

NAIL LAMINATED TIMBER DECK PANEL

**\*\*From Brookfield BRF FLBR(2)**

- xx. DESCRIPTION. This work shall consist of detailing, furnishing, fabricating, treating, assembling, transporting, and installing nail laminated timber deck panels at the locations indicated in the Plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 522 of the Standard Specifications.

- xx. MATERIALS.

- (a) Elastomeric Pad. Elastomeric material shall meet the requirements of Subsection 731.03.
- (b) Drift Pins. Drift pins shall conform to the requirements of ASTM F 568M, Class 4.6 (ASTM A 307).
- (c) Nails. Nails shall be threaded hardened-steel nails (helical or annular threaded nails) with a minimum length of 4" and a minimum root diameter of 0.19". Nails shall be hot dipped galvanized in accordance with Subsection 726.08.

All other materials shall meet the requirements specified in the Plans and Subsection 522.02.

- xx. SUBMITTALS. The Contractor shall prepare and submit Fabrication Drawings in accordance with Section 105. The Fabrication Drawings shall fully detail member lengths, cuts, and hole sizes and locations, as well as indicate fabrication practices.

The Contractor shall submit an erection plan in accordance with Section 105 of the Standard Specifications. The erection plan shall include methods and sequence of erection, the equipment to be used for the erection, the necessary computations to indicate the magnitude of stress in the panels during erection, and to demonstrate that all of the erection equipment has adequate capacity for the work to be performed. The Contractor shall follow the erection plan as submitted.

- xx. GENERAL FABRICATION REQUIREMENTS.

- (a) General. Drive nails with just sufficient force to set the heads flush with the wood surface. Deep or frequent hammer marks in exposed wood surfaces shall be considered evidence of poor work quality and may be cause for rejection of the panel. The use of pneumatic nailers will not be allowed.

Timber shall be accurately cut and framed, true and exact to a close fit, in such a manner that the panels will have even bearing over the entire contact surfaces. Keep each strip vertical and tight against the preceding one with even bearing on all supports.

- (b) Timber. Ensure all timber used in the fabrication of panels is straight, sawed square at the ends, and has opposite sides

parallel. Timber shall be graded after cutting to the required length.

Cut individual timber members for use in panels to proper length and drill all lead holes, bolt holes, spike holes, and lag screw holes for hardware prior to treatment. Individual laminates (timber members) shall be treated prior to assembling the deck panels.

No more than one butt joint will be allowed within a transverse laminate. Board lengths shall be determined to limit butt joint locations to the middle 1/3 of supports. Butt joints at a given support location shall be limited to one joint per three sequential laminates.

- (c) Panel Width. At the Contractor's discretion, the panel widths (as measured in the direction of traffic) may be altered from those depicted on the Plans. Unless otherwise shown on the Plans, the minimum panel length shall be 4.25 feet. The Contractor shall be responsible for determining and coordinating, and for incurring all costs related to, all details associated with the changed geometry.
- (d) Ship Lap Joint. At the Contractor's discretion, the width of the timber boards used in the ship-lap joint detail depicted on the Plans may be increased from the 1.5 inch value shown. Nails used to attach the partial depth timber laminate to the remainder of the nail laminated timber deck shall be of sufficient length to pass through the partial depth timber laminate used in the ship-lap joint as well as 1.5 additional laminates in the remainder of the nail laminated deck panel. All costs associated with such changes shall be at the Contractor's expense.
- (e) Dimensional Tolerances.
  - (1) Length (Each panel, longitudinal with bridge):  $\pm 1/8$ "
  - (2) Width (Each panel, transverse to bridge):  $\pm 1/4$ "
  - (3) Thickness:  $\pm 1/16$ "
  - (4) Surface Variation (adjacent boards):  $\pm 1/16$ "
  - (5) Deviation from Diagonals:  $\pm 1/4$ "
  - (6) Camber:  $\pm 3/4$ "

xx. MARKING, HANDLING, AND INSTALLATION.

- (a) Marking. Each unit shall be clearly labeled on the bottom of each panel. Panels shall be installed with the concave side on top.
- (b) Handling. If lifting devices are proposed for use, holes for attachment of the lifting devices shall be approved by the Engineer and shall be fabricated prior to treatment. Any holes not used in the final condition shall be located such that they

are not visible (e.g.: beneath the sidewalk or runner boards) and shall be filled with tar emulsion after completion of the installation.

- xx. METHOD OF MEASUREMENT. The quantity of Special Provision (Nail Laminated Deck Panel) of the depth specified to be measured for payment will be the number of square meters (square feet) incorporated into the complete and accepted work.
  
- xx. BASIS OF PAYMENT. The accepted quantity of Special Provision (Nail Laminated Deck Panel) of the depth specified will be paid for at the Contract unit price per square meter (square foot). Payment will be full compensation for detailing, fabricating, treating, furnishing, transporting, handling, assembling, and installing the material specified, including elastomeric pads, timber sleepers, and hardware; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.670 Special Provision (Nail Laminated Timber Deck Panel)	Square Foot
900.675 Special Provision (Nail Laminated Timber Deck Panel)	Square Meter