

## **SECTION 01600**

### **MATERIALS AND EQUIPMENT HANDLING**

#### **PART 1- GENERAL**

##### **1.01 GENERAL**

- A. This Section specifies the general requirements for the delivery, handling, storage and protection of all Products described in the Drawings and Specifications, which are required for the construction of the Project. Specific requirements, if any, are described in the individual specification Sections.

##### **1.02 TRANSPORTATION AND DELIVERY**

- A. Transport and handle items in accordance with manufacturer's printed instructions.
- B. Schedule delivery to reduce long term on-site storage prior to installation and/or operation. Products shall not be delivered to the site more than one month prior to installation without prior written authorization from the Owner.
- C. Ship Products and spare parts complete, except where partial disassembly is required by transportation regulations, or for protection of components.
- D. Pack spare parts in containers bearing labels clearly designating contents and pieces of Product for which intended.
- E. Deliver spare parts at same time as pertaining Product. Deliver spare parts to Owner prior to application for Final Payment.
- F. Coordinate delivery of Products with installation, to ensure minimum on-site storing time for items that are hazardous, flammable, easily damaged or sensitive to deterioration.
- G. Deliver Products to the site in manufacturer's original sealed containers, or other packing systems, complete with instructions for handling, storing, unpacking, protecting and installing.
- H. Assume responsibility for Products and spare parts just before unloading from carrier at site.
- I. All Products delivered to the site shall be unloaded and placed in a manner which will not hamper normal construction operation of Contractor(s), or those of subcontractors and will not interfere with the flow of necessary traffic.
- J. Provide Product and personnel to unload all items delivered to the site.

- K. Promptly inspect shipment to ensure that Products comply with requirements, quantities are correct, and items are undamaged. For items furnished by parties other than the Contractor (i.e. Owner, other Contractors), perform inspection in the presence of the Owner or designated representative. Notify Owner verbally, and in writing, of any problems.
- L. Pay all costs resulting from delayed delivery, improper handling, and damages of any type.

### 1.03 STORAGE AND PROTECTION

- A. Store and protect Products in accordance with the manufacturer's instructions, with seals and labels intact and legible. Manufacturer's storage instruction shall be reviewed by the Contractor and Owner. Instructions shall be carefully followed and a written record of this shall be kept by the Contractor for each Product.
- B. Arrange storage of Products to permit access for inspection. Periodically inspect to make sure Products are undamaged and are maintained under specified conditions.
- C. When recommended by Product manufacturer, provide protective maintenance during storage consisting of manually exercising Products, inspecting mechanical surfaces for signs of corrosion, or other damage, lubricating, applying any coatings, as recommended by the Product manufacturer, necessary for its protection and all other precautions to ensure proper protection of all stored Products and for compliance with manufacturers' requirements related to warranties. Log all protective maintenance for each Product in the written record noted above.
- D. Store loose granular materials on solid flat surface in a well-drained area. Prevent mixing with foreign matter.
- E. Cement and lime shall be stored under a roof and off the ground and shall be kept completely dry at all times. All structural, miscellaneous and reinforcing steel shall be stored off the ground or otherwise to prevent accumulation of dirt or grease, and in a position to prevent accumulations of standing water and to minimize rusting. Beams shall be stored with the webs vertical. Precast concrete shall be handled and stored in a manner to prevent accumulations of dirt, standing water, staining, chipping or cracking. Brick, block and similar masonry Products shall be handled and stored in a manner to prevent breakage, cracking and spalling.
- F. All mechanical and electrical Products, including instruments, shall be covered and stored in a weather tight facility to prevent injury. The facility may be a temporary structure on the site, or elsewhere, but it shall be satisfactory to the Owner. Storage facility shall be provided with adequate ventilation to prevent condensation. Maintain temperature and humidity within range required by manufacturer and to prevent condensation on the stored Products.
  - 1. All Products shall be stored fully lubricated with oil, grease and other lubricants unless otherwise instructed by the manufacturer.

2. Moving parts shall be rotated a minimum of once weekly to ensure proper lubrication and to avoid metal-to-metal "welding". Log all rotation maintenance for each Product in the written record noted above.
3. Upon installation of the Product, the Contractor shall start the Product, at least half load, once weekly for an adequate period of time to ensure that the Product does not deteriorate from lack of use. Log all startup for each Product in the written record noted above.
4. Lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants shall be put into each Product at the time of acceptance.
5. Prior to acceptance of each Product, the Contractor shall have the manufacturer inspect the Product and certify that its condition has not been detrimentally affected by the long storage period. Such certifications by the manufacturer shall be deemed to mean that the Product is judged by the manufacturer to be in a condition equal to that of Product that has been shipped, installed, tested and accepted in a minimum time period. As such, the manufacturer shall guaranty the Product equally in both instances. If such a certification is not given, the Product shall be judged to be defective. It shall be removed and replaced at the Contractor's expense.

## PART 2- PRODUCTS

NOT APPLICABLE TO THIS SECTION

## PART 3- EXECUTION

NOT APPLICABLE TO THIS SECTION

**END OF SECTION**