

DIVISION 1 – GENERAL REQUIREMENTS SECTION 01 40 00 – QUALITY REQUIREMENTS

PART 1 – GENERAL

1.01 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality assurance and control requirements for individual manufacturing activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality assurance and control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality assurance and control services required by the Authority, Engineer, or authorities having jurisdiction are not limited by provisions of this Section.

1.02 DEFINITIONS

- A. **Quality-Assurance Services:** Activities, actions, and procedures performed before and during execution of the Contract to guard against defects and deficiencies and substantiate that proposed Goods will comply with requirements.
- B. **Quality-Control Services:** Tests, inspections, procedures, and related actions during and after execution of the Contract to evaluate that actual products incorporated into the Goods and completed Goods comply with requirements. Services do not include contract enforcement activities performed by an Engineer.
- C. **Preconstruction Testing:** Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Goods to verify performance or compliance with specified criteria.
- D. **Product Testing:** Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.
- E. **Source Quality Control Testing:** Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.

- F. Field Quality Control Testing: Tests and inspections that are performed on-site for evaluation of the performance and acceptability of the Goods.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.03 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to the Authority for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to the Authority for a decision before proceeding.

1.04 SUBMITTALS

- A. Reports: Prepare and submit certified written reports that include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.

10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 11. Comments or professional opinion on whether tested or inspected Goods comply with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
- B. Permits, Licenses, and Certificates: For Authority's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Contract.

1.05 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- E. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- F. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.06 QUALITY CONTROL

- A. Authority Responsibilities: Where quality-control services are indicated as the Authority's responsibility, it will engage a qualified testing agency to perform these services.
 - 1. The Authority will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

- B. Tests and inspections not explicitly assigned to the Authority are the Contractor's responsibility. Unless otherwise indicated, provide quality control services specified and those required by authorities having jurisdiction. Perform quality control services required of Contractor by authorities having jurisdiction, whether specified or not.
 - 1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by the Authority, unless agreed to in writing by the Authority.
 - 2. Notify testing agencies at least 24 hours in advance of time when testing or inspecting will be performed.
 - 3. Where quality control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality control service.
 - 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.

- C. Manufacturer's Field Services: Where indicated, engage a factory authorized service representative to inspect field assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01330 Submittals.

- D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for Goods, materials, products, etc. that replaced the same that failed to comply with the Contract Documents.

- E. Coordination: Coordinate sequence of activities to accommodate required quality assurance and control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.01 TEST AND INSPECTION LOG

- A. Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to the Authority.
 4. Identification of testing agency or special inspector conducting test or inspection.

END OF SECTION