warranty	34

E. PERSONNEL QUALIFICATIONS

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

We train our employees on quality standards and procedures based on project requirements as well as their job positions. Then we validate their capabilities before they are assigned to carry out their quality job responsibilities on the project. Ongoing monitoring of performance continually validates qualifications of each employee.

The Quality 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
- Required training
- Required experience

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

PERSONNEL CERTIFICATION REQUIREMENTS

Personnel certifications are required for the following:

Certification or License Title	Reference Standard No.	Reference Standard Title
Welders to structural steel	AWS D1.1/D1.1M	Structural Welding Code - Reinforcing Steel
Welders for boilers and associated piping	ASME BPVC SEC IX	BPVC Section IX-Welding and Brazing Qualifications
Refrigerant Recovery Technician	EPA 608	ASE Automotive Service Excellence

TRAINING

We train our employees on quality standards and procedures based on project requirements as well as their job positions. Then we validate their capabilities before they are assigned to carry out their quality job responsibilities on the project. Ongoing monitoring of performance continually validates qualifications of each employee.

After a training activity is completed, [CompanyName] keeps of record of both the training activity and the training participants.

H. HVAC INSPECTION AND TEST PLAN

[CompanyName] identifies inspections and tests that will be performed during the project. A test report is completed for each test. The test reports are then used for monitoring compliance to the plan and tracking results.

If independent laboratories are required to perform tests or quality inspections, we ensure that the laboratories are certified by a nationally recognized testing accreditation organization as appropriate for the scope of the inspection or test.

The Quality Inspection and Test Plan form lists inspections and tests (other than work task inspections) that will be performed on this project.

Results of inspections and tests will be recorded on the Inspection and Test Form.

Form exhibits are included as an exhibit in this subsection.

INSPECTION AND TESTING HVAC STANDARDS

Inspection and testing standards that may apply to this project include those listed below.

Description	Reference Standard No.	Reference Standard Title
HVAC ductwork tests	SMACNA 1143	HVAC Air Duct Leakage Test Manual
Test heat trace cable system	IEEE 515	Standard for the Testing, Design, Installation, and Maintenance of Electrical Resistance Heat Tracing for Industrial Applications
HVAC testing, adjusting, and balancing	AABC MN-1	National Standards for Total System Balance

CONTROL OF INSPECTION, MEASURING, AND TEST EQUIPMENT

Inspection, measuring, and test equipment that will be controlled, calibrated, and maintained.

The Quality Manager evaluates the project 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.
- Calibration requirements including the frequency of calibration. All calibrations must be traceable to national measurement standards.

When a measurement device is found not to conform to operating tolerances, the Quality Manager validates the accuracy of previous measurements.

[CompanyName] Quality Inspection and Test Plan												
Project ID			Project Name						CONTRACTOR			
[ProjectNumber]			[ProjectName]						[CompanyName]			
SPECIFICATION SECTION AND PARAGRAPH NUMBER		SCHEDULE ACTIVITY ID	TEST REQUIRED	ACCREDITED/ APPROVED LAB YES /NO		SAMPLED BY	TESTED BY	LOCATION OF TEST ON/OFF SITE/SITE		DATE COMPLETED	DATE FORWARDED TO CUSTOMER	REMARKS

K. PROJECT COMPLETION INSPECTIONS

[CompanyName] conducts a series of inspections near the end of each project to assure that the contracted work is completed to specifications.

Near the end of the project, or a milestone, the Quality Manager, Superintendent, and Project Manager participate in the inspection of the completed project and verify conformance to contract specifications. Any deviations are corrected and reinspected before submitting the project to the customer for final inspection.

If the customer performs a final inspection, corrections are quickly addressed, reinspected by the Quality Manager, and then submitted for customer final review.

A Record of each of the inspections will be maintained on the Project Completion Inspection form. If punch items are discovered during the inspection, a record of the punch items and their correction will be maintained on the Punch List form. Project Completion Inspection and Punch List form exhibits are included as an exhibit in this subsection.

