



**MANUFACTURING QUALIFICATION AUDIT FOR CLASS N
AND/OR CLASS R STEEL PIPE PILING**

NAME OF COMPANY: _____

COMPANY PHONE NUMBER: _____

FACILITY'S AUTHORIZED QUALITY

CONTROL REPRESENTATIVE: _____

PERSON OF CONTACT EMAIL: _____

DATE:

ADDRESS OF LOCATION: _____

TYPE OF MATERIAL TO BE

SUPPLIED (Include Dimensions of Product): _____

ORIGINAL OR FOLLOW-UP VISIT(S): _____

Facility Authorized Representative

Date

PRODUCT INFORMATION

1. PRODUCT(S) FABRICATED:
2. WELDING CODE USED:
3. WELDING RPOCESS USED:
 - a. SPRIAL OR LONGITUDIONAL:
 - b. SKEPL WELD OR BUTT SPLICE:
4. DIMENSIONS OF PIPE MANUFACTURED
 - a. DIAMETER
 - b. THICKNESS
 - c. LENGTH
5. SIGNING AUTHORITY FOR CERTIFICATION OF COMPLIANCE:

MANUFACTURING QUALIFICATION AUDIT QUESTIONNAIRE

A. Organization and MANAGEMENT

Number	Questions	Response, Include Manual Section References	Sec.	Pg.	N.A.
1.	Provide organizational chart (including title and names of all staff including subcontractors/third parties); include personnel certifications.				
2.	Describe your continuous quality improvement program including but not limited to: • Training • Internal audits • Certifications • Manual review and updates				
3.	List the applicable specifications, standards, and codes that your personnel have access to and are expected to be familiar with.				

B. Job Procurement and Control (Sales)

Number	Questions	Response, Include Manual Section References	Sec.	Pg.	N.A.
1.	Describe lines of communication between "sales/broker" and production.				
2.	Describe how contract specific requirements will be met.				
3.	Describe how contract change orders are handled, including communication to production.				
4.	Describe your methods for managing project specific specifications and drawings.				
5.	Describe how each correspondence file is maintained and segregated for each Caltrans project?				
6.	How are received correspondence documented for Caltrans jobs (i.e. stamped, dated, and initial by personnel).				

C. Detailing

Number	Questions	Response, Include Manual Section References	Sec.	Pg.	N.A.
1.	Describe how drawings are prepared. Drawings in house / contracted?				
2.	Describe your system for maintaining detailing standards for information. a. Revision numbers b. Sizes & quantities c. Any specification references d. Any allowances or noted tolerances e. Any unique identification or piece marks f. Any weld joint geometry g. Any WPS noted Any NDT noted				
3.	Describe your drawing review and approval process. a. Who is responsible for checking drawings? Who approves drawings for use?				
4.	Describe your drawing control methods. a. How is the drawing issued to shop? b. How are revised / most current drawings communicated to the shop? How are obsolete drawings handled?				

C. MATERIAL PROCUREMENT & Control

Number	Questions	Response, Include Manual Section References	Sec.	Pg.	N.A.
1.	Describe how Buy America requirements will be met.				
2.	Describe your system for maintaining traceability from purchase order to material testing reports (MTRs) and through finished material.				

3.	Describe how materials are allocated to specific jobs.				
4.	Identify and describe any subcontracted/third party fabricated products.				

D. MATERIAL Receiving Inspection and Tracking

Number	Questions	Response, Include Manual Section References	Sec.	Pg.	N.A.
1.	Describe your system that clearly denotes material acceptance by in-house QC, including: a. Proper grade of material? b. Proper material markings and identification? c. Proper material dimensions? d. Compliance with dimensional tolerances? e. Heat numbers on material match heat numbers on corresponding mill certificates? f. Does facility have foreign material on site? g. If yes, how does facility keep foreign and domestic raw materials segregated?				
2.	Describe how materials are marked for inventory control.				
3.	Describe your system that identifies and segregates nonconforming raw materials. a. What happens to non-conforming materials?				
4.	Describe how carbon equivalency is verified as less than or equal to 0.47% per the formula in the standard specifications.				

E. Equipment/Facilities, Handling and Storage Procedures

Number	Questions	Response, Include Manual Section References	Sec.	Pg.	N.A.
1.	Describe the equipment used at your facility during the handling and fabrication processes.				
2.	Describe an inventory control system for raw and finished materials.				
3.	Describe how raw materials are stored.				
4.	Describe how finished materials are stored at the facility.				
5.	List all the equipment used during fabrication.				

F. WELDING & WELDING CONSUMABLES – (IGNORE THIS SECTION IF THE WELD PROCESS USED IS ELECTRIC RESISTANCE WELDING)

Number	Questions	Response, Include Manual Section References	Sec.	Pg.	N.A.
1.	For personnel performing arc welding, describe your program for maintaining welder qualification documents, including a master welders list.				
2.	Provide a welding QC Plan as outlined in Welding Quality Control Plan Requirements.				
3.	Describe how appropriate welding procedures are communicated to floor personnel.				
4.	Describe how welding procedures are qualified when required.				
5.	Describe how welding equipment is maintained and calibrated. a. Frequency of calibration b. Inhouse or contracted? c. Describe process when equipment does not meet calibration requirements?				
6.	Describe how welding consumables are protected from contamination and damage.				

