

SECTION 514—DIAMOND GRINDING OF CONCRETE PAVEMENT

514.1 DESCRIPTION—This work is the diamond grinding of existing cement concrete surfaces as indicated or directed.

514.3 CONSTRUCTION—

(a) **Equipment.** Use a power driven, self-propelled machine having diamond blades and capable of grinding the surface of the pavement to the specified smoothness tolerances and texture. Do not use equipment that causes spalls at joints or cracks, or fractures the aggregate at the surface.

(b) **Grinding.** Grind the pavement in the longitudinal direction beginning and ending at lines normal to the pavement centerline. Grind in either direction unless it is otherwise determined, by the Engineer, that traffic safety considerations mandate grinding with traffic flow. Provide a uniform finished surface, eliminate joint or crack faults, and provide positive lateral surface drainage. Operate grinding machine parallel to centerline. Texture the entire pavement surface; however, extra depth grinding to eliminate minor depressions is not required. Do not exceed 50 mm (2 inches) of overlap.

Remove slurry or residue resulting from the grinding in a continuous operation. Do not allow grinding slurry to flow across lanes occupied by traffic or to flow into gutters or other drainage facilities. Satisfactorily clean the pavement surface.

(c) **Texture.** Provide a surface texture consisting of parallel grooves between 2.3 mm (0.09 inch) and 3.3 mm (0.13 inch) wide with a "land area" between grooves of 1.52 mm (0.060 inch) to 2.79 mm (0.110 inch) and a difference between the peaks of the ridges and the bottom of the grooves of approximately 1.6 mm (1/16-inch).

(d) Tolerance.

1. Transverse Tolerance. Restore original pavement cross slope. Maintain a uniform cross slope. Check the uniformity of cross slope at 30 m (100-foot) intervals longitudinally.

Satisfactorily correct any areas with deviations greater than 6 mm (1/4-inch) in 3.6 m (12 feet). Provide a positive cross slope such that the pavement drains.

Provide the Engineer with documentation recording the test location and the maximum depth of depression or slope misalignment at that location.

2. Longitudinal Tolerance. Supply and operate a certified California Profilograph for all longitudinal roughness tests. Test the pavement surface roughness in the longitudinal direction and submit the record of the information to the Inspector-in-Charge prior to beginning any pavement rehabilitation work. Following grinding of the pavement surface, test the longitudinal roughness in 0.40 lane-kilometer (0.25 lane-mile) segments.

Regrind any pavement segment with roughness in excess of 240 mm/km (15 inches/mile) and/or bumps greater than 10 mm (0.4 inch) in 7.6 m (25 feet).

Supply the Engineer with the test strips from the Profilograph within one day of the testing.

514.4 MEASUREMENT AND PAYMENT—Square Meter (Square Yard)
 In accordance with Table 514.4-1.

TABLE 514.4-1 (METRIC)

**Adjustment of Contract Price
 For Diamond Grinding Surface Tolerance
 With Acceptable Transverse Tolerance**

Profile Index mm/km/segment	Payment: Percent of Contract Price for the Segment
0.0 - 160	100
160 - 240*	90
greater than 240	No Payment

TABLE 514.4-1 (ENGLISH)

**Adjustment of Contract Price
 For Diamond Grinding Surface Tolerance
 With Acceptable Transverse Tolerance**

Profile Index In./mi./segment	Payment: Percent of Contract Price for the Segment
0.0 - 10.0	100
10.0 - 15.0*	90
greater than 15.0	No Payment

*If the initial profilograph reading is greater than 790 mm/km (50 inches/mile), achieving 240 mm/km (15 inches/mile) meets the requirements for full payment.