

ITEM 615.8007--11 - 1964 WORLDS FAIR BENCH WITH ARMS

ITEM 615.8009--11 - 1964 WORLDS FAIR BACKLESS BENCH WITH ARMS

DESCRIPTION

Under these Items, this work shall consist of furnishing and installing 1964 WORLD'S FAIR BENCH WITH WOOD SLATS AND ARMS and 1964 WORLD'S FAIR BACKLESS BENCH WITH WOOD SLATS AND ARMS in accordance with the contract documents and as directed by the Engineer.

MATERIALS

Benches shall be as manufactured by

Kenneth Lynch & Sons
114 Willenbrock Road
Oxford, CT 06478

Kevin G. Lindelow
Quality Site Furnishings
Bridgewater, New Jersey

All City Play Equipment
135 58th St.
Brooklyn, NY

or equal as approved by the Regional Landscape Architect.

Standards. Bench standards shall be of cast ductile iron. The tensile strength shall meet a minimum of 448 Mpa (65,000 psi), in accordance with ASTM designation A536-84 (or most recent revision) for Grade 65-45-12.

Standards shall receive Galvanized Coatings Type 5 Flame Spray Coating System to conform to Section 719-01 of the NYSDOT Standard Specifications. All galvanized surfaces shall provide an acceptable substrate for applied powder coatings. No lacquer, urethane or other coatings which would prevent proper adhesion of powder coating shall be applied to the pipe.

All surfaces of the bench standards, bars and brace rods shall be powder coated with TGIC Polyester Powder Coating, the coating shall be applied to galvanized steel in such a manner that the coating will not peel off. The TGIC Polyester shall be applied at a film thickness of 0.075mm to 0.15mm by electrostatic spray process and bake finished per manufacturer's directions. The TGIC-Polyester shall be applied without voids, tears or cuts that reveal the substrate and shall thoroughly adhere to the metal without peeling when scratched with a pick device or knife blade point. Color shall be color to be RAL 9007 Grey Aluminum semi-gloss, unless otherwise specified in the contract documents.

At the discretion of the Engineer, a sample TGIC-Polyester powdercoated bench standard may be laboratory tested for bonding of the powder coating to the metal. Test shall be the Cross Hatch test per ASTM D3359, method B. Failure to satisfactorily pass this test shall be a basis for rejection.

Bench Slats. Acceptable hardwood species shall be Black Locust (*Robinia pseudoacacia*) or American White Oak (*Quercus alba*) FAS grade or equivalent, untreated, as manufactured by

Trees Unlimited Recycled
Forest Products
Pownal, VT

Suburban Mills,
Huntington, NY,

New England Naval
Timbers, LLC,
Collinsville, CT

or equal as approved by the Regional Landscape Architect.

National Hardwood Lumber Association (NHLA) grading rules shall apply. Tropical hardwoods may not be substituted under this specification. Slats shall be milled perfectly smooth to the finished length. Each slat shall be of one continuous piece; no joints will be allowed. Lumber shall be parallel cut

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without heart center or sap-wood and shall be straight grained, maximum slope of grain to be 1:10. All milled surfaces shall be sanded smooth on all four sides and both ends after being worked to the required dimensions. All edges shall be eased to a radius of 3 millimeters (1/8"). All wood shall be thoroughly seasoned and shall contain not more than fifteen percent (15%) to twenty percent (20%) of moisture by weight.

Lumber shall be in sound condition, free from worm holes, knots, longitudinal heart cracks, firm or soft sap wood, fungus, and deformation (twisting or cupping) which cannot be removed during installation using normal installation methods and tools. Natural drying checks, to a maximum of 3 millimeters (1/8") in width, will be acceptable. Dimensional tolerance (measured at 20% moisture content) shall be plus or minus 2 millimeters (.08") in both width and thickness. Hardwood slats shall meet or exceed the mechanical properties as defined by U.S. Forest Product Laboratories testing methods 50 millimeters (2" standard) as follows:

Bending strength: 153 Mpa (22,200 psi)

Modulus of elasticity: 16 Mpa 2,370,000 psi

Max. Crush strength: 70 Mpa (10,100 psi)

Hardware. All bolts, nuts, and washers used to secure slats to standards shall be anchor bolts used to secure the benches to pavements shall be stainless steel. Type and dimensions of all bolts, nuts, and washers shall be as indicated on the plans. Threads of all bolts shall have the ends upset after installation of nuts so as to render the connection vandal resistant.

CONSTRUCTION DETAILS

Concrete footings shall be excavated to the dimensions and in the locations indicated on the drawings and as directed by the engineer. Attachment of standards to footings shall be as indicated on the contract documents.

Screws shall be lubricated by a product such as "Never-Seez" or "WD-40" compounds, or approved equal, before being used to secure new slats to the standards. Benches shall be preassembled before being installed in their final location in the work. After assembly, benches shall be installed in their final position and properly secured in place as indicated on the drawings. Bench slats shall not be painted or stained.

SUBMITTALS

The Contractor shall submit shop drawings the benches and foundry certificates for the ductile iron used in bench standard, to the engineer in charge for approval. Submit samples of wood taken from the job site. Random samples must be supplied for identification and approved by the Engineer in Charge. Should the wood provided on the job site not be as previously approved, the Contractor shall replace all the incorrect wood at no extra cost to the State.

METHOD OF MEASUREMENT

This work will be measured as the number of meters of 1964 WORLDS FAIR BENCH WITH ARMS and 1964WORLD'S FAIR BACKLESS BENCH WITH WOOD SLATS AND ARMS satisfactorily furnished and installed.

BASIS OF PAYMENT

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The unit price bid shall include the cost of furnishing all labor, materials, and equipment necessary to satisfactorily complete the work. Excavation and concrete for footings or concrete slab will be paid for separately under their respective items.

DISAPPROVED BY EI 12-001