

ITEM 257 DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT

257.01 Description

257.02 Equipment

257.03 Construction

257.04 Final Surface Finish

257.05 Method of Measurement

257.06 Basis of Payment

257.01 Description. This work consists of diamond grinding and texturing PCC pavement longitudinally to substantially eliminate joint and crack faulting and to restore proper riding characteristics to the pavement surface.

257.02 Equipment. Provide grinding equipment that is a power driven, self-propelled machine that is specifically designed to smooth and texture PCC pavement with diamond blades or diamond impregnated cylinder rings. Mount the blades or cylinder rings on an arbor head. Provide a grinding head at least 3 feet (0.9 m) wide. Ensure the equipment is capable of grinding the surface in the longitudinal direction without causing spalls or other damage at cracks, joints and other locations. Ensure the equipment is capable of correcting the pavement profile and providing proper cross slope on the concrete pavement.

Provide equipment with an effective wheelbase of at least 12.0 feet (3.6 m); a set of pivoting tandem bogey wheels at the front of the machine and rear wheels that travel and track in the fresh cut pavement. Ensure the center of the grinding head is no further than 3.0 feet (0.9 m) forward from the center of the back wheels. Ensure it is also of a shape and dimension that does not encroach on traffic movement outside of the work area.

257.03 Construction. The plans will designate the areas of pavement surfaces to be ground. Grinding of bridge decks and roadway shoulders will not be required unless indicated on the plans or required to provide drainage. Perform grinding in a manner that eliminates crack or joint faults while providing positive lateral drainage by maintaining a constant cross-slope between grinding extremities in each lane. Transition auxiliary or ramp lane grinding as required from the mainline edge to provide positive drainage and an acceptable riding surface.

Ensure the operation results in pavement that conforms to the typical cross-section and the requirements specified for the final surface finish, however, it is the intention of this specification that the faulting at joints and cracks be eliminated and the overall riding characteristics be restored within the limits specified. To accomplish the smoothness required, grinding may not be required on 100 percent of the pavement surface.

During initial grinding operations, use the profiler to test the pavement surface as soon as the concrete has been ground full lane width. This initial testing is to aid the Contractor in evaluating the grinding methods and equipment being used. Subsequent to the initial testing, run daily profiles of each day's grinding the next working day.

Remove all grinding residue. Remove solid residue before it is blown by traffic action or wind. Do not allow residue to flow across lanes used by the traveling public or into gutters or drainage facilities.

257.04

257.04 Final Surface Finish. Produce a pavement surface that is true to grade with the ground area consisting of a longitudinal corduroy-type texture. Ensure the peaks of the ridges are approximately 1/16 inch (1.5 mm) higher than the grooves with 53 to 57 evenly spaced grooves per foot (174 to 187 per meter).

Provide the necessary traffic control and survey stationing for initial measurements or any subsequent measurements. Measure the entire length of pavement, starting and stopping the measuring equipment when any wheel is within 1.0 foot (0.3 m) of any existing pavement, pressure relief joint or approach slab.

Ensure transverse joints and cracks are flush with adjacent surfaces. The Engineer will visually inspect transverse joints and cracks to ensure that adjacent surfaces are in the same plane. Adjacent sides of joints or cracks within of 1/16 inch (1.5 mm) of each other will be considered flush. Ensure the transverse slope of the pavement is uniform to a degree that no depressions or misalignments of slope greater 1/4 inch in 12 feet (6 mm in 3.6 m) are present. Use a straightedge placed perpendicular to the centerline to measure depressions and misalignments. Straightedge requirements do not apply outside of area ground.

257.05 Method of Measurement. The City will measure diamond grinding by the number of square yards (square meters) of pavement ground and accepted. The quantity of diamond grinding will be determined by multiplying the width specified on the plan by the total length of the finished pavement surface, excluding bridge decks, approach slabs or the 1.0 foot (0.3 m) adjacent to the existing pavement, pressure relief joints, approach slabs and other areas designated by the Engineer.

257.06 Basis of Payment. Payment is full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in grinding the existing surface, removing residue, cleaning the pavement, and testing with a profiler.

The City will pay for accepted quantities at the contract price as follows:

Item	Unit	Description
257	Square Yard (Square Meter)	Diamond Grinding Portland Cement Concrete Pavement