Selected Pages

[CompanyName] Punch List						
Project ID		Project Name	Punch List Type			
[ProjectNumber]		[ProjectName]	<input type="checkbox"/> Work Tasks _____ <input type="checkbox"/> Project Final Punch <input type="checkbox"/> Pre-Final Customer Inspection <input type="checkbox"/> Final Acceptance Inspection			
Inspection Date		Preparer				
Item	Location	Description	Due Date	Compl. Date	Item Completion Verification	
					Super Initial	QA Initial
Punch List Completion Date		Final QA Sign-off	Remaining Nonconformances Reported ID # and Description			

[CompanyName][CompanySuffix] Project Completion Inspection Form			
Project: ID:	Project Name:	Location/Area:	
[ProjectNumber]	[ProjectName]		
Compliance Verification <input type="checkbox"/> Compliance with material inspection and tests <input type="checkbox"/> Compliance with inspection requirements <input type="checkbox"/> Compliance with functional tests if required <input type="checkbox"/> Compliance with inspection and test plan <input type="checkbox"/> Punch lists corrections complete		Heightened Awareness Checkpoints <input type="checkbox"/> [Insert items identified at project startup, preparatory and status meetings] <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Notes:			
Reported Nonconformances:			
Verification of Project Completion (sign and date)			
Project Superintendent verified complete to specifications (sign and date)		Sign and date*:	
Quality Manager verified complete to specifications (sign and date)		Sign and date*:	
* On behalf of the contractor, I certify that this report is complete and correct, and equipment and material used, and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.			

INSPECTION CHECKLIST

TABLE OF CONTENTS

Air Outlets and Inlets	23.37.00
Air Terminal Units	23.36.00
Breechings// Chimneys// and Stacks	23.51.00
Central Cooling Equipment	23.60.00
Commissioning of HVAC	23.08.00
Cooling Towers	23.65.00
Facility Fuel-Oil Piping	23.11.13
Facility Fuel-Storage Tanks	23.13.00
Facility Natural-Gas Piping	23.11.23
Furnaces	23.54.00
Heating Boilers	23.52.00
HVAC Air Cleaning Devices	23.40.00
HVAC Ducts and Casings	23.31.00
HVAC Fans	23.34.00
HVAC Insulation	23.07.00
HVAC Piping and Pumps	23.20.00
HVAC Water Treatment	23.25.00
Indoor Central-Station Air-Handling Units	23.73.00
Instrumentation and Control for HVAC	23.09.00
Refrigerant Piping	23.23.00
Testing// Adjusting// and Balancing for HVAC	23.05.93

