

JOB SPECIFIC

CODE 814.9901

DIAMOND GRINDING PORTLAND CEMENT CONCRETE BRIDGE DECK

DESCRIPTION. This work shall consist of diamond grinding and texturing Portland cement concrete bridge decks longitudinally to establish proper riding characteristics of the deck surface. The work shall be accomplished in accordance with these specifications and in reasonably close conformity to the details on the plans. The diamond grinding shall be at the completion of Phase III but prior to the installation of the asphaltic expansion joint system.

CONSTRUCTION METHODS.

Equipment. The grinding equipment shall be a power driven, self-propelled machine that is specifically designed to smooth and texture Portland cement concrete pavement with diamond blades or diamond impregnated cylinder rings. The blades or cylinder rings shall be mounted on an arbor head. The grinding head shall be a minimum of 3 feet wide. The equipment shall be capable of grinding the surface in the longitudinal direction without causing spalls or other damage at cracks, joints and other locations. The grinding shall correct the bridge deck profile and provide proper cross slope on the concrete bridge deck.

The effective wheelbase of the machine shall not be less than 12.0 feet. It shall have a set of pivoting tandem bogey wheels at the front of the machine and the rear wheels shall be arranged to travel in the track of the fresh cut bridge deck. The center of the grinding head shall be no further than 3.0 feet forward from the center of the back wheels. It shall also be of a shape and dimension that does not encroach on traffic movement outside of the work area.

Diamond Grinding. The entire bridge deck area shall receive the diamond grinding. No spot grinding will be allowed. Grinding shall be accomplished in a manner that establishes proper riding characteristics to the deck surface while providing positive lateral drainage by maintaining a constant cross-slope between grinding extremities in each lane. The operation shall result in a bridge deck that conforms to the typical cross-section and the requirements specified for the final surface finish.

The grinding process shall produce a pavement surface that is true to grade with the ground area consisting of a longitudinal corduroy-type texture. The grooves shall be between 0.10 and 0.15 inches wide. The land area between the grooves shall be between 0.065 and 0.125 inches. The peaks of the ridges shall be approximately 1/16 inch higher than the grooves with 53 to 57 evenly spaced grooves per foot. Adjusting the blade spacing may be necessary to achieve the specified texture.

The Contractor shall establish a positive and immediate means for removal of grinding residue. Solid residue shall be removed and disposed from the pavement surfaces before it is blown by traffic action or wind. Residue shall not be permitted to flow across lanes used by the traveling public or into gutters or drainage facilities.

METHOD OF MEASUREMENT. Bridge deck grinding on new deck will be measured by the square yard of bridge deck ground and accepted. The quantity of bridge deck grinding will be determined by multiplying the width specified on the plan by the total length of the finished bridge deck surface and other areas designated by the Engineer.

BASIS OF PAYMENT. The contract price per square yard for “Diamond Grinding Portland Cement Concrete Bridge Deck” will be full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in grinding the bridge deck surface, removing residue, and cleaning the bridge deck in accordance with these specifications and as shown on the plans.