7.	Describe your system for tracing specific welds to the welder(s) and/or welding crew that completed the job.				
8.	Describe Quality Control's roles/responsibilities during the welding process. (i.e. monitor max. interpass and min. preheat temp, inspect flame cut edges, verify joint fit-up before welding, verify correct WPS is utilized, Amps, volts, travel speed, etc.).				
9.	Describe how welding reports are documented.				
10.	Describe how welders know and understand which WPS is to be used to produce specific weld.				
11.	Describe how specific welds are traceable to the welders and/or welding crew that completed the job.				
12.	Describe how you control the exposure time of low-hydrogen SMAW electrodes following removal from hermetically sealed containers, drying ovens, or storage ovens.				
13.	Describe how consumable manufacturer certification reports are filed and available.				

G. QUALITY CONTROL & QUALITY CONTROL INSPECTORS (Ignore Questions with symbol of * if Weld Process Used is ERW for CLASS R Pile. Answer all Questions FOR CLASS N Pile

Number	Questions	Response, Include Manual Section References	Sec.	Pg.	N.A.
1.	Provide your company's policy that describes support and commitment to quality.				
2.	Describe how quality control is independent of production.				
3.	Describe roles, responsibilities, certifications, and qualification requirements of all QC personnel including subcontractors/third parties.				

4.	Describe how quality control documents are maintained.				
5.	Describe what documentation is maintained in the quality control records.				
6.	Describe inspection equipment used by quality control in performing their tasks.				
7*.	Describe equipment calibration procedures including NDT.				
8*.	Describe corrective actions for resolving non-conformances. Describe preventive actions to prevent reoccurring issues.				
9*.	Describe communication process between quality control personnel and production staff during production to ensure all quality control checks are made.				
10*.	Describe your identification system for products requiring repairs or corrections.				
11*.	Describe procedures for compiling required documents prior to release for shipping.				
12*.	Describe how you verify the subcontractor's qualifications.				
13*.	Describe how you ensure that certifications and eye examinations are current for all inspection personnel and Certifying Level III.				
14*.	Are QC personnel performing NDT qualified and certified under American Society for Nondestructive Testing (ASNT) Recommended Practice No. SNT-TC-1A and written practice of the NDT firm? Are individuals who perform NDT, review the results, and prepare the written reports one of the following? a. Certified NDT Level II technicians b. Level III technicians certified to perform the work of Level II technicians.				

15*.	Provide a copy of the written practice (which meets or exceeds the recommendations of ASNT SNT-TC-1A, latest edition) for certification of NDT personnel (staff and subcontractor).				
16*.	Describe the type and extent of any NDT performed on each type of weld for both staff NDT and third-party NDT.				
17.	Describe how Quality Control Personnel mark or otherwise indicate clearly on the components when the following checks are completed and the disposition of their findings: a) Visual b) * NDT completed (if required) c) * Confirmation of defect removal prior to repair welding (if required)				
18.	Fabricated structure or component verified for compliance with contract documents?				
19.	Is the CWI/QC given sufficient authority to stop work in order to prevent unacceptable work from proceeding?				

H. REPAIR PROCEDURES

Number	Questions	Response, Include Manual Section References	Sec.	Pg.	N.A.
1.	Describe your system that identifies and segregates nonconforming pipe pile product.				
2.	Define major and minor repairs, including examples of damage that would result in minor repairs and major repairs.				
3.	Describe the different repair procedures you will use for minor repairs and major repairs.				

4.	Describe how the Engineer is immediately notified if you discover welding problems, deficiencies, base metal repairs, or any other type of repairs not included in the welding QC plan? Does the QC manual indicate that the Engineer authorization is needed before performing: a. 3rd-time excavations of welds or base metal to repair unacceptable discontinuities, regardless of NDT method b. Repairs of cracks c. Repairs not included in the welding QC plan Do requests to perform 3rd-time excavations, repairs of cracks, or repairs not included in the welding QC plan include an engineering evaluation, which at a minimum, addresses the following? a. Cause of each defect b. Why the repair will not degrade the material properties c. What steps are being taken to prevent similar defects from happening again.				
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I. COMPLETED MEMBER STORAGE and FINAL INSPECTION

Number	Questions	Response, Include Manual Section References	Sec.	Pg.	N.A.
1.	Describe Quality Control's process for final inspection.				
2.	Describe how final products are marked and stored prior to shipping.				

J. Product Specific Information Provide Documentation of How to Verify the Following:

Number	Questions	Response, Include Manual Section References	Sec.	Pg.	N.A.
1.	Outside diameter verified at +/- 0.75% of the outside diameter specified.				
2.	Wall thickness verified at -5% to +10% of the nominal wall specified.				
3.	Straightness verified at +/- 1.0% over the length of the pipe.				
4.	Underfill (no underfill allowed).				
5.	OD flash removed to within 1/32" for ERW pipe.				
6.	Maximum weld reinforcement verified as 1/8"				
7.	Product analyses (tensile, yield, elongation, and chemical) performed as required.				