HVAC Ductwork 23.31.00

Project:	Phase:	Contract#:	Subcontractor:	Crew:
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<p><u>Compliance Verification</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>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:10%; text-align: center;">YES</th> <th style="width:10%; text-align: center;">NO</th> <th style="text-align: left;"><u>Heightened Awareness Checkpoints</u></th> </tr> <tr><td align="center"><input type="checkbox"/></td><td align="center"><input type="checkbox"/></td><td>Ducts and Casings through penetrations maintains fire rating of structure</td></tr> <tr><td align="center"><input type="checkbox"/></td><td align="center"><input type="checkbox"/></td><td>Ducts and Casings pressure tested</td></tr> <tr><td align="center"><input type="checkbox"/></td><td align="center"><input type="checkbox"/></td><td>Cleaning and maintenance openings accessible</td></tr> <tr><td align="center"><input type="checkbox"/></td><td align="center"><input type="checkbox"/></td><td>Ducts and Casings adequately supported to prevent sagging and stress</td></tr> <tr><td align="center"><input type="checkbox"/></td><td align="center"><input type="checkbox"/></td><td>Ducts and Casings protected from chafe at all supports// clamps// and contact points</td></tr> <tr><td align="center"><input type="checkbox"/></td><td align="center"><input type="checkbox"/></td><td>All joints are sealed</td></tr> <tr><td align="center"><input type="checkbox"/></td><td align="center"><input type="checkbox"/></td><td>Registers// grills// and diffusers are compatible with wall and ceiling systems</td></tr> <tr><td align="center"><input type="checkbox"/></td><td align="center"><input type="checkbox"/></td><td>Flexible duct connectors are unpainted</td></tr> <tr><td align="center"><input type="checkbox"/></td><td align="center"><input type="checkbox"/></td><td>Ducts and Casings clean of dirt// dust// rubbish// and debris</td></tr> <tr><td align="center"><input type="checkbox"/></td><td align="center"><input type="checkbox"/></td><td>Filters installed and clean</td></tr> </table>	YES	NO	<u>Heightened Awareness Checkpoints</u>	<input type="checkbox"/>	<input type="checkbox"/>	Ducts and Casings through penetrations maintains fire rating of structure	<input type="checkbox"/>	<input type="checkbox"/>	Ducts and Casings pressure tested	<input type="checkbox"/>	<input type="checkbox"/>	Cleaning and maintenance openings accessible	<input type="checkbox"/>	<input type="checkbox"/>	Ducts and Casings adequately supported to prevent sagging and stress	<input type="checkbox"/>	<input type="checkbox"/>	Ducts and Casings protected from chafe at all supports// clamps// and contact points	<input type="checkbox"/>	<input type="checkbox"/>	All joints are sealed	<input type="checkbox"/>	<input type="checkbox"/>	Registers// grills// and diffusers are compatible with wall and ceiling systems	<input type="checkbox"/>	<input type="checkbox"/>	Flexible duct connectors are unpainted	<input type="checkbox"/>	<input type="checkbox"/>	Ducts and Casings clean of dirt// dust// rubbish// and debris	<input type="checkbox"/>	<input type="checkbox"/>	Filters installed and clean
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FTQ Scores and Completion Sign-off

Field Mgmt.-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 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 problem	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

HVAC Insulation 23.07.00

Project:	Phase:	Contract#:	Subcontractor:	Crew:
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<u>Compliance Verification</u>	YES	NO	<u>Heightened Awareness Checkpoints</u>
<input type="checkbox"/> Compliance with initial job-ready requirements	<input type="checkbox"/>	<input type="checkbox"/>	Ductwork// equipment// and piping tested and operational before applying Insulation
<input type="checkbox"/> Compliance with material inspection and tests	<input type="checkbox"/>	<input type="checkbox"/>	Area to be insulated is free of rust// scale// dirt// and moisture
<input type="checkbox"/> Compliance with work in process first article inspection requirements	<input type="checkbox"/>	<input type="checkbox"/>	Adhesive/Anchors/Staples/Wrapping utilized is compatible with Insulation type
<input type="checkbox"/> Compliance with work in process inspection requirements	<input type="checkbox"/>	<input type="checkbox"/>	Insulation through penetrations maintains fire rating of structure
<input type="checkbox"/> Compliance with Task completion inspection requirements	<input type="checkbox"/>	<input type="checkbox"/>	Insulation protected from chafe at all supports and contact points
<input type="checkbox"/> Compliance with inspection and test plan	<input type="checkbox"/>	<input type="checkbox"/>	Insulation protected from weathering and moisture intrusion
<input type="checkbox"/> Compliance with safety policies and procedures	<input type="checkbox"/>	<input type="checkbox"/>	Underlying access openings/inspection ports still accessible
Reported Nonconformances and incomplete items:	<input type="checkbox"/>	<input type="checkbox"/>	Insulation joints sealed
	<input type="checkbox"/>	<input type="checkbox"/>	Cladding applied in high abuse/traffic areas
	<input type="checkbox"/>	<input type="checkbox"/>	Openings/Holes caused by testing closed/repaired

FTQ Scores and Completion Sign-off

Field Mgmt.-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:

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