

SECTION 455—DIAMOND-GRINDING AND GROOVING OF PCCP

455.1 DESCRIPTION.

455.11 This work shall consist of diamond-grinding and grooving of Portland cement concrete pavement in accordance with the contract and in compliance with these specifications, including removal of all slurry and residue resulting from the work.

455.2 MATERIALS.

455.3 CONSTRUCTION REQUIREMENTS.

455.31 Equipment. The equipment shall be power-driven, self-propelled machines equipped with diamond blades specifically designed to grind, groove, and texture PCCP. The grinder shall have a depth control device that will detect variations in the concrete surface and adjust the cutting head height to maintain the depth of groove specified. The grinding machine shall be equipped with devices to control alignment.

The equipment must be able to grind and groove the surface of the pavement to the smoothness tolerances and textures specified herein, without causing excessive ravelling of the joints, and without cracking or fracturing the aggregates.

455.32 Grinding and Grooving Operations. Grinding and grooving shall be performed in a longitudinal direction and shall begin and end at lines normal to the pavement centerline in any section, unless otherwise specified in the contract.

Designated areas shall be ground until the pavement surfaces on both sides of transverse joints and cracks are in essentially the same plane. The grinding operation shall proceed in a manner that produces a uniform finished surface and eliminates joint or crack faults while providing positive lateral surface drainage by maintaining a constant cross-slope between grinding extremities in each lane.

Auxiliary or ramp lane grinding shall transition from the mainline edge to provide positive drainage and acceptable riding surface.

The grooving pattern shall be as specified in subsection [512.383](#), Grooving of Hardened Concrete, except that it shall be longitudinal unless otherwise specified in the contract.

455.33 Slurry Removal. The slurry resulting from the work shall be removed in a continuous operation.

The slurry shall not be permitted to flow across lanes occupied by traffic or to flow into gutters or other drainage facilities.

455.34 Final Surface Finish. The grinding process shall produce a pavement surface that meets the smoothness requirements of subsection [451.352](#), Surfacing Smoothness Requirements.

The texture shall contain parallel longitudinal corrugations that present a narrow ridge corduroy type appearance. The peaks of the ridges shall be approximately 2 mm (1/16 in.) higher than the bottom of the grooves. The grooves shall be between 2 mm and 4 mm (0.08 and 0.16 in.) wide. The land width between the grooves shall be between 2 mm and 3 mm (0.08 and 0.12 in.). The Contractor shall be responsible for determining the appropriate number of grooves per meter (yard) of width to be used to produce the specified surface requirements.

455.35 Acceptance. Transverse joints and random cracks shall be visually inspected to ensure that adjacent surfaces are in the same plane. Areas found to be insufficiently ground or out of tolerance shall be reground at the Contractor's expense, as directed by the Project

455.4 METHOD OF MEASUREMENT.

455.41 Diamond grinding of PCCP will be measured by the square meter (square yard).

Diamond grooving of PCCP will be measured by the square meter (square yard).

455.5 BASIS OF PAYMENT.

455.51. Diamond grinding of PCCP will be paid for at the contract unit price per square meter (square yard).

Diamond grooving of PCCP will be paid for at the contract unit price per square meter (square yard).

Payment will be made under:

Pay Item	Pay Unit
Diamond Grinding of PCCP	Square Meter (Square Yard)
Diamond Grooving of PCCP	Square Meter (Square Yard)