

## SECTION 16050

### BASIC MATERIALS AND METHODS

#### PART 1 - GENERAL

##### 1.01 RELATED DOCUMENTS

- A. The General and Supplementary Conditions, and General Requirements apply to the work specified in this Section.

#### PART 2 - PRODUCTS

##### 2.01 MATERIALS AND WORKMANSHIP

- A. All materials and equipment shall be:
  - 1. New and of best grade of standard manufacture.
  - 2. Approved by UL and be so labeled for its specific application.
  - 3. All wire and cable, shall be manufacturer marked as required by Article 310-11 of the NEC.
  - 4. Installed by skilled and licensed electricians and helpers working under the direct supervision of competent experienced foremen and superintendents.
  - 5. Installed in a thorough workmanlike manner, presenting a neat, clean appearance when completed. The electrical contractor shall replace any part or parts not meeting this requirement without extra expense to the Owner.
  - 6. All electrical equipment supplied shall be backed with a minimum of one year warranty from manufacturer. Warranty shall start from the Grand Opening date.
  - 7. All work performed shall be backed with a minimum warranty of one year from the installing contractor.

##### 2.02 TIMELY PLACING OF MATERIALS AND EQUIPMENT

- A. Switchboards, panelboards, transformers, raceways, conduit, pull boxes, junction boxes, etc., shall be installed at the proper time during progress of construction. Coordinate work sequence and interface with other trades.

##### 2.03 SPACE REQUIREMENTS

- A. Contractor for work under this Division shall be fully responsible for determining in advance of purchase that equipment and materials proposed for installation shall fit into the confines indicated and allow sufficient clearance for maintenance and service of all equipment including that of other trades.

##### 2.04 MANUFACTURER'S LITERATURE

- A. Deliver all printed tags, instructions, certified drawings, parts lists, certificates, etc., supplied with equipment items, to the Project Manager at completion of project.
- B. Assemble all such printed materials into a stiff back binder identified on face.

##### 2.05 PROTECTION OF APPARATUS

- A. All conduit and other openings shall be kept protected to prevent entry of foreign matter. Fixtures, equipment and apparatus shall be covered for protection against dirt, water, paint, chemical, or mechanical damage before and during construction. The original finish, including shop coat of paint of fixtures, apparatus, or equipment that has been damaged shall be restored prior to final acceptance.

##### 2.06 SUBMITTALS TO CONTRACTOR

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- A. The Contractor shall furnish complete submittals for each of the following listed items of electrical equipment in accordance with Division 1. For convenience, the Contractor may submit shop drawings in groups. The groups are listed below:

#### GROUP I

1. Security System

#### GROUP II

1. Devices & Coverplates
2. Conduit, Boxes & Fittings
3. Wire
4. Nameplate Samples & Schedule
5. Padlocks
6. Grounding Devices
7. Gutter Freeze Protection
8. Distribution equipment

#### 2.07 PAINTING

- A. Switchgear and light fixtures shall be factory finish painted. Prime coat for other equipment shall be provided under this Division; finish painting under Division 9, "PAINTING".

#### 2.08 DRAYAGE, HOISTING AND SCAFFOLDING

- A. Contractor for this Division shall:
1. Be fully responsible for drayage, hoisting, warehousing and demurrage, for all equipment and materials to be furnished and installed under this Division.
  2. Provide all scaffolding required for erection of materials and equipment included under this Division.
  3. Be fully responsible for the safety of his employees using such scaffolding.
- B. Electrical Contractor shall review all shipments/deliveries of electrical equipment for compliance with approved plans and shop drawings. Any shipments/deliveries accepted by the Electrical Contractor shall be the sole responsibility of the Electrical Contractor for compliance.

#### 2.09 CUTTING AND PATCHING

- A. Contractor for this Division shall provide openings required for work under this DIVISION.
1. Contractor for this Division shall layout, to dimension and location, all openings on surfaces to be formed, framed, or cut.
  2. Should Contractor for this Division fail to adhere with Paragraph A-1, as work progresses, any openings required shall be cut and patched by General Contractor at the expense of the Contractor for this Division.

#### 2.10 INTERFACES WITH OTHER WORK

- A. There are many interfaces between the work involved with this Division and the work in other Divisions particularly with Division 15. This Contractor shall be aware of the requirements of these other Divisions and his responsibilities at the interfaces.

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#### 2.11 ALTERNATE MATERIALS

- A. Contractor for this Division shall submit his bid based on materials scheduled on the plans and specifications. After the contract has been awarded, written requests to the Engineer for material substitutions may be submitted on the Contractor's Letterhead and accompanied with a complete Substitution Request Form (found at the end of this Section). Intent of request for substitution shall be detailed in the Contractor's letter.
- B. Failure of the Contractor for this division to attach a completed substitution request form for each alternate material submitted, does not relieve this contractor of his obligation to execute this contract in accordance with the drawings and specifications, regardless of any submittals indicated as reviewed and approved by the engineer, and returned to the contractor.
- C. Contractor shall provide independent pricing for materials and labor indicated as "alternates" on the plans.

#### 2.12 REJECTION OF MATERIALS

- A. The Project Manager shall have the authority to reject any material, equipment, or workmanship not complying with these specifications, and the Contractor shall replace defective work or material immediately upon notification of rejection. Any material so rejected shall be removed from the job within twenty-four (24) hours of such rejection; otherwise, the Owner may have same removed at this Contractor's expense.

#### 2.13 EQUIPMENT SUPPORT

- A. Where conduits, wireways, lighting fixtures, transformers, boxes or other electrical equipment are indicated as suspended, the electrical contractor shall provide steel support channel, rods, clamps or other associated devices to securely attach the suspended equipment to substantial structural steel or other similar elements of the building. Penetration thru the roof or walls for this purpose shall not be acceptable. All support systems shall be properly rated as complete assemblies for the weight load and purpose for which they are designed.

END OF SECTION