

SECTION 01 40 00  
QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Quality control and control of installation.
  - 2. Tolerances.
  - 3. References.
  - 4. Testing and inspection services.
  - 5. Manufacturers' field services.
  - 6. Labeling.
  - 7. Mock-up requirements.
  - 8. Examination.
  - 9. Preparation.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or Work specified by association, trades, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.

- B. Conform to reference standard by date of issue current on date for receiving Bids, (date of Owner-Contractor Agreement when there are no Bids), except where specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. When specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- E. Contractual relationships, duties, and responsibilities of parties in Contract and those of Engineer shall not be altered from Contract Documents by mention or inference otherwise in reference documents.

#### 1.5 TESTING AND INSPECTION SERVICES

- A. Employ and pay for services of an independent firm acceptable to Owner to perform specified testing and inspection.
  - 1. Prior to start of Work, submit testing laboratory name, address, and telephone number, and names of full time registered Engineer, specialists and responsible officer.
  - 2. Submit copy of report of laboratory facilities inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with memorandum of remedies of deficiencies reported by inspection.
- B. Independent firm will perform tests, inspections and other services specified in individual specification sections and as required by Engineer.
  - 1. Laboratory: Authorized to operate in State of Project location.
  - 2. Laboratory Staff: Maintain full time registered Engineer and necessary specialists on staff to review services.
  - 3. Testing Equipment: Calibrated at reasonable intervals with devices of accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.
- C. Testing and inspections may occur on or off project site. Perform off-site testing as required by Engineer or Owner.
- D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
  - 1. Notify Engineer and independent firm 24 hours prior to expected time for operations requiring services.
  - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- E. Testing and employment of independent firm does not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- F. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same independent firm on instructions by Engineer.
  - 1. Payment for re-testing or re-inspection will be charged to Contractor by deducting testing charges from Contract Sum/Price.
  - 2. Submit final report indicating correction of Work previously reported as non-compliant.
- G. Independent Firm Responsibilities:
  - 1. Test samples of mixes submitted by Contractor.

2. Provide qualified personnel at site. Cooperate with Engineer and Contractor in performance of services.
  3. Perform specified sampling and testing of products in accordance with specified standards.
  4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
  5. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of Work or products.
  6. Perform additional tests required by Engineer.
  7. Attend preconstruction meetings and progress meetings.
- H. Independent Firm Reports: After each test, promptly submit one copy of report to Engineer and Owner; and two copies to Contractor, and authority having jurisdiction. When requested by Engineer, provide interpretation of test results. Include the following:
1. Date issued.
  2. Project title and number.
  3. Name of inspector.
  4. Date and time of sampling or inspection.
  5. Identification of product and specifications section.
  6. Location in Project.
  7. Type of inspection or test.
  8. Date of test.
  9. Results of tests.
  10. Conformance with Contract Documents.
- I. Limits On Independent Firm:
1. May not release, revoke, alter, or enlarge on requirements of Contract Documents.
  2. May not approve or accept any portion of the Work.
  3. May not assume duties of Contractor.
  4. Has no authority to stop the Work.

#### 1.6 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to:
1. Observe site conditions.
  2. Observe conditions of surfaces.
  3. Review installation and quality of Work.
  4. Review start-up of equipment.
  5. Review testing, adjusting and balancing of equipment.
  6. Initiate instructions when necessary.
- B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

#### 1.7 LABELING

- A. Attach label from agency approved by authority having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.
- B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label.
1. Model number.
  2. Serial number.
  3. Performance characteristics.

## 1.8 MOCK-UP REQUIREMENTS

- A. Tests will be performed under provisions identified in this section and identified in respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be comparison standard for remaining Work.
- D. Where mock-up has been accepted by Engineer and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so by Engineer.

## PART 2 PRODUCTS - Not Used

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify utility services are available, of correct characteristics, and in correct locations.

### 3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

END OF SECTION