

SECTION 01400

QUALITY CONTROL AND TESTING

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Quality assurance and quality control of the construction.
- B. References.
- C. Field samples.
- D. Mock-ups.
- E. Inspection and testing laboratory services.
- F. Manufacturers' field services and reports.

1.02 RELATED SECTIONS:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. Section 01340 - Submittals
- C. Section 01640 - Product Handling
- D. Section 01041 – Project Contract Coordination

1.03 QUALITY ASSURANCE/CONTROL OF INSTALLATION:

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

- E. Perform work by persons qualified to produce workmanship of specified quality. All subcontractors shall be capable of being bonded.
- F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement according to industry standards or applicable codes.

1.04 REFERENCES:

- A. Conform to latest edition of referenced standard.
- B. Obtain copies of standards when required by Contract Documents.
- C. If the specified reference standards conflict with Contract Documents, request clarification for Architect/Engineer before proceeding. If such conflicts are not brought to the Architect/Engineer's attention before the related construction begins, then the architect's interpretation will be binding.
- D. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.05 FIELD SAMPLES

- A. Install field samples at the site as required by the individual specifications sections for review and approval.
- B. Approved samples represent the quality level standard for the installation of the Work.

1.06 MOCKUP

- A. Tests will be performed under provisions identified in this Section.
- B. Assemble and erect specified items, with specified attachment and anchorage devices, flashings, seals, finishes, etc. in order to provide a completed sample indicative of the final construction.
- C. Where mock-up is specified in individual Sections to be removed, clear area after mock-up has been accepted by Architect/Engineer.

1.07 MANUFACTURER'S INSTRUCTIONS

- A. When required in individual specification sections, Contractor shall comply

with instructions in full detail, including each step in sequence.

1. Should instructions conflict with Contract Documents, request clarification from Architect before proceeding.

1.08 MANUFACTURER'S CERTIFICATION

- A. When required in individual specification section, Contractor shall obtain and submit to Architect, manufacturer's certificate, certifying that products meet or exceed specified requirements, executed by responsible officer.

1.09 MANUFACTURER'S FIELD SERVICES

- A. When required in individual specification section, Contractor shall have manufacturer or supplier provide qualified representative to observe field conditions, conditions of surfaces and installation, quality workmanship, start-up of equipment, test, or adjust and balance of equipment as applicable. A written report of observations and/or recommendations shall be sent to the Contractor and the Architect.

1.10 INSPECTION AND TESTING LABORATORY SERVICES:

- A. The Owner shall employ and pay for the services of an Independent Testing Laboratory to perform certain tests of installed materials, equipment and systems required as part of the Contract.
 1. The Owner will obtain the services of an independent laboratory, and the Owner shall pay the cost of initial tests to determine conformance with specification requirements. These areas of testing include soil testing and compaction, concrete strength and slump, pavement base and surface testing, steel welds, fire proofing, and elevator inspections. All other testing required in the documents will be the responsibility of the Contractor.
 2. If substitute materials or equipment are proposed by the Contractor, and approved with stipulations, or as noted by the Architect, the Contractor shall pay the cost of all tests that may be necessary to satisfy the Architect/Engineer that specification requirements are met.
 3. If materials or workmanship are used which initially fail to meet specification requirements, the Contractor shall pay the cost of all additional testing deemed necessary by the Architect/Engineer to determine the safety or suitability of the material or element.
 4. The Contractor shall pay for all operational testing costs, (including

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but not limited to fuel, materials and equipment) as required for final approval and startup in areas such as plumbing, site utilities, heating, ventilation, air conditioning, electrical, elevator, dumbwaiters and conveyors, etc.

- B. The Owner may employ and pay for additional services to perform duplicate or other quality control testing. If the testing reveals non-compliance with the specifications, the contractor will be responsible to pay for further tests until compliance is achieved.
- C. Services will be performed in accordance with requirements of governing authorities and with specified standards.
- D. Reports will be submitted to Architect/Engineer in duplicate giving observations and results of tests, indicating compliance or non-compliance with specified standards and with Contract Documents.
- E. Contractor shall cooperate with Testing and Laboratory personnel; furnish tools, samples of materials, design mix, equipment, storage and assistance as requested. The contractor is responsible to properly coordinate and notify all testing agencies of the proper times during which testing needs to occur. It is the contractor's responsibility to prepare properly for testing and assure that all areas are ready to receive testing.
 - 1. Notify Architect/Engineer and Testing Laboratory twenty four (24) hours prior to expected time for operations requiring testing services.
 - 2. Make arrangements with Testing Laboratory and pay for any additional samples and testing for Contractor's convenience.
 - 3. The contractor shall familiarize himself with the timing and waiting provisions of the testing firm employed by the Owner. If, due to the negligence of the Contractor, testing firms are not notified sufficiently in advance, or make visits when the work is not ready, or suffer waiting times in excess of two (2) hours, the contractor will be backcharged the fee charged the Owner for such inefficiencies.

PART 2 - PRODUCTS(Not Used).

PART 3 – EXECUTION(Not Used).

END OF SECTION